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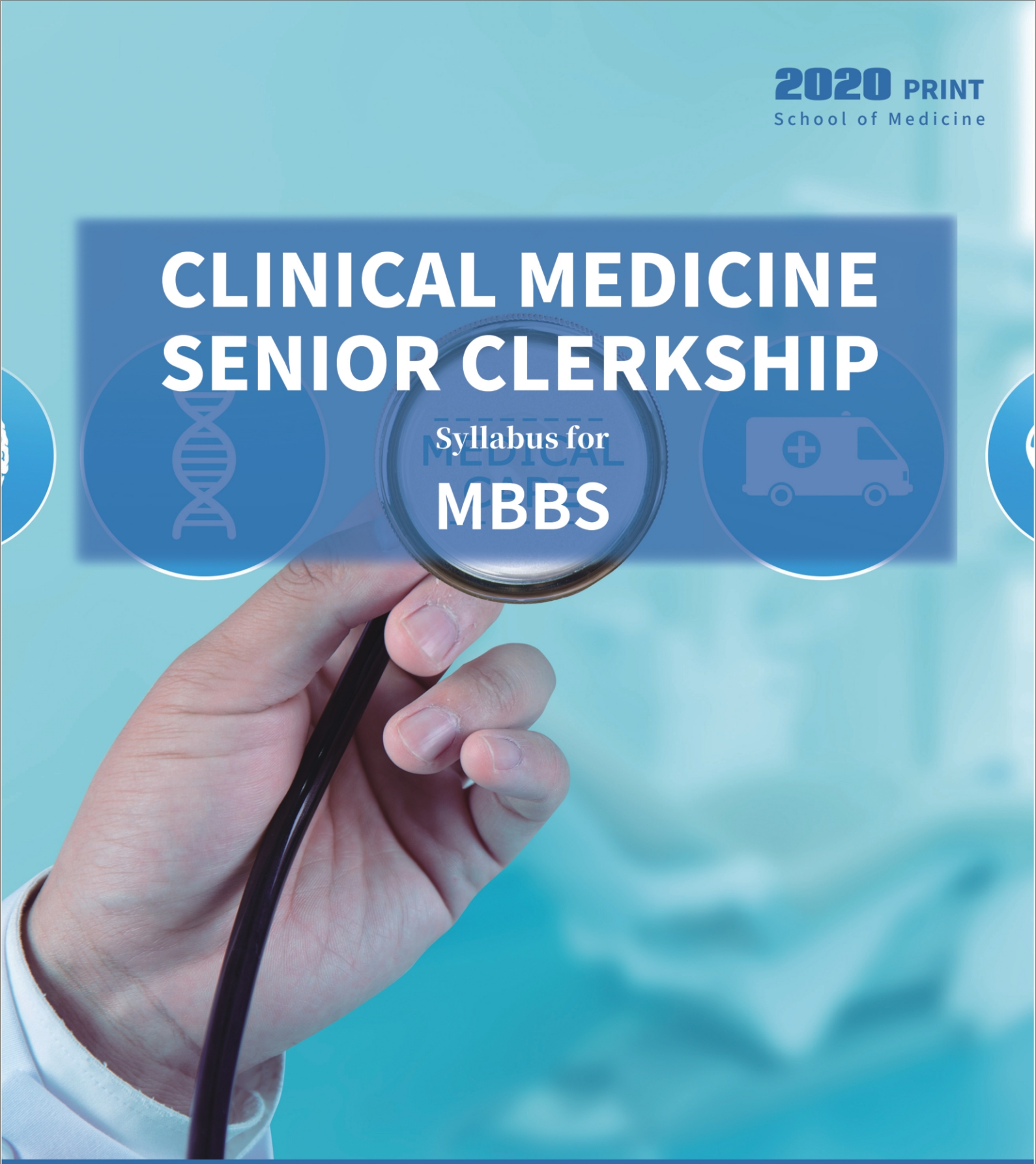
School of Medicine

CLINICAL MEDICINE SENIOR CLERKSHIP

Syllabus for

MBBS



浙江大学医学院
ZHEJIANG UNIVERSITY
SCHOOL OF MEDICINE

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I. Regulations Related to Senior Clerkship

1. Requirements of Clerkship Training

(1) During clerkship, the student should have proper understanding of the basic elements of medical profession including basic medical ethics, legal responsibilities and professionalism. The student should comply with hospital's rules and regulations, learn relevant regulations and policies of the country in order to direct medical practice.

(2) The student should be able to combine basic medical knowledge and clinical practice to solve medical problems. The student should grasp various principles of medical decision making. Under the mode of biology, psychiatry and community medicine, the student should be able to make timely and correct medical decisions of diagnosis and treatment, promote disease prevention and health education to an individual or group of patients.

(3) The student should learn clinical skills and clinical analysis for timely,take effective treatment for patients. The student should master the common diseases and basic clinical skills during the clerkship training.

(4) The student should learn how to communicate with patients and their relatives, colleagues and other health care members and should create learning and working environment to develop co-ordination and team spirit.

(5) The student should learn effective information management skills and should be able to use computer and other information technology in solving medical issues and decision making. Moreover, the student should strengthen the use of Chinese medical terminology and should learn and consolidate basic knowledge of clinical research methods.

(6) Based on specific medical problems, the student should take an initiative to learn new knowledge and skills, apply them in clinic practice effectively, carry out self-assessment and to understand the concept of life-long learning.

2. Clinical Medicine Senior Clerkship Program

(1) Compulsory Modules (10 compulsory subjects for 44 weeks)

Sr. No.	Departments	Weeks	Remarks
1	Internal Medicine	12 weeks	Compulsory
2	General Surgery	8 weeks	Compulsory
3	Obstetrics & Gynecology	6 weeks	Compulsory
4	Pediatrics	6 weeks	Compulsory
5	Neurology	2 weeks	Compulsory
6	Emergency medicine	2 weeks	Compulsory
7	Psychiatry	2 weeks	Compulsory
8	Orthopedics	2 weeks	Compulsory
9	Infectious Diseases	2 weeks	Compulsory
10	Community Medicine	2 weeks	Compulsory

(2) Optional Modules (2 optional subjects for 4 weeks)

Sr. No.	Departments	Weeks	Remarks
1	Oncology	2 weeks	Optional (strongly recommended)
2	Rheumatology	2 weeks	Optional (strongly recommended)
3	Medical Imaging	2 weeks	Optional (strongly recommended)
4	Anesthesiology	2 weeks	Optional (strongly recommended)
5	Clinical Pathology	2 weeks	Optional
6	Urology Surgery	2 weeks	Optional
7	Cardiothoracic Surgery	2 weeks	Optional
8	Neurosurgery	2 weeks	Optional
9	Anorectal Surgery	2 weeks	Optional
10	Plastic Surgery	2 weeks	Optional
11	Ophthalmology	2 weeks	Optional
12	Otorhinolaryngology	2 weeks	Optional
13	Dermatology & Venereology	2 weeks	Optional
14	Burns Surgery	2 weeks	Optional

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3. Clerkship Subjects & Duration

(1) Subjects

Compulsory Subjects for 40 weeks: Internal Medicine 12 weeks (2 weeks in cardiovascular, respiratory, gastroenterology, hematology, nephrology and endocrinology); General surgery 8 weeks; Obstetrics & Gynecology and pediatrics both 6 weeks; Neurology, Emergency medicine Psychiatry and Orthopedics 2 weeks each.

Optional Subjects for 8 weeks: Oncology, Medical Imaging, Anesthesiology, Clinical Pathology, Rheumatology, Infectious Diseases, Urology, Cardiothoracic Surgery, Neurosurgery, Anorectal Surgery, Plastic Surgery, Ophthalmology, Otorhinolaryngology, Dermatology & Venereology, Burns surgery, community medicine each for 2 weeks. Student must choose 4 subjects (8 weeks) including two surgical subjects.

(2) Duration

from _____ *to* _____ for 48 weeks (see clerkship rotation table for particulars).

4. Clerkship Management Organization

Clinical Clerkship will be conducted under the leadership of medical school and hospital leaders.

(1) Medical School

1) Under the leadership of the Dean in charge of teaching and education office of medical school, each department will take the responsibility for clerkship practice, teaching practice, guidance and evaluation.
2) In order to improve the quality teaching, the clerkship manager should hold regular teaching meetings, compose the teaching documents, summarize the teaching experience, exchange teaching information, promote advanced teaching technology and discuss new methods.
3) The detailed implementation of clerkship training will be made by the mutual collaboration of medical school education office and clerkship departments. The main responsibilities of medical school are:
    i. According to the syllabus requirements, should revise the outlines of clerkship and develop practical plans to ensure normal clerkship training.

ii. Under the unified coordination of the medical school office, the clerkship manager should be responsible for grouping students, making clerkship rotation schedule and organizing orientation before clerkship training.

iii. In order to enhance the management awareness, the clerkship manager should frequently be in close touch with each hospital to understand the implementation of training, inspect the implementation of clerkship plan, carry out teaching evaluation on regular basis, timely give feedback, concern about student life and solve problems for them.

iv. The manager or director should organize regular teaching tours, give proper instructions in organizing examinations on completion of each clerkship and improving the quality of clerkship training.

(2) The Teaching Hospital

1) The teaching hospital should provide day to day clerkship training with one hospital leader being in charge of clerkship training and should set up a small leading teaching group for the management and training of the clerkship student.

2) The teaching hospital should hold regular meetings, inspect the teaching, understand clerkship training, improve the clerkship training, improve the teaching level, solve problems during clerkship training and ensure the completion of clerkship training.

(3) Research and Education Department of Hospital:

The research and education department will mainly be responsible for the hospital clerkship management and should appoint a deputy chief responsible for handling the specific issues of clerkship management for international students. The main responsibilities are:

1) Should organize the orientation(including introducing the general information of hospital, rules and regulations and medical ethics)before student enter the hospital and arrange department to start clerkship training.

2) Should carefully establish a system to organize and implement plans in accordance with the clerkship training and should take strict measures to regularly inspect all departments and teaching work on completion of clerkship. Should take prompt actions to solve the existing problems.

3) Should regularly report to the president in charge about the teaching instruction affairs and should make comments and suggestions to improve the teaching. Should strengthen the

medical school links by supporting and exchanging information to promote teaching.

4) Should hold meetings for teachers and students on regular basis and realize the demands of teachers and students. Should summarize the inspection of teaching quality and clerkship training and commend outstanding teachers and students. Should timely criticize the students who do not show responsibility, do not take clerkship training seriously and do not complete their tasks by giving them deadlines to make changes.
5) Should organize examination and clinical skills assessment on completion of clerkship. Should establish rules and regulations in accordance with the requirements to guide and monitor the clinic training supervisors to perform their duties such as implementing clerkship plans, filling out evaluation and reviews on the practice handbook.
6) Should set up strict student leave policy and urge the clerkship department to take the attendance, put forward opinions and suggestions to School of Medicine for the students who violate the disciplinary rules and regulations.
7) Should organize clerkship training for the student according to the actual situation of the hospital and keep record of attendance and student evaluation.

(4) Clerkship Departments:

Clerkship departments are responsible to organize the grassroots clinical training with the director responsible for overall clerkship teaching and should designate an attending physician (or above) to assist the Director in clerkship training of the student. Introduce all subjects of common interest to grow student's knowledge and to complete clerkship training program. The department should select knowledgeable and skillful attending or senior resident physicians to teach clerkship student. The main responsibilities are:

1) Should take responsibility to introduce general information of the department at the beginning of clerkship including department leaders, rules and regulations, responsibilities and assigned tasks.
2) Should make specific arrangements according to the requirements of clerkship outlines and regularly check it on completion of clerkship.
3) Should promptly grasp clerkship student's demands. and take attendance.
4) Should assess and review the student clerkship performance at the end of training according to the examination requirements.
5) Should set a date to conduct teaching rounds, small lectures and other teaching activities.

Should organize teaching activities, seminars, case discussions and other academic activities in the hospital departments for student participation.

(5) Clerkship Group

One student with strong working abilities will be appointed as group leaders for each clerkship group. The main responsibilities of group leaders are:

1) Should be responsible for communicating with the relevant department and instructor of teaching hospital.
2) Should have a comprehensive understanding of students' training, study and living conditions in the same group and should regularly report to the medical school and hospital authorities.
3) Should responsible for inspecting and supervising the group on completion of clerkship training and to summarize the evaluation of the group.

5. Duties of Clerkship Student

(1) The clerkship student must strictly abide by all the rules and regulations of the teaching hospital and should perform duties seriously.

(2) Under the guidance of senior physicians and nurses' assistance should administer a number of hospital beds (4-12 beds) to conduct ward clinical practice.

(3) At the time of entering the relevant department for clerkship training, clerkship students should immediately start working and get familiar with the ward, patient, disease conditions, ward rules, systems and equipment safety etc. as soon as possible. The clerkship student should also hand over your duties to next person when leaving the department.

(4) After receiving a new patient, the student should immediately take the medical history and perform the medical and routine examinations under the supervision of senior physician, give initial diagnosis and treatment advice. The mentioned procedure should be completed before the physician's ward round (emergency department patient should be treated on time) next morning. The procedures for patients in severe condition should be completed on time.

(5) The clerkship student should go to the ward at least half an hour earlier before normal working time in the morning to inspect the patients and should complete the routine checkup and other preparation work before the ward round. During the round should report to the senior physician the new findings of the existing patients and new patient's history, physical examination, lab results, diagnosis and treatment plan. Should give a brief report on

condition and changes of existing patient and should give your own propose of treatment.

(6) After each ward round, the clerkship student should take a record of the new findings, the contents of discussion and the instructions of the senior physician of each case. And should make adjustment in the treatment plan and prescribe new medical orders according to the senior physician's advices, Should inspect and implement the physician's advice every day.

(7) The clerkship student is required to complete medical records including written medical records, progressive notes and other necessary records in detail with clear format and handwriting. Those who do not meet the requirements should be asked to re-write.

(8) The clerkship student should write lab tests, X- ray, ultrasound, discharge slip, medical advice, prescription and medical consultation notice in accordance with the senior physician advice and should ask senior physician to review and sign it. The student should participate in case discussion and analyzing disease condition and should not content to see the written text in the report, but also need to read by yourself such as X-ray and ECG.

(9) The clerkship student must often go to the ward and should pay attention to the patient care and changes in patient's condition. The student should strengthen communication in order to understand patient's physical and psychological conditions and should have patience in treating patients. If there is any change in disease condition or upon receiving notice from ward nurses, student should immediately go to see the patient and report to the senior physicians in case of critical condition.

(10) On consulting the physician of other wards in managing the patient should accompany the consulting physician and accompany the patient if the patient needs to go to other departments or labs to visit a doctor or take lab examination.

(11) Should strictly follow the operation procedures. Should under the supervision of the senior physician when performing certain clinical procedures and participating in surgery. Should not conduct any operation without senior physician's permission. Should do all required preparatory work before the operation and pay attention to the changes in patient's condition before and after operation.

(12) The clerkship student should work in outpatient mainly to take new patient's medical history and physical examination record. Should give suggestions in diagnosis and treatment under the supervision of senior physician and should issue the prescription or treatment after signed consent of the senior physician.

(13) In principle, the clerkship student should take turns with senior physicians to join duty.

(14) The clerkship student should participate in ward shift changes, should learn the subjects in different wards (including small lectures, case discussion etc.) and should take part in other related activities organized by the hospital. The student should not be late, leaving earlier or absent without exceptional circumstances.

6. Clerkship Regulations

(1) In addition to strict compliance with the national laws, the clerkship student is also subjected to the rules and regulations of the medical school, teaching hospital and department. The student should seriously participate in healthcare activities and assigned work.

(2) The clerkship rotation should be established according to the table arranged and planned by each department and should not be allowed to change. According to the clerkship table planned, all preparatory work should be done one day before the clerkship training start.

(3) The leave policy should be implemented in accordance with the hospital regulations and the student must comply with the teaching hospital's time schedule. The student must be in the ward during working hours, and should get instructor's permission and inform the nursing staff if have to leave temporarily. Clerkship student's weekend duty should be arranged and implemented by the hospital, and those who are not on duty during weekend are required to attend the morning ward rounds and can leave the hospital afterwards. Otherwise, the student is required to apply for leave permission. During practice, the student is not allowed to take leave without justified reasons and if there are significant issues or other reasons, the student must follow the leave application procedures.

(4) After the leave is granted, no matter for how long, the student must handover the work before leaving the ward. Those who are absent without authorized approval resulting in any accident will be criticized and punished depending on the circumstances.

(5) The clerkship student should act and behave in a civilized manner and should dress up cleanly and appropriately.

(6) The clerkship student should be modest, studious, willing to listen to others, show respect to the ward staff and workers, and should actively take an initiative to complete the task assigned by the instructor.

(7) The clerkship student should respect the right of patient's informed consent and protect the

patient's privacy. Should show friendly attitude towards the patient and do not seek personal gains and should politely deny gifts from patient or their families.

(8) The clerkship student should carry forward the humanitarian spirit, uphold the noble medical ethics, patient care, forbid patient suffering and harm to the patient health because of own personal learning. If there is any doubt in medical treatment should always consult the senior physician. If any medical care errors or accidents occur due to irresponsibility and careless attitude, the student will be responsible for it.

(9) The clerkship student should respect and comply with the protective health care system and during clerkship training. Should strictly abide by the instructions of senior physicians. Should not write prescription, sign patient's consultation paper, operation notification and various certificates without the senior physician permission. Should not arbitrarily change the physician's medical orders or prescribe treatment for patient that is not in accordance with the doctor's advice. The questions from patients and their family members on diagnosis, treatment and prognosis should be answered in accordance with the medical advice of the senior physician. Should not perform operation alone without supervision of the senior physician. Without nurse or other person in presence, male student should not do physical examination on a female patient.

(10) The clerkship student must be careful and meticulously patience, practically hardworking, progressive. Should develop a scientific attitude in seeking truth from facts and combining theory with practice, against things that are not realistic, ambitious, simple to pursue technical operations and should not have the tendency to overpass the basic training.

(11) The clerkship student should take good care of public property, equipments, testing device etc., and any damage or loss should be compensated according to the institution damage compensation and punishment system. Important instruments and medical appliances should not be used without the permission of senior physicians.

(12) The clerkship student should not leak out the information of teaching hospital organization, equipments, scientific research, medical statistics related to treatment and other areas of confidentiality.

(13) The clerkship student should also learn nursing knowledge along with fulfilling the medical duty, should be able to combine treatment with the preoperative care and should assist in maintaining good hygiene.

7. Attendance and Leave Policy

The clerkship student's leave policy should be according to the hospital regulations and the student should comply with the hospital timetable. There will be no winter or summer holidays during clerkship. The student should be on duty during festival holidays and are not allowed to exchange duties with each other on holidays. The student should not leave the department while working or on duty without instructor permission. Those who are on night shiftshould not leave the hospital overnight according to the department regulations. Leave will not be granted during clerkship without solid reasons. If there is any significant issue or illness and other reasons, the student must apply for leave and leave record should be kept in the Practice Handbook.

(1) Leave must be given for collective activities arranged by the school or university and should be informed by the related department to the hospital ward. The leave does not account for the absence.

(2) Leave must be given for individual activity arranged by the school or university and should be informed by the related department to the hospital ward. Leave given to the student should be recorded in the Practice Handbook and will not account for the absence.

(3) The student should apply a leave in advance if there is an important personal reason. Leave for personal matters must apply in advance. Student must not leave the post before the permit being granted and leave without permission for personal matters cannot make up the application later. In case of sick leave, if the student cannot apply a leave in advance, a medical certificate from the hospital is required. Those who do not have medical certificate will be treated as absent without permission.

(4) A written leave application must be submitted according to the following regulations:

1) Those who apply for one day leave should submit a written application to the instructor. If the leave permission is granted, the leave application record form must be signed by the instructor for leave to be effective.

2) Those who apply for over 1 day within 3 days, students should ask for the hospital's permission. The science and teaching department will keep on file.

3) Those who apply for over 3 days and within 7 days, students should ask for the permission from Office of International Students Education School of Medicine Zhejiang University. The Office will keep on file.

4) Those who apply for over 7 days within 1 month, students should ask for the permission from Office of International Students School of Medicine and International College. Both parties will keep on file.

5) Those who apply for over 1 month, students should ask for written opinions from School of Medicine and International College. The Office of Academic Affairs Zhejiang University will keep on file.

6) The applicant must follow the leave procedures and if due to some special reasons leave extension is required, must provide relevant supporting materials and certificates.

7) Leave taken without applying to the related authorities for approval will be invalid.

(5) After leave is granted, transfer of work must be done regardless of time limit before leaving the ward.

(6) The clerkship student must be in the ward during duty hours. If leave is not approved or those who leave the hospital without permission will be counted as absent and will not be allowed to participate in the department assessments. After careful investigation of student circumstances and attitude, the teaching hospital and medical school will decide whether or not to allow such student to take extra time for training after clerkship is completed. Those who being absent from the duty without permission resulting in accidents will be criticized or punished based on the circumstances.

(7) The daily attendance record will be kept by the group leader of the clerkship student and it will be signed by the instructor when leaving the department. The Department and teaching office should check the record frequently. The teaching hospital, student counselors and medical school supervisors should do spot checking from time to time.

(8) According to the university regulations, those who violate the teaching management regulations, absent or leave university without permission and leave their duties without permission during senior clerkship will receive the corresponding punishments.

8. Regulation for Make up or Repeating Clerkship

In order to maintain clerkship discipline and to ensure quality training, the clerkship student is required to makeup or repeat clerkship training under following circumstances：:

(1) For whatever reasons, the attendance doesn't meet the required time, the student must make up the time for this clerkship.

(2) The clerkship student who shows unsatisfactory result in the completion evaluation assessment is required to repeat the particular clerkship rotation.

(3) At the end of clerkship, if the clerkship student is failed to achieve 80% completion rate in the basic diseases and clinical skills for the compulsory subjects (internal medicine, surgery, gynecology and pediatrics), he/she must make up or need to repeat the clerkship on completion of the program.

(4) The clerkship student who shows unsatisfactory performance on evaluation will not be allowed to participate in examination on completion and should repeat the clerkship. On one of the following conditions, the clerkship student performance on evaluation will be regarded as unsatisfactory:

1) Absent from the department for two days or more without permission;
2) Does not take part in duty;
3) Refuse to treat patients;
4) Quarrel with the medical staff or patients;
5) Receive money from patients or their families;
6) Violate the operating rules, resulting in medical errors or accidents;
7) Other disciplinary offences recognized by teachers, teaching hospital and school of medicine, (such as copy teacher's signature);
8) Repeatedly come late, leave early, escape from work etc., and does not change after being criticized;
9) The time of total absence in a particular department exceeds one third of the required time or absent for more than a week;

(5) The fees for making up or repeating the clerkship will be paid by students. .

9. Clerkship Assessment (trial)

(1) Assessment Principles

In order to inspire student's learning interest, special attention should be paid in clinical competence training. The purpose of assessment is to improve the contents, forms and scoring criteria of examination, and to make the examinations more accurate reflection of actual teaching

and learning level and to promote the improvement of teaching quality of clinical practice.

(2) Assessment Contents and Evaluation

Clerkship assessment is mainly composed of assessment on completing a particular clerkship and graduation examination. Assessment on completing a particular clerkship should be made when finish the sub-division rotation and it constitutes three aspects; 30% for theory, 30% for clinical skills assessment, 40% for general performance for all compulsory subjects. Assessments for other departments on completing a particular clerkship mainly constitute two aspects of clinical skills and General Performance; 80% for clinical skills and 20% for general performance. The graduation examination for completion of clinical clerkship will be composed of theory and clinical skills examinations**.**

(3) Assessment Organization and Format

1) General Performance Assessment:

Scores will be given according to the clerkship student ward performance.

2) Theory Assessment:

Assessment questions should be in reference with the country's own medical license examination and USA medical license examination Step II type of questions.

3) Clinical Skills Assessment：

a. Assessment on completing a particular clerkship:

Assessment for clinical skills on completing a particular clerkship will be organized by the hospital and the evaluation commission. The assessment contents include taking medical history at patient's bedside, performing physical examination and case writing etc for a randomly selected patient who is newly admitted to the hospital. Assessment will be made on general ability of the student in summarizing, case writing, and ability to make initial and differential diagnosis of disease.

b. Graduation Examination。

Clinical skills assessment for the graduation exam will be organized by school of medicine. Comprehensive and detail examination will be conducted by using the principle of objective structured clinical examination (OSCE) approach and including the use of standardized patients (SP) multiple station examination. The written exam for each case will cover the history taking of new patient, physical examination; the initial treatment plans and medical orders issued on patient's re-treatment, disease condition assessment, changes in diagnosis

and treatment plans and also include the first line of emergency treatment for critically ill patient. Standardized scoring system will be used for clinical skills assessment in order to evaluate fair result.

c. Result Management:

Within one week on completion of clerkship rotation and assessment in each department, the secretary of department should submit the final result of the clerkship student to the hospital education office and International Student Office of School of Medicine. The examination result should be signed by the director of hospital education office and attention should be paid to make a copy of result to be put in the record file..

10. Regulations for Teaching Rounds

(1) Aim of Teaching Rounds:

The aim of teaching rounds is to strengthen basic clinical skills training, focus on strengthening the integration of theoretical knowledge with practice and to improve clinical analysis and clinical skill of clerkship students.

(2) Requirements of Teaching Rounds:

1) The teaching rounds should generally be conducted by the associate professor or above, may also be conducted by the senior and experienced physician according to the ward situation.
2) Teaching round should be different from clinical ward round, and should carry out separately in order to minimize its impact on the daily medical work. The working arrangements should make sure that the instructor’s teaching round can be implemented on time, and should avoid any arbitrary replacement of time and contents.
3) The instructor in charge should prepare well and should carefully select certain representative and typical cases or cases that will facilitate analysis of group symptoms to identify cases. Generally, should not choose those with clear diagnosis or incurable diseases. Teaching rounds should yield the expected results and should ensure an important prerequisite for the active participation of students. The person in charge of the teaching round should select the case in advance and inform the clerkship student to get familiar with the history and review the relevant theoretical knowledge.
4) Time for teaching rounds: teaching rounds should generally be arranged 1-2 times a week

and around 2 hours for each time.

5) Location of teaching round: all departments where the clerkship &/or observership student work.

6) Format of teaching round: should be conducted according to the subject contents and number of students. The format can be the combination of bedside and classroom teaching.

7) Measures for teaching rounds:

i. Reporting medical history: Generally should be given in the classroom by the clerkship student responsible for the patient and the instructor should guide the student to acquire the correct medical history.

ii. Performing Physical Examination: the student should perform physical examination, in particular, specialized examination and the physical examination related to the diagnosis and differential diagnosis. The instructor should correct the student's error in performing physical examination and should particularly guide the student about case investigations, significant positive signs and changes in course of patient evaluation.

iii. Case Discussion: contents including medical history, physical characteristics, significance of important auxiliary examination, diagnosis and basis of diagnosis, differential diagnosis, treatment plans and specifications of medical advice etc. should be discussed. Requirements for discussion: should have clear purpose and well elaborated, precise with clear concepts, focused on main points and well described difficult points; emphasized on interaction with students; nourish student's clinical thinking by focusing on the clinical analysis and not simply rely on clinical examination; progresses in clinical and scientific research to develop creative thinking ability; proper use of dual-language teaching.

iv. Generalized Summary: Instructors should summarize the important points of the cases and answer the questions that arose from the physical examination and the case discussion. Should arrange problem based questions and reference books to improve self-learning ability of the student.

8) Teaching rounds should be focused on using modern teaching methods such as multimedia, slides etc.

9) Records should be kept for each teaching round and should organize student's

evaluation on quality of teaching rounds.

10) During teaching rounds the instructor in charge should adapt a serious attitude, precise style, high spirit and well-dressed. The instructors should be careful about their words and deeds, show care for patients and set an example of good medical ethics for student.

II. Senior Clerkship Outlines

A. Compulsory Subjects

Internal Medicine

I. Purpose and Teaching Objectives

1. To gain proper understanding of the basic elements of medical profession in internal medicine during clerkship including basic ethics of medical profession, moral principles and legal responsibilities and training professionalism.
2. To combine the basic medical knowledge and clinical practice in internal medicine for solving the medical problems.
3. To practice clinical skills and clinical thinking in internal medicine and be able to make timely and effective diagnosis and treatment of common diseases.
4. To groom effective communication skills with patients, their relatives, colleagues, medical staff and public in order to create a constructive learning & working environment and to develop coordination skills and team spirit.
5. To develop capabilities of effective information management, be able to use computers and other information technology for solving medical problems and in medical decision making. Moreover, to strengthen the learning and use of professional foreign language in internal medicine.
6. To take an initiative through various means in order to gain new knowledge, skills and information and effective screening applications according to the specific medical problems in internal medicine and be able to do self-assessment in order to understand own shortcomings and the concept of life-long learning.

II. Time Duration

Compulsory Clerkship Practice for 12 weeks in Internal Medicine, including two weeks in cardiovascular, respiratory, gastroenterology, hematology, nephrology and endocrinology.

Optional clerkship practice is four weeks. You may choose two weeks in Rheumatology and two weeks in endocrinology

III. Contents and Requirements

1. Respiratory Department

1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Bronchial asthma
(2) Chronic obstructive pulmonary disease
(3) Pulmonary thromboembolism
(4) Pneumonia
(5) Lung cancer
(6) Bronchiectasis
(7) Pleural effusion
(8) Pneumothorax
(9) Respiratory failure
(10) Pulmonary abscess
(11) Pulmonary Tuberculosis

2) Clinical skills

A. Physical Examination:

(1) Inspection: lips color; respiratory rhythm and frequency, three-concave sign, clubbing fingers

(2)Palpation: degree of thoracic expansion, tactile fremitus, pleural friction rub.

(3) Percussion: identification of resonant, hyper-resonant, dull, and tympanic percussion sounds; percussion of lung border.

(4) Auscultation: normal breath sounds (vesicular breath sounds, bronchial breath sounds, bronchiovesicular breath sounds); abnormal breath sounds (identification ofmoistrales, wheezes and sputum characteristics), pleural friction rub

B. Basic Procedures

(1) Master thoracentesis.
(2) Master adjustment of oxygen flow rate when oxygenation performed.
(3) Get familiar with the non-invasive methods of ventilation.
(4) Understand how to use mechanical ventilators

(5) Understand the basic procedures of closed thoracic drainage and Arrow chest tube continuous drainage for negative pressure.

(6) Understand the pulmonary function test, indications and contraindications of bronchoscopy.

C. Interpretation of auxiliary examinations' results.

(1) Master the interpretation of blood gas analysis.

(2) Master reading normal chest radiograph and normal chest CT scanning films.

(3) Master radiological manifestations and differential diagnosis of common pulmonary diseases (pneumonia, pneumothorax, lung abscess, lung cancer).

(4) Learn how to collect qualified sputum samples for microbiological examination and interpret sputum culture results.

(5) Master the interpretation of PPD test results.

(6) Master laboratory results of pleural effusion and its significance.

2. Cardiology Department

1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases.

(1) Hypertension

(2) Hypertensive heart disease

(3) Coronary heart disease (angina and myocardial infarction)

(4) Valvular heart disease

(5) Pericardial disease

(6) Myocarditis, cardiomyopathy

(7) Infective endocarditis

(8) Heart failure

(9) Common arrhythmias

2) Clinical Skills

A. Physical Examination

(1) Inspection: protrusion and depression of precordium; apical impulse, abnormal heart beat

(2) Palpation: apical impulse and heart beat; thrill; pericardium friction rub

(3) Percussion: heart dullness border measurement from the midclavicular line

(4) Auscultation: auscultation over the auscultatory valve areas, auscultation contents (heart rate, cardiac rhythm, cardiac sound, extra cardiac sounds, cardiac murmurs, pericardial friction sound)

(5) Examination of peripheral vessels

a. Pulse: pulse rate, pulse rhythm

b. Peripheral vascular signs: edema, capillary pulsation sign, pistol shot

B. Basic Procedures

(1) Master the use of 12-lead ECG and memorize the position on body where electrodes are to be placed.

(2) Master the method of artificial respiration

(3) Master the method of chest compression

(4) Get familiar with the use of electrical defibrillation, cardioversion

(5) Understand the basic operating skills of pericardiocentesis

(6) Learn about cardiac catheterization, application of the pacemaker.

(7) Learn about echocardiography, cardiac angiography.

C. Assist and Interpretation of Test Results

(1) Master the characteristics of normal ECG and common abnormalities. Master the specific progressive ECG changes of myocardial infarction

(2) Master the enzyme evaluation in myocardial infarction.

(3) Master the 3-dimensional structure of normal heart and the normal and common abnormal in shape of heart in chest films.

(4) Get familiar with the significance of normal echocardiography, M- mode and Doppler; understand the features of normal atrioventricular size,cardiomyopathyand pericarditis on ultrasound.

(5) Master the normal values of atrium , ventricle size and large vessels .

(6) Master the typical changes of common cardiovascular diseases in echo.

3. Gastroenterology Department

1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Gastroesophageal reflux disease

(2) Chronic gastritis

(3) Peptic ulcer&Hpylori infection

(4) Liver cirrhosis

(5) Differential diagnosis of jaundice

(6) Differential diagnosis of ascites

(7) Pancreatitis

(8) Inflammatory bowel disease (ulcerative colitis, Crohn's disease)

(9)Upper gastrointestinal bleeding

（10）Digestive endoscopy: reflux esophagitis, chronic gastritis, peptic ulcer, early gastric cancer, esophageal and gastric varices, ulcerative colitis, Crohn's disease, gastrointestinal polyps, gastric cancer, colon cancer

2) Clinical Skills

A. Physical Examination

(1) Inspection: abdominal visual examination: varicose veins in abdominal wall, visible peristalsis of the intestines, skin purpura, frog-belly.

(2) Palpation: abdominal tenderness, rebound tenderness, tensity of abdominal wall, size and texture of liver and spleen with or without tenderness , abdominal mass

(3) Percussion: border of jecoral tone, shifting dullness

(4) Auscultation: number of bowel sounds with or without gurgling.

(5) Peripheral examination: whether there is anaemicfaceies, yellow skin and sclera, spider nevus, liver palm, edema of both lower extremities.

B. Basic Procedures

(1) Master the operative procedure of abdominal paracentesis

(2) Master the procedure of gastric tube insertion and be able to correctly determine whether the gastric tube is inserted correctly or not.

(3) Understand the examination and treatment of digestive endoscopy

C. Interpretation of Auxiliary examination Results

(1) Grasp the clinical significance of liver function and occult blood test, master the clinical

significance and dynamic variationof urine amylase and significance of routine and biochemical examinations of ascites

(2) Master the typical manifest of abdominal X-ray plain films about normal abdomen, intestinal obstruction and gastrointestinal perforation.

(3)Understand typical X-ray signs of biliary and gastrointestinal tract radiography.

(4) Understand the clinical significance of endoscopic examination and treatment report.

4. Nephrology Department

1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Acute, chronic glomerular nephritis

(2) Nephrotic syndrome

(3) Urinary tract infection

(4) Acute, chronic renal failure

2) Clinical Skills

A. Physical Examination

(1) Examination for edema: edema of the eyelids and lower limbs; check whether it is pitting edema or not

(2) Examination of face for chronic kidney disease: appearance of anemia or pigmentation

(3) Percussion for renal area: percussion pain site

(4) Examination of pleural effusion or ascites

B. Clinical skills

(1) Grasp the knowledge of collecting 24-hour urine sample for lab analysis

(2) Grasp the knowledge of urine sample collection for lab analysis

(3) Get familiar with the procedure of catheterization

(4) Understand the CVP inspection methods

(5) Understand the basic procedure and indications of kidney puncture

(6) Understand dialysis therapy

C. Assist and Interpretation of Test Results

(1) Master the interpretation of routine urine examination

(2) Master the interpretation of microalbuminuria

(3) Master the reference values and clinical significance of renal function tests

(4) Understand normal kidney functions and the pathological features and significance of primary renal diseases.

(5) Understand the usage and precautions of common immune suppressants.

(6) Get familiar with the treatment of water and electrolyte disturbance, acid-base imbalance

5. Hematology Department

1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Iron deficiency anemia, hemolytic anemia, aplastic anemia

(2) Leukemia

(3) Thrombocytopenic purpura, anaphylactoid purpura

(4) Lymphoma

(5)Thalassemia

2) Clinical Skills

A. Physical Examination

(1) Inspection of skin and mucous membrane: anemia, bleeding, color of skin and mucous membrane, eruption with or without ecchymosed petechiae, pigmentation and edema; with or without yellow skin and sclera, pay attention to the identification of corneal fat

(2) Percussion of liver and spleen borders: normal range of liver and spleen percussion sounds with a change in scope of respiratory movements

(3) Palpation of Liver and Spleen: lower border of the normal liver and spleen, abnormal enlargement of liver and spleen with or without tenderness

(4) Palpation of superficial lymph nodes: including the order, location, lymph node swelling, enlarged lymph node borders, characteristics and mobility with or without tenderness

(5) Palpation for sternal tenderness: significance of palpation under the sternum

B. Basic Procedures

(1) Master the procedure of bone marrow aspiration and understand the basic rules of biopsy

(2) Get familiar with the basic steps and precautions of intrathecal lumbar puncture

(3) Understand routine blood transfusion and treatment to blood transfusion reactions

(4) Understand bone marrow transplantation.

C. Assist and Interpretation of Test Results

(1) Grasp the normal range values of different types of blood cells and role of blood cells in various types of anemia

(2) Get familiar with commonly used drugs in conventional chemotherapy

(3) Understand the typical morphology of normal and abnormal bone marrow cells and their changes

(4) Understand cell MIC and MB for diagnosis (immunological classification, chromosomes and other special molecular biology examination: gene fusion)

(5)Understand normal range and clinical significance of abnormal values of the other hematological lab tests (such as immunoglobulins, proteins electrophoresis, DIC etc.)

6. Endocrinology Department

1) Diseases to Practice

Master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Diabetes mellitus，diabetic nephropathy, chronic kidney disease，diabetic neuropathy，diabetic retinopathy

(2) Hyperthyroidism

(3) Cushing's syndrome

(4) Endocrine hypertension

2) Clinical Skills

A. Physical Examination

(1) Inspection, palpation (the method of physical exam with hands is correct, and can express the degree of goiter, symmetry, hardness, smooth surface with or without nodules, and tenderness, etc.) and auscultation of thyroid gland.

(2) Physical exam of eyes' signs for Grave's disease

B. Basic Procedures

(1) Master the rapid test of blood glucose with glucometer

(2) Master the diet calculation for diabetic patients

(3) Be familiar with the insulin injections

(4) Understand insulin pump therapy

C. Interpretation of the Results of Assistant Tests

(1) Master normal levels and clinical significance of the glucose tolerance test, insulin and C-peptide releasing tests, thyroid function test

(2) Be familiar with some other commonly used endocrine tests and their significance, normal values and clinical significance of endocrine laboratory tests.

(3) Understand the diagnostic values of tests with isotopes.

7. Rheumatology Department

1) Diseases to Practice

Master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases:

(1) Systemic lupus erythematosus

(2) Rheumatoid arthritis

2) Clinical Skills

A. Physical Examination

(1) Inspection: look for butterfly rashes (malar rash), palmer erythema, and other related rashes.

(2) Palpation: the swelling, tenderness, temperature changes, subcutaneous nodules and mobility conditions of the joints.

B. Basic Procedures

(1) Get familiar with the method of joint function examinations.

(2) Understand the procedure of arthrocentesis.

C. Assist and Interpretation of Laboratory Results

(1) Master the reference values and clinical significance of ESR, C reactive protein and rheumatoid factor

(2) Master the reference values and clinical significance of complete ANA panel, ANCA and anticardiolipin antibodies

(3) Get familiar with the reference values and clinical significance of serum complement, ASO and immunoglobulin

(4) Get familiar with the typical X-ray finding of joint changes in rheumatoid arthritis patients.

IV. Measures for Clerkship

Clerkship for internal medicine will be organized under the management of both clerkship

department and teaching office of internal medicine.

Teaching Office of Internal Medicine: The teaching office of internal medicine should set arrangement, management and supervision of the clerkship students in internal medicine under the leadership of director of the teaching office.

Department for Clerkship: the clerkship department will be directly responsible for the grassroots organization of clerkship program and the director in charge will bear overall responsibilities for the subjects to teach. The department will designate an attending physician (or senior) to assist the director in charge in teaching clerkship students and medical staff to help the students to complete the clerkship program. The department will also select an attending physician or senior resident with high qualifications to teach the students. The main responsibilities are:

1. Will be responsible to present the orientation when the clerkship students come to the ward for first time or on duty. It includes department leadership, rules and regulations, responsibilities and assigned tasks.
2. Make specific arrangements according to the requirements of practice outlines and check it regularly.
3. Should take attendance every day. Should communicate with clerkship students regularly and know the demand and difficulties of them.
4. On completion of clerkship, should evaluate the clerkship student and performance and should also assess the practice performance according to the requirements.
5. Should conduct regular teaching rounds and activities like mini lectures, etc. Should organize students to participate in teaching activities, seminars, case discussion and other academic activities in the hospital.

V. Requirements for Clerkship Student

1. Must obey the department's rules and participate in the normal clinical practice. Should not be late or absent the shifting in morning.
2. Should manage a certain number of beds (6-8). While admission of new patient, the clerkship students should immediately take detail medical history and independent physical examination under the guidance of supervisor, prescribe routine tests and make a preliminary diagnosis and treatment, and all these work should be completed before attending physician round next morning (emergency patients should be treated timely).

3. The clerkship student should go to the ward half an hour earlier to visit and observe the patient condition. The routine checkup and other preparatory work should be completed before the round and during the round. Clerkship students should also report to the supervisor about the medical history, physical examination, lab tests, diagnosis and treatment plan of the newly admitted patient, should also report the conditions of patients and put forward advices on diagnosis and therapy.
4. Should be responsible for medical records including record of admission and disease course, and stage summary of disease, discharge record, patient transfer record, death record, and other writing materials. Medical records should be carefully revised and signed by the supervisor. If records are poorly written it should be rewritten again when necessary. Records of new admission patients should be completed within 24 hours.
5. Should write medical advice, prescription and treatment for patients under the guidance of supervisor. Also should carefully written lab test forms, special examination forms and request for consultation from other wards will only be implemented after the signature of supervisor. In addition, students should get familiar with the important examination related to patient's diagnosis such as X-ray, ECG, ultrasound, endoscopy etc.
6. Get familiar with the patient's condition and at least visit the patient twice per day in the morning and afternoon. Students should participate in ward duties and should be responsible for managing the new patients and completion of medical records. For each subject, every clerkship student should complete at least one medical case revised by the full-time teacher or instructor of the department. Students should regularly inspect patients, particularly critically ill patients and pay more attention to the patient whose diagnosis is not clear and if any problem emerges, students should immediately report to the supervisor for timely management. Students should attend rounds at night and participate in the morning round on the next day under the supervision of chief resident doctor. If there is no patient to manage during night duty, students should also participate in the round next day.
7. Should adequately participate and get familiar with basic medical care and should understand the special medical care of critically ill patients in internal medicine.
8. The clerkship students should punctually and seriously participate in the clinical subjects and activities related to the ward (including teaching round, small lectures). If there are no any special circumstances, student should not be late, leave early or absent.

VI. Assessment on Leaving the Department

1. Assessment Contents and Evaluation Form

Assessment on leaving the department will be composed of three aspects i.e. theory assessment (30%), clinical skills assessment (30%)and assessment of General Performance (40%).

2. Organization and Pattern of Assessment

(1) Assessment for General Performance

It includes medical ethics and responsibility, attendance and discipline, attitude and work initiation, team spirit and communication skills etc. Assessment scores should be given by the Director, Education Secretary and supervisor of the department based on the student's performances.

(2) Theory Assessment

(3) Clinical Skills Assessment

Assessment of clinical skills will be conducted by the evaluation commission of the hospital. The contents for assessment include history taking, writing of case record, physical examination, basic clinical techniques and skills, clinical thinking, case management, reading laboratory tests, X-ray , ECG etc.

3. Assessment schedule

Theory and clinical skills assessment will be conducted by the end of 12 weeks of clerkship period (repeated at the end of rotation).

Items	Proportion	Schedule	Contents	Organization
Theory assessment	30%	12th week (repeated at the end of rotation)	Questions should be from the country's medical license examination and USMLE Step 2 type of questions	Test papers issued by the medical school or college
Clinical Skills Assessment	30%	12th week (repeated at the end of rotation)	History taking, medical record writing, physical examination, basic clinical procedures, clinical analysis, case management, laboratory or X-ray reports, reading ECG and so on.	Hospital (education office) evaluation commission
Assessment for General Performance	40%	On general basis	Include medical ethics, discipline, work initiative, practical attitude and values, exchange and communication skills.	Education Office (department)
Total	100%			

General Surgery

1. Clerkship Purpose and Teaching Objectives

The clerkship is designed to consolidate and deepen student's basic knowledge of surgery during clerkship and the theoretical knowledge of common diseases in general surgery; to help the student to master history taking and writing, physical examination, diagnosis and other methods in general surgery; to strengthen the concept of sterilization and get familiar with the basic operations of general surgery; to get familiar with the indications, contraindications, preoperative preparation and postoperative care of common diseases in surgery; to know and understand the working system of outpatient, emergency, ward and operating room; to understand the progresses in diagnosis and treatment of major diseases in general surgery. Meanwhile, in the process of medical practice, to help the students to establish a positive professional values, behavior and attitude in order to lay the foundation for high-level medical professionals·.

2. Clerkship Time Duration

Clerkship practice for 8 weeks

3. Clerkship Contents and Requirements

(1) Diseases to Practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Thyroid cancer, nodular goiter, hyperthyroidism
(2) Breast cystic hyperplasia or adenoma
(3) Breast cancer (cancer ward)
(4) Breast abscess
(5) Gastric cancer
(6) Gastric and duodenal ulcer
(7) Cholecystitis, bile duct stones, acute obstructive suppurative cholangitis
(8) Obstructive jaundice
(9) Acute and chronic pancreatitis
(10) Acute appendicitis
(11) Intestinal obstruction

(12) Abdominal hernia

(13) Blunt abdominal injury

(14) Acute diffuse peritonitis

(15) Primary liver cancer

(16) Liver abscess

(17) Portal hypertension

(18) Pancreatic cancer

(19) Varicose veins

(20) Deep venous thrombosis

(21) Biliary tract cancer

(22) Intestinal polyps and colorectal cancer (cancer ward)

Get familiar with the principles of diagnosis and differential diagnosis of the following:

(1) Upper gastrointestinal bleeding

(2) Acute abdomen

(3) Systemic surgical infection

(4) Surgical shock

(5) Superficial tumor

(6) Acute cellulitis

(7) Acute mastitis

Understand the diagnosis, differential diagnosis and treatment principles of the following:

(1) Gastrinoma

(2) Acute lymphangitis, erysipelas and lymphadenitis

(3) Insulinoma

(4) Thromboangitis Obliterans

(5) Aortic aneurysm

(2) Clinical Skills

A. Physical Examination

(1) Palpation of superficial lymph nodes

(2) Inspection, palpation and auscultation of thyroid gland

(3) Inspection and palpation of breast

(4) Peripheral vascular examination

1) pulse

2) vessels pulsation and bruit: venous pulsation, arterial bruit and pulsation

3) signs of capillary pulsation and capillary edema

4) varicose veins

(5) Abdomen:

Palpation:

1) abdominal tension

2) tenderness and rebound tenderness

3) methods of liver and spleen palpation

4) abdominal mass

5) fluid thrill

6) fluid vibration

Percussion:

1) abdominal percussion sounds

2) liver dullness

3) shifting dullness

4) percussion pain of costal angle

5) percussion of bladder

Auscultation:

1) Bowel sounds

2) Vessel murmur

(6) Digital rectal examination

B. Basic Procedures

(1) Master the indication, contraindications and precautions of the following basic procedures:

1) Dressing change, suture removal and drainage tube insertion

2) Abdominal paracentesis or drainage of abdominal abscess

3) Gastrointestinal decompression

4) Catheterization

5) Surgical aseptic technique (washing hands, wearing gloves and surgical clothing, skin disinfection, drape, etc.)

6) The basic surgical procedures (skin incision, suture, ligature, etc.)

(2) Under the guidance of senior physician should be able to perform the following procedures and grasp the indications, contraindications and precautions of these procedures:

1) Debridement
2) Incision and drainage of superficial abscess
3) Resection of superficial tumors
4) Appendectomy or hernia repair

(3) Understand the following procedures/operations and get familiar with their indications, contraindications and perioperative management:

1) Thyroid surgery
2) Radical surgery for breast cancer
3) Radical surgery for gastric cancer
4) Partial hepatectomy
5) Cholecystectomy
6) Common bile duct exploration + “T” tube drainage
7) Pancreaticoduodenectomy
8) Splenectomy
9) Portal hypertension shunt/devascularization
10) Rectal surgery
11) Laprotomy
12) Ligation of great saphenous vein + cut down operation

C. Assist and Interpretation of Test Results

(1) X-ray and CT Scan

1) Master the X-ray findings of intestinal obstruction
2) Master the X-ray findings of gastrointestinal perforation
3) Get familiar with the digestive tract imaging and reading films
4) Get familiar with the expressions of digestive tract tumors on CT scan
5) Master the CT manifestations of primary liver cancer
6) Master the CT manifestations of pancreatic cancer
7) Get familiar with the angiography and reading films

(2) Interpretation of laboratory test results

1) Master the interpretation of routine blood, urine and stool tests
2) Master the interpretation of serum levels of electrolytes
3) Master the interpretation of blood sugar
4) Master the interpretation of blood and urine amylase, its variation and clinical significance
5) Master the interpretation of liver function tests
6) Master the interpretation of renal function tests
7) Get familiar with the thyroid function tests and its clinical significance
8) Get familiar with the interpretation of blood gas analysis
9) Get familiar with the routine and biochemical tests for ascites/fluid
10) Get familiar with the interpretation of the common tumor markers
11) Get familiar with the interpretation of bacterial culture and drug susceptibility tests

(3) Ultrasound

Get familiar with the results of thyroid ultrasound

Get familiar with the results of abdominal ultrasound

Get familiar with the results of vascular ultrasound

Understand ultrasound guided biopsy, fluid drainage and other procedures

4. Measures for Clerkship

(1) Hospital should appoint a senior physician or higher level physician to be the instructor responsible for introducing general information of medical practice and other relevant rules. By the end of the clerkship, the instructor should give summary and organize assessments of different forms and should listen to the views of clerkship student to continuously improve the clinical teaching practice quality.

(2) After students entering the ward, the instructor and the head nurse should arrange to introduce ward rules, work system and distribution of beds to the clerkship student. 4–8 beds should be arranged to participate in clinical practice work and to participate the case discussion in the ward.

(3) Teaching rounds: should be arranged by the instructor once a week combined with the patient management by the student. The discussion should focus on the syllabus requirements and heurictic education. The discussion should consolidate and expand the professional

knowledge and increase the understanding of difficult medical cases.

(4) Surgery: clerkship students should participate in the operation of patients managed by them, and should complete some basic operation training under the supervision of senior physicians.

(5) Each instructor should supervise 1-2 students. The instructor has the responsibility to supervise, inspect and modify all medical records written by clerkship student. Attending physician or chief physician should examine the records on variable times. Medical record requirements: should be correct and complete, focused, coherent, logically strong, fluently written, and legible. Medical records with errors or mistakes noticed by the instructor must be corrected or rewritten if necessary.

(6) When exam the patient with trauma or in critical condition, the teachers should accompany the student so that the teachers can make correction during the procedure, and help the student to get the correct clinical signs and reduce unnecessary pain to the patient.

(7) During clerkship, the diseases and basic clinical procedures to be learned should cover more than 80% of the total contents required. For those diseases and medical procedures that the student didn't see during the clerkship, clinical learning opportunities should be created through teaching rounds, demonstration, lectures, case discussion, multimedia teaching, watching videos etc.

(8) Should emphasize on student's professional values, ethics and responsibility.

(9) Should organize assessment on completion of clerkship

5. Requirements for Clerkship Student

(1) Clerkship student must abide by the hospital and ward rules and regulations.

(2) Should not be late or leave early or absent and must strictly obey leave policy. Should visit the patients at least twice a day and participate in the weekend rounds.

(3) Should respect patient, be compassionate, deeply feel sympathy for the suffering of the patient and avoid inappropriate jokes or comments. Consent should be obtained from the patient before performing the physical examination. Should keep good relationship with the patient, get familiar with the patient rights and avoid disputes with the patient.

(4) Should respect teachers and maintain good relationships with other medical staffs.

(5) Should recognize personal limitations, be appropriate to seek cooperation and help, have courage to admit mistakes and take responsibilities of own actions.

(6) Should read the medical literature and journals to enrich self-improvement and able to

perform independent tasks on time.

(7) Should be concerned about medical ethics and compliance with health related laws and regulations.

(8) Should wear clean and decent clothes.

6. Assessment on Leaving the Department

(1) Assessment contents and evaluation form

Assessment on leaving the department will be composed of three aspects i.e. theory assessment, clinical skills assessment and assessment of General Performance, of which theory and clinical skills assessment consist of 30% scores each and General Performance consist of 40% scores.

(2) Organization and format for assessment

(1) Assessment for General Performance

It includes medical ethics and sense of responsibility, clerkship attendance and work discipline, attitude and work initiation, team spirit and communication skills with the people etc. Assessment scores should be given by the department Director, Education Secretary of the hospital and supervisor based on the reviews of regular performance.

(2) Theory Assessment

. Questions should be referenced form the country's own medical license examination and USMLE Step 2 type of questions

(3) Clinical Skills Assessment

Assessment of clinical skills on leaving the department will be conducted by the evaluation commission of the hospital organization. The contents for assessment include random selection of patient newly admitted to the hospital or at the bedside for history taking, physical examination and writing, general learning ability of the student and the ability of case writing, diagnosis and differential diagnosis.

(3) Assessment schedule

Theory and clinical skills assessment will be arranged and conducted after every 8 weeks of clerkship period.

(4) Assessment score standards

(1) **Medical record writing (a sample chart)**

Contents	Detailed Explanation	Total score	Score Obtained
General information	Complete information (name sex, age, nationality, origin, marital status, address); deduct 0.5 score if any information is missing	2	
Chief complaint	Precise and concise (location, time, major symptoms, causes)	8	
History of present illness	Incentives, time, main symptoms, known disease, known treatment	22	
Other	Focused and clear (menstrual history, reproductive history, family history, past history, personal, marital history)	6	
Physical examination	Examination of Systems	10	
	Surgical condition	20	
	Examination techniques	10	
Diagnosis	Scientific, complete, distinguish between primary and secondary	15	
Approach	The whole process of approach, language, action for patient care, strong communication skills	2	
Case writing	Neat handwriting, fluent language, signature, use of standard language	5	
Total		100	

(2) **Clinical ability**

(1) Enter operation room and washing hands: 25 scores

Contents	Total score	Score Obtained
(1) before entering the operation room wear mask, cap and operating clothes as required	5	
(2) cut nails before washing hands, clean hand according to the requirement, strictly follow requirements	6	
(3) correct use of hand towels	3	
(4) looking at time while washing hands or arms and enough use of foam in hand washing	5	
(5) foam hands and arms in right position, putting hands in soaking solution, correct posture	5	
(6) intently soak hands for longer time	1	
Total	25	

(2) Sterilized draping: 25 scores

Contents	Total score	Score Obtained
(1) Whether or not omitted disinfection, accurate area for disinfection, error in order of disinfection	5	
(2) Disinfection with iodine tincture is not dry or wipe coated alcohol tincture	3	
(3) Flow of iodine or alcohol to other parts	3	
(4) Touch to contaminate disinfection site	3	
(5) Whether or not follow the principles and order of draping	3	

(6) Use of correct towels for draping	3	
(7) Unskilled techniques or not	3	
Total	25	

(3) Wearing surgical gown, gloves: 25 scores

Contents	Total score	Score Obtained
(1) Contaminate hands while wearing surgical clothes	4	
(2) Use hands to touch sterile area while wearing surgical gown	3	
(3) Whether or not forget the method to send the belt for tying	3	
(4) Touch other objects with surgical clothes or hands	3	
(5) Did not touch the folded part of gloves	3	
(6) Touch gloves form outside while wearing them	3	
(7) Unskilled techniques	3	
(8) Whether or not remove powder from the gloves	3	
Total	25	

(4) Basic surgical procedures: 25 scores

Contents	Total score	Score Obtained
(1) Knives, scissors, clamp, tweezers holding in correct way	5	
(2) Inaccurate hemostasis or do not compress properly for hemostasis	3	
(3) Accurate and well organized suture method	4	
(4) Organized knot pull, whether too tight or too loose or have stiff movement	5	
(5) Knot pulled in the wrong direction or oppositely pulled knot	5	
(6) Position of head from the surgical field or standing position error in surgery	3	
Total	25	

(3) **Suture removal, change dressing: 50 scores**

Contents	Total score	Score Obtained
(1) Wear mask and cap before dressing	5	
(2) Waste or incomplete supplies for dressing	3	
(3) Check the wound before dressing	3	
(4) Whether or not pay attention to the sterilized dressing order	4	
(5) Use bowl and tweezers that do not meet the principles of aseptic dressing	5	
(6) Use violent action to tear tape	3	
(7) Use hands to expose inner dressing	4	
(8) Disinfection does not meet sterilization requirements	5	
(9) The inappropriate use of drain or improper handling of wound	5	
(10) Adhesive plaster error or improper dressing	4	
(11) After dressing errors of handling applications	4	
(12) Do not wash hands before or after dressing	2	
(13) Errors in procedure sequence	3	
Total	50	

Obstetrics & Gynecology

I. Purpose and Teaching Objectives

To consolidate the theoretical knowledge of common diseases in Obstetrics and gynecology through clerkship practice. To help the student to master the normal and abnormal status of obstetrics, diagnosis and treatment of common diseases in gynecology, master the indications and contraindications of four family planning surgical operations, get familiar with the management of common obstetrics and gynecological emergencies, and understand the procedure of common surgical operations. At the same time, establish a good professional ethics in order to develop the basis for high-level medical professionals.

II. Time Duration

6 weeks clerkship rotation: obstetrics 3 weeks, gynecology 3 weeks.

III. Contents and Requirements

1. Obstetrics

Diseases to practice

Master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1) Abortion
(2) Ectopic pregnancy
(3) Hyperemesis gravidarum
(4) Hypertension in pregnancy
(5) Placenta previa
(6) Placental abruption
(7) Fetal distress
(8) Polyhydramnios and oligohydramnios
(9) Preterm labor
(10) Premature rupture of membranes
(11) Postterm pregnancy
(12) Multiple pregnancy
(13) Abnormal umbilical cord
(14) Fetal abnormality and fetal death

(15) Normal labor and delivery

(16) Abnormal labor and delivery

(17) Uterine rupture

(18) Postpartum hemorrhage

(19) Normal puerperium

(20) Abnormal puerperium

Clinical Skills

A. Physical Examination

Master the time, contents and methods for prenatal care

(1) Physical examination: development, nutrition, gait, height, heart and lung and other organ functions, the nipple, blood pressure, edema, weight gain etc.

(2) Obstetric examination

1) Inspection: abdominal shape, size

2) Measurement of fundal height and abdominal circumference

3) Leopold's maneuvers: determine fetal lie, fetal presentation, fetal attitude and engagement

4) Auscultation of fetal heart rate

5) External pelvimetry

B. Basic medical procedures

(1) Get familiar with fetal monitoring and its clinical significance.

(2) Master the principles of normal labor and the managements of labor.

(3) Grasp the principles of normal delivery; get familiar with the methods of preparation for delivery and protection of the perineum, participate in normal delivery, episiotomy, repair of lacerations etc.

(4) Master the indications and complications of obstetric surgery such as forceps and cesarean section, get familiar with labor induction, manual placental removal, assisted breech delivery, outlet forceps delivery, internal pelvimetry and cesarean section operations. Understand the process of various surgical operations.

(5) Master normal neonatal management, Apgar's score and get familiar with neonatal resuscitation.

2. Gynecology

Diseases to practice

Master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases

(1)Infections of the Genital tract

(2)Sexually transmitted diseases

(3)Gynecological oncology

1) Neoplastic Diseases of the Vulva and Vagina

2) Cervical Neoplasia and cervical cancer

3) Uterine fibroids

4) Endometrial cancer

5) Ovarian tumor

(4)Gestational trophoblastic diseases

(5)The female reproductive endocrine diseases

1) Dysfunctional uterine bleeding

2) Amenorrhea

(7)Endometriosis

(8)Infertility

Clinical Skills

A. Physical Examination

Grasp gynecological examination

(1) External genital examination

(2) Vaginal speculum examination: check the vagina, cervix

(3) Bimanual examination: check the vagina, cervix,uterus and adnexa

(4) Vagino-recto-abdominal examination

(5) Recto-abdominal examination

(6) Recording

B. Basic manipulation

(1) Get familiar with special examinations and procedures in gynecology: the basal body temperature, cervical mucus, vaginal trichomoniasis, fungi, chlamydia, mycoplasma, cervical cytology, cervical biopsy.

(2) Master the indications, preoperative preparation and postoperative management of

various gynecological operations.

(3) Master the surgical assistant work in common gynecological operations.

(4) Understand new gynecological technologies such as endoscopy (colposcopy, hysteroscopy, laparoscopy) and assisted reproductive techniques.

3. Family planning

Get familiar with various commonly used measures for family planning; grasp the indications, contraindications and basic procedures in the family planning surgery.

Understand the basic procedures and complications of the following:

(1) Insert and remove IUD

(2) Tubal sterilization

(3) Induced abortion

(4) Amniotomy to termination pregnancy of second trimester

IV. Measures for Clerkship

1. On arrival to the hospital each clerkship student should first contact with the hospital authorities for introduction of relevant regulations of the obstetrics and gynecology department, rotation arrangements and the instructor responsible for clerkship training. Then the student can join the clerkship group in the department. At the ending of the rotation, the clerkship students should accept the evaluation, and the instructor should listen to the views of clerkship student to continuously improve the clinical teaching quality.
2. Under the supervision of instructor, the students should take history and make diagnosis for new patients in the out-patient. All kinds of prescriptions and records should be reviewed, modified and signed by the instructor.
3. After entering the ward, the instructor and the head nurse should arrange and introduce ward rules, work system and distribution of beds to the clerkship student. Each student should manage 4-8 beds, participate in ward rounds and perform duties in ward.

(4) Should select a highly experienced instructor with a strong sense of responsibility to be the supervisor for clerkship training. Each instructor should supervise one student. The instructor has the responsibility to supervise, inspect and modify all clerkship student records. Attending physician or chief physician should examine the records regularly. Medical record requirements: should be correct and complete, focused, coherent, logically, fluently and legible. Medical records with errors or mistakes noticed by the instructor must be rewritten if

necessary.

(5) Vaginal gynecological examination and the physical examination of patients should be carried out by the instructor and the clerkship student together so that the correct procedures will be mastered and signs can be revealed correctly.

(6) The diseases and basic clinical procedures learned during clerkship will cover more than 80% of the total contents. If there is no case of certain disease to be learned during clerkship, clinical learning opportunities for students should be created through teaching rounds, demonstration, lectures, case discussion, multimedia teaching, watching videos and procedures on manikin etc.

(7) Should adhere to the ward-round system. During ward-round, the senior physician should provide the comprehensive analysis of medical history and physical examination, teach the students to make the differential diagnosis and provide the proper treatment.

(8) On daily ward rounds, the clerkship student should report the newly admitted patient's medical history, physical findings, initial diagnosis and treatment and the changes in medical condition and treatment of already admitted patient, and the instructor's analysis should be kept in record by the clerkship student.

(9) Teaching rounds: should be arranged once in every 1-2 weeks and the department should arrange assistant professor or above to conduct ward rounds. Small clinical lectures: should be arranged once in every 1-2 weeks given by attending physician or above. The contents include: menstrual disorder, pelvic mass etc. (or decided according to the specific conditions).

(10) Should participate in discussion sections of representative or complicated cases and also should participate in the academic activities.

(11) Should organize an examination for the clerkship students at the end of clerkship.

V. Requirements for Clerkship Student

1. The clerkship student must abide by the hospital and ward working system, rules and regulations.
2. Should not be late or leave early or absent and must strictly obey leave policy. Should make ward rounds twice a day and participate in the weekend rounds.
3. Should respect patient, be compassionate, deeply feel sympathy for the suffering of the patient and avoid inappropriate jokes or evaluation. Consent should be obtained from the patient before performing the physical examination. Should keep good relationship with the

patient, get familiar with the patient rights and avoid disputes with the patient.

4. Should respect teachers and maintain good relationships with other medical staffs.
5. Should recognize personal limitations, seek appropriate cooperation and help, have the courage to admit mistakes and to take responsibilities of own actions.
6. Should read the medical literature and journals for self-improvement and be able to independently complete the tasks on time.
7. Should be concerned about medical ethics and compliance with health related laws and regulations.

VI. Assessment and evaluation

1. Assessment contents and evaluation form

Assessment will be composed of three aspects after the completion of the clerkship: theory assessment (30%), clinical skills assessment (30%) and assessment of General Performance (40%)

2. Organization and format for assessment

(1) Assessment for General Performance

It includes medical ethics and sense of responsibility, clerkship attendance and work discipline, professional attitude and values, team spirit and communication skills etc. Assessment scores should be given by the department director, education secretary of the hospital and supervisor.

(2) Theory Assessment

Question types should be referenced from Chinese medical license examination and USMLE Step 2.

(3) Clinical Skills Assessment

Assessment of clinical skills before leaving the department will be conducted by the clinic assessment committee. The contents include history taking, physical examination, history writing, diagnosis and treatment planning for a randomly selected newly admitted patient. The purpose is to assess general learning ability of the student and the ability of case writing, diagnosis and differential diagnosis.

3. Assessment schedule

Theory and clinical skills assessment will be arranged and conducted at the end of the clerkship.

4. Rating standards of the assessment

A. Routine Prenatal Care:

(1)Leopold's maneuvers

[Assessment standards]

1) Objective 2 scores (master completely 2 scores; basic 1 score; not master at all 0 scores)

2) Position 2 scores (entirely correct 2 scores; partially correct 1 scores; not correct 0 scores)

3) First step 2 scores (correct 2 scores; partially correct 1 scores; not correct 0 scores)

4) Second step 2 scores (correct 2 scores; partially correct 1 scores; not correct 0 scores)

5) Third step 2 scores (correct 2 scores; partially correct 1 scores; not correct 0 scores)

6) Fourth step 2 scores (correct 2 scores; partially correct 1 scores; not correct 0 scores)

（2）External pelvimetry

[Assessment standards]

1) Master the objective 2 scores (completely 2 scores; basic 1 score; not master at all 0 scores)

2) Correct measurement 8 scores (correct measurement of every line 2 scores; position 0.5 scores; measurement value 1 score; normal value 0.5 scores. Deduction of scores will be in accordance with the incorrect measurements).

（3）Measurement of fundal height, abdominal circumference and auscultation of fetal heart rate

[Assessment standards]

1) Master the objective 4 scores (completely 4 scores; basic 2 scores; not master at all 0 scores)

2) Correct measurement 6 scores (correct 4 scores; position 0.5 scores; measurement value 1.5 scores. Deduction of scores will be in accordance with the incorrect measurements).

B. Observation and management of labor:

(1) Observation of Uterine Contractility (contractions):

[Assessment standards]

1) Master the objective 4 scores (completely 4 scores; basic 2 scores; not master at all 0 scores)

2) Correct measurement 6 scores (correct 4 scores; position 0.5 scores;

measurementvalue 1.5 scores. Deduction of scores will be in accordance with the incorrect measurements).

(2) Drawing partogram:

[Assessment standards]

1) Objective 2 scores (master completely 2 scores; basic 1 score; not master at all 0 scores)

2) Drawing method 4 scores (correct 4 scores; basic 2 scores; not correct 0 scores)

3) Identification of abnormal labor process curve 4 scores (correct 4 scores; basic 2 scores; not correct or drawn 0 scores)

C. Gynecological examination:

(1) Vaginal speculum examination:

[Assessment standards]

1) Master examination objectives and items need attention 1 score (strictly master objectives 0.5 scores; items need attention 0.5 scores; none 0 scores).

2) Empty the bladder before examination (except in case of urinary incontinence) 0.5 score (instruct the patient to empty the bladder 0.5 scores; none 0 scores).

3) Bed towel 1 score (change pad for each patient 1 score; none 0 score).

4) Give explanation to the patient 0.5 scores (explain to the patient 0.5 scores; does not explain 0 scores).

5) Position 1 score (correct: lithotomy position, upper part of the body at 30 degree angle, hands placing at the sides of body 1 score; not correct 0 score).

6) Correct insertion 2 scores (standard techniques, skilled, gentle movements and clear exposure 2 scores; non-standard techniques, unskilled and less clear exposure 1.5 scores; unspecified techniques and less gentle movements 1 score; non-standard way or no examination 0 scores).

7) Examination objectives 2 scores (utter complete and accurate vaginal examination 1 score; incomplete 0.5 scores; does not utter 0 scores).

8) Correct removal (standard techniques and skilled 2 scores; standard techniques and less skilled 1.5 score; non-standard techniques 0 scores).

(2) Bimanual exam, Vagino-recto-abdominal exam and recto-abdominal exam

[Assessment standards]

1) Master examination objectives and items need attention 2 scores (master 1 score;

incomplete grasp 0.5 scores for each; none 0 scores).

2) Empty bladder before examination (except in case of urinary incontinence) 0.5 scores (instruct the patient to empty the bladder 0.5 scores; none 0 scores).

3) Bed towel 1 score (change pad for each patient 1 score; none 0 score).

4) Give explanation to the patient 0.5 scores (explain to the patient 0.5 scores; does not explain 0 scores).

5) Position 1 score (correct: lithotomy position, upper part of the body at 30 degree angle, hands placing at the sides of body 1 score; not correct 0 score).

6) Bimanual exam 5 scores (standard techniques, skilled 3 scores; standard techniques, less skilled 1.5 scores; non-standard techniques or does not examine 0 scores).

(3) Sampling of vaginal secretions:

[Assessment standards]

1) Master the clinical application and significance 3 scores (master 3 scores; incompletely master 1 score; not master at all 0 scores).

2) Application of vaginal device 2 scores (standard techniques, skilled 2 scores; standard techniques and less skilled 1 score; incorrect procedures 0 scores).

3) Drawn position and methods 3 scores (position accurately, skilled techniques 3 scores; incorrect position and skilled techniques 0 scores).

4) Proper handling of specimens 2 scores (tube ready, correctly inserted 2 scores; tube not ready, not skilled 1 score; incorrect procedure 0 scores).

(4) Cytology method of cervical smear (TCT):

[Assessment standards]

1) Use of vaginal speculum 2 scores (standard techniques, skilled 2 scores; standard techniques, less skilled 1score; incorrect procedure 0 scores).

2) Position and methods 4 scores (position accurately, skilled techniques 4 scores; position accurately, skilled techniques 2 scores; incorrect position and skilled techniques 0 scores).

3) Smears and fixation 3 scores (correct techniques, skilled 3 scores; correct techniques, unskilled 1 scores; incorrect procedure 0 scores).

4) Filling the form of application 1 score (precise 1 score; less precise 0.5 scores; incorrect 0 scores).

Pediatrics

I. Clerkship Purpose and Teaching Objectives

1. To cultivate health care workers with a high sense of social responsibility, noble medical ethics and superb skills.
2. To master the child history taking, characteristics and methods of physical examination and to get familiar with the normal findings in children and doses of commonly used drugs.
3. To master the preliminary diagnosis, differential diagnosis and treatment principles of common pediatric diseases and grasp the basic common clinical techniques in pediatrics. To develop an initial ability of independent diagnosis and treatment. To meet the requirements of national board license examination after graduation.

II. Time Duration

The clerkship rotation in pediatrics in for 6 weeks including 5 weeks in pediatrics ward and 1 week in neonatology.

III. Contents and Requirements

1. Should learn and master the correct elementary clinical thinking and should develop the ability of independent analysis and treatment of clinical problems.
2. Should master the skills of history taking and physical examination of pediatric diseases.
3. Should learn child growth and development, etiology, clinical manifestations, laboratory findings, diagnostic criteria, differential diagnosis and treatment principles of pediatric diseases. Should learn and master the following:

(1) Child age and its characteristics at all stages, characteristics of normal child growth and development, child immunization and vaccination.

(2) Anatomical, physiological characteristics of normal newborns and premature child and their feeding and care.

(3) Newborn diseases: Asphyxia, hypoxic ischemic encephalopathy, jaundice, sepsis, hemolytic disease, cold injury syndrome.

(4) Nutrition and nutritional disorders: The basis of child nutrition and infant feeding, vitamin D deficiency rickets, tetany, protein - energy malnutrition.

(5) Respiratory diseases: Acute upper respiratory tract infection, pneumonia, bronchial

asthma.

(6) Gastrointestinal diseases: Congenital hypertrophic pyloric stenosis, congenital megacolon, infantile diarrhea.

(7) Circulatory system diseases: Classification of congenital heart disease and special examination methods, common congenital heart diseases (atrial septal defect, ventricular septal defect, patent ductus arteriosus, tetralogy of Fallot).

(8) Hematological disorders: Definition and classification of anemia in children, nutritional iron deficiency anemia, nutritional megaloblastic anemia.

(9) Renal system diseases: Acute glomerulonephritis, nephrotic syndrome.

(10) Nervous system diseases: Febrile convulsion, purulent meningitis.

(11) Infectious diseases: toxic bacillary dysentery, rash in common diseases (measles, rubella, exanthema subitum, chicken pox, scarlet fever), tuberculosis (primary pulmonary tuberculosis, tuberculous meningitis).

(12) Others: Rheumatic fever, Kawasaki disease, congenital hypothyroidism, 21-trisomy syndrome, phenylketonuria.

4. Clinical Skills

(1) Master the initial diagnosis and treatment techniques of common pediatric procedures such as arterial venous puncture, lumbar puncture, oxygen delivery, chest cavity puncture, bone marrow aspiration, cardiopulmonary resuscitation etc.

(2) Master the PPD skin test procedure and its results evaluation.

IV. Measures

1. The clerkship department (ward) should provide the teaching environment and number of beds to meet clinical practice needs. The department Director will be responsible for overall quality of clerkship student.

2. Should select a highly experienced instructor with a strong sense of responsibility to be the supervisor for clerkship training. Each instructor should supervise 1 student. The health care management should collaborate and ensure the quality of clinical practice of the clerkship student.

3. After entering the ward, the Director or chief resident doctor should introduce ward rules, work system and distribution of beds to the clerkship student. Each student should manage 4-8 beds, follow the instructor to participate in ward work during duty hours and must undertake

some nursing work.

4. On daily ward rounds, the clerkship student responsible for patient management should report the patient's medical history, physical findings, initial diagnosis and treatment. The changes in medical condition and treatment for already admitted patient should be reported, and then after being corrected and analyzed by the instructor should be kept in record by the clerkship student.

5. The clerkship student is required to complete the medical records (history, physical examination, treatment plans) within 24 hours of child's admission to the hospital inpatient. Records are required to be written in correct, complete, orderly, focused and clear handwriting with no more than two copies per day. The instructor must carefully mark the records written by the student, supervise the student to conduct technical procedures, improve the student ability to analyze and solve clinical problems and help the student to master the clinical skills of basic procedures.

6. The instructor should supervise the student in writing disease progressive notes, transfer and discharge records, death records, records of case discussion and should make necessary reviews and amendments.

7. Should adhere grade three round system. At the time of higher physician round, history should be taken for systemic analysis and combined with physical examination in order to make correct diagnosis, differential diagnosis and develop treatment principles. During ward rounds focus should be paid on overall clerkship student training, comprehensive guidance and evaluation of the clerkship student's attitude, concept, clinical practice ability and theoretical knowledge etc. Should guide the clerkship student how to integrate theory with practice and should develop and improve the ability of student for independent diagnosis and treatment.

8. Teaching rounds: should be arranged once in a week and the department should arrange teacher of more than assistant professor level to conduct ward rounds. Meanwhile, focus should be paid on clerkship student practical innovation and research ability.

9. Clinical based small lectures: should be arranged once in a week and the department should arrange lecturer of more than attending physician level to give lectures.

10. Should regularly schedule foreign language ward rounds by highly experienced and foreign language proficient associate professor to enhance the professional language among medical students.

11. In diseases learned during clerkship, the basic clinical procedures will cover more than

80% of the total contents. In clerkship, if there is no rotation of other system disease or if there is no case of disease to be learned during clerkship, clinical learning opportunities for students should be created through teaching rounds, demonstration, lectures, case discussion, multimedia teaching, watching videos and procedures on model human body etc.

12. Should organize assessment on completion of clerkship for leaving the department.

V. Requirements

1. The clerkship student must abide by the hospital and ward working system and rules and regulations. Should not be late, leave early or absent. Should maintain good relationships with health care workers.

2. Should respect patient, be compassionate, deeply feel the suffering of the patient and avoid inappropriate jokes or evaluation. Consent should be obtained from the patient before performing the physical examination and should manage good relationship with the patient, get familiar with the patient rights and avoid disputes with the patient.

3. Should carefully complete the writing of various medical documents such as medical records, disease progression records and handing over shift records. Should make ward round more than twice a day and participate in the weekend rounds. Should go to the ward 30 minutes earlier every morning to understand the changes in patient's condition managed by the student. At the time of ward round by the senior physician should orally report to the instructor. Should carefully complete the treatment instructions given by the senior physician and take turns to participate in ward duties. Should regularly visit the ward and carefully observe the disease condition changes and if found any should timely report to the senior physician. Should actively participate in the department or ward case discussion. Should actively participate in various ward teaching activities organized for the clerkship student such as history taking training, teaching cases, discussion, teaching rounds and teaching seminars etc.

4. Should read the medical literature and journals to enrich self-improvement.

VI. Assessment and Evaluation

1. Assessment contents and evaluation form

Assessment on leaving the department will be composed of three aspects i.e. theory assessment, clinical skills assessment and assessment of General Performance of which theory and clinical skills assessment consist of 30% scores each and General Performance consist of 40% scores.

2. Organization and format for assessment

1) Assessment for General Performance

It includes medical ethics and sense of responsibility, clerkship attendance and work discipline, attitude and work initiation, team spirit and communication skills with the people etc. Assessment scores should be given by the department Director, Education Secretary of the hospital and supervisor based on the reviews of regular performance.

2) Theory Assessment

Question types should be referenced from Chinese medical license examination and USMLE Step 2.

3) Clinical Skills Assessment

Assessment of clinical skills on leaving the department will be conducted by the evaluation commission of the hospital organization. The contents for assessment include random selection of patient newly admitted to the hospital or at the bedside for history taking, physical examination and writing, general learning ability of the student and the ability of case writing, diagnosis and differential diagnosis.

3. Assessment schedule

Theory and clinical skills assessment should be arranged after every 6 weeks of clerkship period (at the end of rotation).

Neurology

I. Purposes and Teaching Objectives

The clerkship is designed to consolidate and deepen the students' theoretical knowledge, to further improve their basic clinical skills and thinking ability, so that the clerkship students can use the knowledge and skills to make diagnosis and treatment of common neurological diseases.

II. Time Duration: 2 weeks

III. Contents and Requirements

1. Neurological diseases

To master the etiology, pathogenesis, clinical manifestations, diagnosis and treatment of the common neurological diseases, such as acute cerebrovascular diseases, epilepsy, multiple sclerosis, spinal cord diseases, peripheral nerve disease and Parkinson's disease, myasthenia gravis.

2. Clinical skills

1) Physical examination: neurological examination; including mental status exam, cranial nerve exam, sensory exam, motor exam, reflex exam and meningeal irritation exam.

2) Basic procedures:

(1) To understand the basic operation of lumbar puncture, including indications and contraindications.

(2) To learn some special inspection used in the diagnosis of nervous system diseases, such as CT, MRI, EEG, EMG， and understand the indications and contraindications.

3) The understanding of assistant test results:

Get familiar with the results of lumbar puncture

IV. Measures

1. The teaching environment of practice sectors (wards) and the number of beds should meet the needs of clinical practice; the director takes the responsibility for the quality of clerkship student.

2. When clerkship students get into the ward for the first time, the Director in charge or the chief resident should give a general introduction of ward, rules and regulations, routine work and assigned tasks. Each clerkship student is in charge of 6-8 beds.

3. The department will select the highly skilled physicians with strong responsibility to be instructors. One instructor is responsible for one student and other physicians or nurses should provide assistance to make sure the quality of clinical clerkship.

4. During the practice, the clerkship students should complete inpatient medical records and a variety of observations records. Clinical instructors need carefully scrutinize the medical records written by the clerkship students and teach them the technical operations they met. The clerkship students should analyze and solve clinical problems, and grasp the basic clinical skills.

5. Focusing on the overall quality of clerkship training, including the attitudes, values, clinical practice abilities, and theoretical knowledge.

6. To implement the three levels ward rounds system, and arrange a highly skilled attending physician give a seminar, organize clinical case discussion and teaching rounds once or twice a week, according to the requirements of practice outlines. The instructors also focus on clerkship students' innovation and research ability.

7. To organize the test after completing the practice.

V. Requirements

1. To complete the medical records and progress notes timely under the guidance of superior doctor in the ward, to participate in ward rounds and all kinds of the treatment.

2. Regularly to participate in the emergency duty, and help physician on duty handle emergency.

3. The medical records must be completed within 24 hours after admission, and the changes of illness must be promptly recorded. The development of critical illness should be recorded more frequent depending on the process of the illness. Meanwhile, the students should record the comments and medical advices of supervisor doctors in ward rounds, consultation and case discussion.

4. To start to work 30 minutes earlier every morning, and check the patients, get familiar with the patients' condition before the ward rounds led by supervisor. To report the health condition of the patients to the superior doctors during the ward rounds, and give opinions on the analysis and treatment.

5. To check the patient more than once every morning and afternoon, report the patients' medical condition changes to the superior doctors, and give your own opinions.

6. The students should conduct all kinds of medical care and activities under the guidance of superior doctors. The doctor's advice, prescriptions, and various assistant examination application forms should be clearly written, and must not be revised. All the items must be signed by the superior doctors, then can be carried out. To keep abreast of all the tests result and post them on the records.

7. The students should assist to explain the disease under the guidance of the superior doctors and learn the doctor-patient communication skills.

8. Students take part in discussions of difficult cases and a variety of learning activities, and review the Neurology textbook through the specific cases.

VI. Assessment and Evaluation

1. **1. Assessment Contents**

Assessment on leaving the department will be composed of three aspects i.e. theory assessment (30%), clinical skills assessment (30%) and assessment of General Performance (40%).

2. Organization and Pattern of Assessment

(1) Assessment for General Performance (40%)

It includes medical ethics and responsibility (8%), attendance and discipline (8%), attitude and work initiation (8%), team spirit (8%) and communication skills (8%) etc. Assessment scores should be given by the Director, Education Secretary and supervisor of the department based on the student's performances.

(12) Theory Assessment (30%)

The type of the questions will be referred to the national medical licensure examination and the USMLE step2.

(13) Clinical Skills Assessment (30%)

Assessment of clinical competence: collection of medical records and medical history, clinical comprehensive analysis and logical thinking ability, physical examination and clinical skills, capacity of diagnostic analysis.

3. Assessment schedule

Assessment for General Performance and Clinical Skills Assessment will be conducted before the end of 2 weeks of clerkship period. The theory Assessment will be conducted approximately at the end of every 3 months.

Items	Proportion	Schedule	Contents	Organization
Theory assessment	30%	12th week (repeated at the end of rotation)	Questions should be from the national medical licensure examination and USMLE Step 2 type of questions	Test papers issued by the medical school or college
Clinical Skills Assessment	30%	12th week (repeated at the end of rotation)	collection of medical records and medical history, clinical comprehensive analysis and logical thinking ability, physical examination and clinical skills, capacity of diagnostic analysis	Hospital evaluation commission OR Medical Group
Assessment of General Performance	40%	On general basis	Include medical ethics and responsibility, attendance and discipline, attitude and work initiation, team spirit and communication skills.	Education Office (department)
Total	100%			

Emergency Medicine

I. Purposes and Teaching Objectives

Emergency medicine practice is an important part to train medical students to become qualified clinicians. The Practice is designed to help student to understand and master the basic principles and skills of the intensive care, to consolidate and deepen their understanding of the various specialties involved in emergency related knowledge, and to get the preliminary ability of independent diagnosis and timely treatment of common clinical intensive diseases.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Diseases to practice

The student should understand the causes, pathogenesis, clinical manifestations and treatment of the following diseases and clinical syndrome.

(1) Cardiac arrest

(2) Shock

(3) Acute respiratory failure

The student should be familiar with the causes, pathogenesis, clinical manifestations and treatment of the following diseases and clinical syndrome.

(1) Fever

(2) Acute Abdomen

(3) Multiple traumas

(4) Acute heart failure

(5) Acute gastrointestinal bleeding

The student should understand the causes, pathogenesis, clinical manifestations and treatment of the following diseases and clinical syndrome.

(1) Acute coma

(2) Common poisoning (pesticide, sedative drugs, alcohol, rodenticides, etc.)

(3) Common accidents (shock, drowning, heat stroke, hanging oneself, etc.)

2. Clinical skills

1) Physical examination

(1) Basic vital signs: temperature, pulse, respiratory rate, blood pressure

(2) Consciousness and neural signs: Glasgow score, pupil size and light reaction, pathological reflex

(3) Respiratory: oral mucosa, breathing frequency, rhythm and amplitude, thorax palpation, pulmonary percussion, breath sound auscultation

(4) Circulatory system: blood pressure, heart rate, heart rhythm, heart border percussion, the valve area of heart sound auscultation, neck vein expansion

(5) Abdomen: abdominal shape, auscultation of bowel sounds, liver and spleen palpation, tenderness and rebound tenderness, percussion, shifting dullness.

(6) Spine and pelvis: deformity, tenderness, pelvic squeeze imposed isolation

(7) Limb joints: the shape, tenderness, abnormal activity, feeling, muscle strength, blood supply (ischemia, congestion)

2) The basic procedures

(1) Cardiopulmonary resuscitation (including airway open, defibrillation, basic drug use, etc.)
(2) Common methods of oxygen supply (nasal catheter, mask, bag - mask ventilation)
(3) Debridement surgery
(4) Body bandage, hemostasia
(5) Fracture temporary fixation
(6) Thoracentesis, abdominal paracentesis
(7) Catheterization
(8) Gastrointestinal decompression
(9) Familiar with the basic operation of respirator
(10) Familiar with the operation of multi-function monitor
(11) Familiar with deep vein puncture and CVP measurement and significance
(12) Familiar with closed thoracic drainage, percutaneous catheter drainage
(13) Familiar with the transport critically ill patients

(14) Understanding of gastric lavage technique
(15) Understand the preparation and procedure of tracheal intubation
(16) Understand the use of Sengstaken-Blakemore tube

3) The understanding of lab test results

(1) The emergency laboratory test results (three regular tests, emergency biochemistry, coagulation, blood gas, cholinesterase, cardiac enzyme levels, hydrothorax, and cerebrospinal fluid)
(2) Normal chest radiographs and head CT
(3) Abnormal chest radiograph (pneumonia, pneumothorax, pleural effusion, rib fractures)
(4) The normal and common abnormal chest CT (pneumonia, pneumothorax, pleural effusion)
(5) The CT of emergency brain lesions (hemorrhage, infarction, trauma)
(6) The ultrasonographic result of pleural, peritoneal effusion
(7) The ECG interpretation of common arrhythmias and myocardial infarction
(8) The emergency CT and MRI test results of spine and spinal cord-related

IV. Measures

1. The student first report to the teaching secretary or chief resident physician who will give them a brief introduction of the general situation of department, clerkship program, notes, etc., and then take the student to the designated instructors.
2. To select the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Each instructor takes care of 2-4 students.
3. Student will carry out the medical history taking, physical examination, medical report writing, medical order issued, technique operation, interpretation of test results, patient transport, patient communication, etc. supervised by the instructor, so as to grasp the general principles of emergency work and basic skills.
4. Instructor should encourage the student to be actively involved in the emergency work, and be fully responsible for checking the quality and timely supervise and check various medical records, to ensure the emergency medical quality and medical safety.
5. The instructor is responsible for supervision and guidance of student' daily work that is considered as an important part for course assessment.
6. For each batch of student, the instructor will arrange 2 small lectures and demonstrations (including cardiopulmonary resuscitation, airway opening, oxygen therapy and respiratory support, defibrillator, monitor use, respirator use, the four first-aid technology).
7. Adhere to three-level ward rounds system, the superior physician analyze the medical history, and make the correct diagnosis according to all the tests' results, finally to formulate the appropriate treatment. During the wards rounds, superior physician will help the student to set up the standardize thinking of clinical diagnosis and treatment.
8. Student will be required to attend the morning meeting, seminars, lectures and discussion for difficult cases or death cases.

9. At the end of the clerkship, the student will take the theoretical and clinical skills tests, and the instructor will get feedback from the student to improve the teaching of clinical practice.

V. Requirements

1. Student must abide by the various national laws and regulations regarding medical work, and comply with all the hospitals and departments rules and regulations.
2. Strictly comply with the discipline and not be late and leave early, no unexcused absences, emergency leave must be followed the hospital procedures.
3. To respect teachers and the other hospital staff, establish a harmonious working relationship with others.
4. Respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. Handle doctor-patient relationship well, respect the patient rights, and avoid disputes.
5. Practice according to the law, attached great importance to the safety and quality of emergency medical care, not to deal with the patient alone, and report to the instructor timely if there is emergency happening.
6. Take the initiative to finish the work, to treat the patient with responsibility and develop the good habits of careful observation of disease changes.
7. Be eager to learn and foster the habit and ability of active learning, to read the medical literature and journals.
8. To recognize of personal limitations, seek appropriate cooperation and help from others, admit mistakes and take responsibility.

VI. Evaluation

1. Assessment contents and evaluation form

Assessment on leaving the department will be composed of three aspects i.e. theory assessment, clinical skills assessment and assessment of General Performance of which theory and clinical skills assessment consist of 30% scores each and General Performance consist of 40% scores.

2. Organization

General performance:

Medical ethics and sense of responsibility (5 points), attendance and practice discipline (5 points), clerkship and job initiative (5 points), communication (5 points), assessment by the Division Director, Education Secretary based on regular performance.

Clinical competence:

The department assessment team according to the syllabus arranges the written test in form of cases analysis, and checks 1 to 2 major operational skills. Written examination (40 points); basic skills assessment (40 points)

3. Schedule

The test for clinical competence will be given on the Friday afternoon of the second week of the clerkships.

Marking (Each operating skill is calculated 100 points. The student will get 100% for each correct step, and 50% for basically correct, and 0 for incorrect or missing)

1. CPR
    - Make sure the environment is safe and get close to the patient ------(5)
    - Make sure whether the patient is unconscious ---------(5)
    - Call for help in the right way ----------(5)
    - Body display and exposure ----------(5)
    - Open airway ----------(20)
    - Check respiratory ----------(10)
    - Artificial respiration ----------(20)
    - Chest cardiac compression ----------(20)
    - Re-evaluation ----------(10)
2. Defibrillation
    - Check defibrillator ----------(10)
    - Electrode identification and preparation ----------(20)
    - Energy Selection ----------(20)
    - Charge ----------(10)
    - Electrodes placed ----------(20)
    - Discharge ----------(10)
    - Judgment after defibrillation ----------(10)
3. The use of simple respirator
    - Properly connected ----------(10)
    - Open airway ----------(20)
    - Two people operating the respirator ---------(20)
    - One person operating the respirator ---------(30)
    - Evaluation for the effect of respirator ---------(20)

Psychiatry

I. Purpose and Teaching Objectives

The practice is designed to help students master the common diagnosis and treatment of mental illness; to master the identification and treatment of the common critical psychiatric disease; to master the basic theory and skills of psychiatry. The students will increase their rational knowledge, set up good medical ethics, and get ready for their future clinical work.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Taking medical history and writing the medical record of mental illness.
2. The skills, methods and content of mental status examination, and how to do mental status examination alone.
3. The diagnosis and treatment of schizophrenia, mood disorders, organic mental disorders, neuroses ,eating disorders, sleep disorders and stress related disorders.
4. Be familiar with the assessment of mental illness scale
5. Be familiar with the symptoms analysis and diagnosis of mental illness
6. To get to know the ward management and the special prevention and treatment of accidents, including suicide, violence, ran outside and breaking things, concealing medicine, drug poisoning, etc.
7. To get to know the treatment history of mental illness, the types, indications, side effects and treatment for side effects.

IV. Measures

1. The instructor will take care of the students when they first enter the department, help them to get familiar with the ward environment, staff and work systems; introduce the professional psychiatric profile, characteristics and precautions; arrange the students to various medical groups.
2. Every student is in charge of 6-8 beds, and is responsible for the overall management of the patient and relevant medical records writing under the guide of instructor.
3. Be on time for the transition of work every day, to take part in early and late rounds, to check the patient's condition changes all the time; to order-and-paste inspection report sheet every day, learn to discriminate and analysis lab test results, to record and report to the superior doctor when there is a problem.
4. Learn to select and understand psychological scales, finish the related assessment scale of patients under the guidance of a superior physician.
5. Participate in the ward rounds and difficult cases discussion led by attending or chief

physician. To check the patients' condition and finish the necessary checks before the round. Report the medical history and put forward own views, take notes from the superior physicians, ask him or her to review and sign on the record during the round. The superior physicians will teach the students how to enhance their ability to develop independent treatment with both theoretical and practical knowledge during the rounds process.

6. The attending will give a small lecture about the common problems during the treatment of mental illness.
7. To arrange the deputy director or attending carry out one teaching rounds to guide the students make a correct diagnosis, differential diagnosis, proper treatment through the analysis of typical cases, so as to train medical students of properly clinical thinking.
8. Before finishing the practice, the instructor will answer the students' questions encountered in the clerkship.
9. To complete the test at the end of the practice. The instructor will register in the clerkship manual examination book. The students will give feedback to the instructor in order to continuously improve the clinical teaching.

V. Requirements

To abide by the senior clerkship requirement of Zhejiang University School of Medicine during the clerkship, to comply with hospital rules and regulations, to obey the department management and attendance requirement, to complete the practice with hard working.

10. Respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. Do not have discrimination and prejudice to the mental illness.
11. Respect the privacy of patient. The students should get patients' permission before the physical examination. Handle doctor-patient relationship well, familiar with the patient rights, and avoid disputes.
12. Respect teachers and care about the other students, obedience to a superior arrangement, establish a harmonious working relationship with others.
13. Recognize the personal limitations, seek appropriate cooperation and help from others, admit mistakes and take responsibility.
14. Carefully write various examination application and medical records, when the new patient is hospitalized, the students should complete history taking, physical examination, neurological examination, mental status examination, doctor's advice, and finish the medical history writing within 24 hours according to norms. Before the morning shift next day, the student should finish the records (including course catalog, various inspections and consultation forms) timely and accurately, and hand them to the clinic instructor for revise and verification. If it does not meet the specifications and requirements, the students should revise or rewrite them.

15. Enhance the ability of communication with patients and learn to communicate appropriately with family members. To think positively and get to know well about the patient's condition, be on call immediately to participate in treatment.
16. Be familiar with the dosage form, dosage and usage of commonly used psychotropic drugs and emergency medicine; learn to give medical advice and prescription under the guidance of the teacher.
17. Be familiar the psychiatric nursing practice and the accidents preventive measures, including suicide, violence, running outside, concealing medicine, drug poisoning and etc.
18. Accompanying the patients when they need to go outside for examination and ordering ward medical information and materials.
19. The students should read the medical literature and magazines, participate in the hospital or department's academic activities to enrich and improve their theory and practice.

VI. Assessment and Evaluation

1. Assessment Contents and Evaluation Form

Assessment on leaving the department will be composed of three aspects i.e. theory assessment (30%), clinical skills assessment (30%) and assessment of General Performance (40%).

2. Organization and Pattern of Assessment

(1) Assessment for General Performance

It includes medical ethics and responsibility, attendance and discipline, attitude and work initiation, team spirit and communication skills etc. The general assessment will be scored by the instructor according to student’s general performance.

(2) Theory Assessment

The contents for assessment include the diagnosis and treatment of schizophrenia, mood disorders, organic mental disorders, neuroses and stress related disorders. The theory assessment will be scored by the instructor.

(3) Clinical Skills Assessment

The contents for assessment include history taking, writing of case record, physical examination, mental examination, clinical thinking, case management, reading scale tests etc. Assessment of clinical skills will be tested by the evaluation team (Division Director and the instructors, etc.).

3. Assessment schedule

Assessments will be conducted by the end of 2 weeks of clerkship period.

Orthopedic Surgery

I. Goals and Objectives

The clerkship is designed to enhance student's theoretical knowledge and clinical skills of orthopedic surgery. The training will help students to understand the principles of diagnosis and treatment in common musculoskeletal injuries and orthopedic disorders. In addition, the students will learn common orthopedic surgeries and develop sophisticated communication skills for future practice.

In clinical training, the student should work together with supervisors to participate in various educational activities, including out-patient clinic, grand round, case discussion, and operation session. With these activities, students are supposed to develop some fundamental clinical abilities on scientific thinking, clinical decision making, clinical case analysis, clinical learning and communication.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Disorders

Understand and master etiology, pathogenesis, diagnostic criteria, differential diagnosis, history-taking, physical examination, and treatment principal of the following disorders:

1) Fractures of clavicle, humerus, distal radius fracture (Colles fracture), femur neck, intertrochanteric femur, tibia and fibula;
2) Dislocation of shoulder, elbow and hip joint;
3) Degenerative spine disorders: general knowledge of back pain; lumbar disc herniation, cervical spondylitis;lumbar spinal canal stenosis;
4) Spine trauma: common cervical, thoracolumbar fractures; osteoporotic vertebral compression fractures;
5) Femoral head necrosis, knee and hip osteoarthritis;
6) Infections of the musculoskeletal system, including spine tuberculosis.

2.Operations

Understand the indications, contraindications and perioperative management of following

procedures or operations:

(1) dressing change and removal of stitches

(2) plaster for fractures of extremities

(3) distraction for fractures of lower limb

(4) debridement for open injuries

(5) use of tourniquet

(6) Incision and drainage of superficial abscess

(7) Stitch up wounds

3. Physical examinations

(1) Observation of the abnormity for the spine and extremities, such as signs of fractures, scoliosis, gait, ecchymosis,

(2) Palpation:

tenderness

Palpation for superficial mass

Bony marker

Peripheral vascular examination

1) pulse

2) vessels pulsation and bruit: venous pulsation, arterial bruit and pulsation

3) signs of capillary pulsation and capillary edema

4) varicose veins

(3) Percussion

Axial percussion

Percussion at spine

Tinel sign

(4) Motion

Muscles strength

The grade of muscle strength

The motion range of joints (normal and abnormal)

Dragging pain

(5) Measurements

Awareness of bony landmark and normal alignment

The measurements of limbs length

The measurements of limbs perimeter

(6) The reflex (deep reflex, superficial reflex, pathological reflex)

Biceps reflex, Triceps reflex, Raidoperiosteal reflex, Knee reflex, Ankle reflex, Abdominal reflex, Cremasteric reflex, Anal reflex, Hoffmann sign, Babinski sign, Ankle colnus.

(7) The special sign in orthopedic department

Eaten sign, Thomas sign, Lasegue sign, Bragard sign, Femoral nerve traction test, Patrick sign, Mill sign, Finkelsein sign, Dugas sign, Mcmurray sign, Tinel sign.

Interpretation of various radiological studies（1）X-ray findings of normal bone and joints, various fractures and joint dislocation, dislocation of joints, bone tumor, and degenerative diseasessuch as lumbar spine degeneration and knee osteoarthritis;（2）CT scanning of the spine and 3D reconstruction of bone and joints;（3）X-ray and CT findings of various bone tumors;

Understand X-ray guided bone biopsy, vertebroplasty;

(4) MRI

Get familiar with the MRI findings of cervical and lumbar of disc herniation, joint injury and ligament rapture

(5) Interpretation of laboratory test results of

serum levels of electrolytes, blood sugar, routine and biochemical tests for ascites/fluid; common tumor markers, bacterial culture and drug susceptibility tests

IV. Measures

1. The department should select the high-qualified senior attending doctor to be in charge of teaching and give an introduction on the key points of the clerkship as well as the relevant regulations of the orthopedic practice. After the clerkship, get feedback from the student so as to improve the quality of clinical teaching continuously.
2. When the student entering the wards first time, the teacher or chief nurse should make the specific arrangement to introduce the rules and regulations of the ward, arrange the instructor and beds.
3. The student should participate in the surgery of their patients and complete some operation training under the guidance of the supervisor doctors.
4. The instructor has the responsibility to supervise, inspect and modify the various records written by students. The medical history should be accurate and complete, focused, coherent and logical. The text should be in fluent, clear writing.
5. The students should report the present history and past history for patients and point out the

positive findings of physical examinations.

6. The instructor and the student will carry out the physical examination together for the critically ill patients, so that the instructor can make correction and reduce the unnecessary pain to the patient.
7. The diseases and other items that are not seen or practiced during the clerkship should be taught through teaching rounds, lectures, case discussions, multimedia, videos, etc in order to create more clinical learning opportunities for students.
8. When the clerkship is completed, the student should finish at least 6 copies of case writing; participate in at least twice duty, ten times of fracture manipulative reduction and fixation with plaster or external fixations, 2 times of emergency debridement, 4 times operations and 2 times of department academic activities.

V. Requirements

1. The student will be in charge of 3-5 beds under the guidance of supervisor doctors. All the medical records and progress notes should be completed timely. The student should focus on the medical history taking and physical examinations.
2. The medical history must be finished within 24 hours after patients' admission. For those emergency patients who need the surgery immediately, the student should write a brief case summary on hospital admissions.
3. The student should participate in emergency duty regularly; assist the physician on duty to deal with emergency (reduction, external fixation, debridement, etc.).
4. The students should know the changes of treatment during the patients' admission and learn about the reasons.
5. The medical records must be finished timely. The progress notes for critically ill patients should be written whenever there are changes. The student should also write down the view of senior doctors during ward round, consultation and case discussion.
6. The student should enter the ward 30 minutes earlier than the normal working time, should go to check the patient's condition and report to the supervisor doctor during ward round. The student should also take the initiative to give his/her own analysis and suggestions to the treatment.
7. The student should visit the patients more than once every morning and afternoon, report the changes to the supervisor doctor and give treatment advices.
8. Post-operation incision management should be done (change of dressing, removal of stitches) under the guidance of the superior doctor. Medical order, prescriptions, and various examination application sheets should be written timely, and should be complete, clear written, with no correction marks and signed by the supervisor doctor before implementation. To keep abreast of all the test results, and post them on the medical record according to the requirement.
9. The student can participate in the conversations between the doctor and the families of the patient for surgery. However, the student MUST NOT talk about the necessity and risk of surgical anesthesia and postoperative complications with the patient's family members alone so as to avoid the unnecessary medical disputes.
10. To learn doctor-patient communication skills under the guidance of the supervisor doctor.
11. To take part in all kinds of department difficult cases discussions and academic activities,

and review the orthopedic section in the *Surgery* textbook according to the specific cases.

VI. Assessment and Evaluation

1. The contents and marks distribution

Theory assessment (30%): the ability of disease analysis and diagnosis (10%), differential diagnosis and treatment (10%), and principle of treatment (10%).

Clinical skills assessment (30%)： collection of medical records and medical history (5%) , mental status examination (10%), medical history writing (5%), and some basic skills such as splinter fixation or cast or spinal injury transportation (10%).

Assessment of General Performance (40%)： medical ethics and responsibility (10%), attendance (10%), communication skills (5 %), influence in clinical clinical assessment in (10%), and enthusiasm for learning (5%).

2. Organization

The test will be organized by the ward chief director, surgeon in charge, chief resident and teaching group.

3. Schedule

The test should be completed at the last day of practice.

Infectious Diseases

I. Purposes and Teaching Objectives

The clerkship is designed to help the students to master the diagnosis and treatment of the common infectious diseases, the basic clinical skills of infectious diseases diagnosis and treatment; be familiar with the methods of disinfection and isolation of infectious diseases; be familiar with "The People's Republic of China Disease Prevention Act" and the infectious disease reporting system; to consolidate and deepen the theoretical knowledge, improve clinical thinking ability through clinical practice; to establish good work ethic.

II. Time Duration: 2 weeks

III. Content and Requirements

1. Disease to practice

To understand the causes, pathogenesis, clinical manifestations, differential diagnosis and treatment of the following diseases:

1) Viral hepatitis
2) Epidemic influenza
3) Measles, Varicella,Mumps
4) Hemorrhage fever with renal syndrome
5) AIDS
6) Typhoid fever
7) Bacterial dysentery
8) Tuberculosis
9) Malaria
10) Sepsis and Septic shock
11) Liver abscess
12) Central nervous system infection
13) Infectious diarrhea
14) Nosocomial infection
15) Liver failure
16) Fever of unknown origin

2. Clinical skills

1) Physical examination

(1) Subcutaneous nodules: to check the size, hardness, location, movement, whether it is painful when pressed

(2) Palpation of superficial lymph nodes: the check order, location, lymph node swelling, the

border of the enlarged lymph nodes, texture, activity, whether it is painful when pressed

(3) The liver and spleen examination: normal range of liver and spleen voiced sector; liver and spleen palpation size, texture, whether it is painful when pressed

(4) Check the central nervous system: meningeal irritation and pathological reflex.

(5) Peripheral examination: skin rashes, skin stained yellow sclera, spider spots, liver palms.

2) Basic procedures

(1) The basic procedure of pleural puncture

(2) The basic procedure of the peritoneal cavity puncture

(3) The basic procedure of lumbar puncture

(4) Be familiar with the placement of three-balloon catheter

(5) Be familiar with liver abscess puncture

(6) To get to know the needle biopsy of liver surgery

(7) To get to know the operation process of the treatment of severe hepatitis supported with artificial liver (if possible)

3) The understanding of clinical lab test results

(1) Liver function tests

(2) The hepatitis serology of viral hepatitis and all kinds of indicators of etiology examination

(3) Bacterial cultivation and sensitivity test

(4) Ascites and biochemical examination

(5) CSF examination and biochemical examination

(6)The special examinations related to infectious diseases, such as the B-mode ultrasonography, abdominal CT, liver ECT

IV. Measures

1. The teaching environment of practice sector (wards) and the number of beds should meet the needs of clinical practice; the director takes the responsibility for the quality of clerkship.

2. When student get into the ward first time, the Director or the chief resident gives a general introduction of ward, disciplines, routine work and the distribution of hospital beds. Each intern is charge of 6-8 beds.

3. The department should appoint the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Each student has one instructor. The other physicians and nurses will collaboratively manage to ensure the quality of clinical clerkship.

4. During the practice, the student complete inpatient medical records and a variety of observations records, clinical instructor must carefully scrutinize the medical records written by the student, and teach student all kinds of technical operations, analyze and solve clinical problems, and improve their basic clinical skills.

5. Focusing on the overall quality of clerkship training, including student' attitudes, values, clinical practice ability, and theoretical knowledge.

6. To implement the three levels ward rounds system, and arrange the experienced associate professors to give lectures, organize clinical case discussion and teaching rounds once or twice a week, and focus on innovation and research ability.

7. Organize the test after completing the practice.

V. Requirements for clerkship students

1. Student must abide by hospital and ward rules and regulations, working system. Not be late and leave early, without undue absence. Participate in the ward duty.

2. Respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. The student should get patients' permission before the physical examination. Handle doctor-patient relationship well, familiar with the patient rights, and avoid disputes.

3. To respect teachers and the other hospital staff, establish a harmonious working relationship with others.

4. Recognition of personal limitations, to seek appropriate cooperation and help from others, to admit mistakes and take responsibility.

5. To improve themselves by reading the related medical literature and journals.

6. Pay attention to medical ethics, universal problems of medical law and the relevant knowledge.

VI. Assessment and Evaluation

1. The content and marks distribution

(1) Assessment for General Performance (40%)

It includes medical ethics and responsibility (8%), attendance and discipline (8%), attitude and work initiation (8%), team spirit (8%) and communication skills (8%) etc. Assessment scores should be given by the Director, Education Secretary and supervisor of the department based on the student's performances.

(14) Theory Assessment (30%)

The type of the questions will be referred to the national medical licensure examination and the USMLE step2.

(15) Clinical Skills Assessment (30%)

Assessment of clinical competence: collection of medical records and medical history, clinical comprehensive analysis and logical thinking ability, physical examination and clinical skills, capacity of diagnostic analysis.

2. Organization

The assessment team in the department is responsible for arranging regular tests of clinical competence.

VII. Schedule

The test should be completed within the last day of clerkship.

Family Medicine

I. Purposes and Teaching Objectives

Family medicine practice is an important part to train medical students to become qualified clinicians. The Practice is designed to help student to understand and master the basic principles and skills of the family medicine, to strengthen the student the service concept for the whole person and their professional belief in serving for human health, and be familiar with the current situation in primary care and the needs of community residents for health service, to be familiar with the unique clinical strategy and service model of family doctors, to improve the ability of solving the common diseases and health problems in community, and to get familiar with the concept and content of public health and basic medical services to improve the ability of solving common community health problems in order to adapt better new medical reform for community health service system.

II. Time Duration: 2 weeks

III. Contents and requirements

Students are required to achieve the following objectives through community medicine practice:

1. Grasp the structure of country's community medicine service system and function of "Six in One".
2. Get familiar with organizational structure of the local community health service centers and the basic serving conditions.
3. Understand the current situation of the community health resources.
4. Get familiar with the main demands of community residents for health services.
5. Get familiar with the residents, family and community health records and setup methods.
6. Get familiar with the contents and methods of community public health services.
7. Get familiar with the hypertension, diabetes, metabolic diseases, COPD, cancer and mental disorders and other common disease status and service methods (diagnosis, treatment, referral indications, etc.) in the community.
8. Get familiar with the method of two-way referral
9. Get familiar with the computer service and community health service management system.

IV. Measures

10. The instructor will take care of the students when they first enter the CHC(Community Health Center), help them to get familiar with the functional orientation and Organization of Community Health Service Center, master the posts and basic duties of GP, community

nurse and public health doctor, and understand the site setting and layout.

Every student will attend an 8 hours-intensive class for the above content in CHC(Community Health Center)

11. Learn the existing community health resources and whole person services overview.
12. Read the health records for the residents, family and community.
13. Understand the status and service methods for such important common diseases as hypertension, diabetes, metabolic diseases, COPD, cancer and mental illness in the community.
14. Observe and master GP's communication skills with the community patients.
15. Read the referral indication and be familiar with the two-way referral process.
16. Use CHS computer systems and management procedures.
17. Read the commonly used laboratory tests, laboratory examinations and the scope of the clinical significance of the results in the community.
18. Use the ophthalmoscope, lens, indirect laryngoscope, otoscope, B-mode ultrasound etc.
19. Diagnostic methods and techniques in family medicine.
20. Understand the techniques and methods of health education, nutritional intervention and counseling.
21. Understand the contents and methods of community public health services.
22. Go with GP for Home visits and give the precautions.

V. Requirements

20. To abide by the senior clerkship requirement of Zhejiang University School of Medicine during the clerkship, to comply with hospital rules and regulations, to obey the department management and attendance requirement, to complete the practice with hard working.
21. Respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. Do not have discrimination and prejudice to the mental illness.
22. Respect the privacy of patient. The students should get patients' permission before the physical examination. Handle doctor-patient relationship well, familiar with the patient rights, and avoid disputes.
23. Respect teachers and care about the other students, obedience to a superior arrangement, establish a harmonious working relationship with others.
24. Recognize the personal limitations, seek appropriate cooperation and help from others, admit mistakes and take responsibility.
25. Carefully write various examination application and health records, when see new patient, the student should complete history taking, physical examination, neurological examination, mental status examination, GP's advice, and finish the medical history writing in time according to norms. Before the morning shift next day, the student should finish the records

(including course catalog, various inspections and consultation forms) timely and accurately, and hand them to the clinic instructor for revise and verification. If it does not meet the specifications and requirements, the students should revise or rewrite them.

26. Enhance the ability of communication with patients and learn to communicate appropriately with family members. To think positively and get to know well about the patient's condition, be on call immediately to participate in treatment.
27. Be familiar with the dosage form, dosage and usage of commonly used drugs in CHC; learn to give medical advice and prescription under the guidance of the teacher.
28. Be familiar the family medicine practice and the accidents preventive measures, including the periodic health examination, health risk factor assessment, therapeutic life style, etc.
29. Accompanying the patients when they need to go outside for examination and ordering ward medical information and materials.
30. The students should read the medical literature and magazines, participate in the CHC's or department's academic activities to enrich and improve their theory and practice.

VI. Assessment and Evaluation

1. Assessment Contents and Evaluation Form

Assessment on leaving CHC will be composed of three aspects i.e. theory assessment (30%), clinical skills assessment (30%) and assessment of General Performance (40%).

2. Organization and Pattern of Assessment

(1) Assessment for General Performance

It includes medical ethics and responsibility, attendance and discipline, attitude and work initiation, team spirit and communication skills etc. The general assessment will be scored by the instructor according to student's general performance.

(3) Theory Assessment

The contents for assessment include the diagnosis and treatment of hypertension, diabetes, metabolic diseases, COPD, cancer and mental disorders. The theory assessment will be scored by the instructor.

(3) Clinical Skills Assessment

The contents for assessment include history taking, health record setting, physical examination, clinical thinking, health management, periodic health examination, health risk factor assessment, therapeutic lifestyle, etc. Assessment of clinical skills will be tested by the evaluation team (Division Director and the instructors, etc.).

3. Assessment schedule

Assessments will be conducted by the end of 2 weeks of clerkship period.

Oncology

I. Purposes and Teaching objectives

The clerkship is designed to consolidate the theoretical knowledge of common surgical oncological diseases through practice; to help the student to master the diagnosis and treatment of breast cancer and gastric cancer; to be familiar with the common surgical operations and procedures for breast cancer, gastric cancer and colorectal cancer; to understand the process of MDT. At the same time, to establish a good professional ethic in order to lay the foundation for high-level medical professionals.

II. Time Duration: 2 weeks.

III. Contents and requirements

1. breast cancer

A. Diseases to practice:

The students should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of breast cancer.

B. Clinical skills

(1)Physical examination

Master the contents and procedure of breast and axillary lymph nodes examination.

(2) Imaging tests and clinic procedures

Be familiar with the breast ultrasound, mammography, MRI examinations; be able to understand and analyze the results.

Master the breast biopsy procedure.

2. Colorectal cancer

A. Diseases to practice:

The students should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of the following diseases.

(1) Colon Cancer
(2) Recta Cancer
(3) Intestinal polyposis

B. Clinical skills

1. Physical examination

Master the superficial lymph nodes, abdominal and anorectal examination.

2. Imaging tests and basic clinic procedures:

(1) Understanding of abdominal imaging
(2) Master the surgical indications of colorectal cancer, preoperative preparation and postoperative management.
(3) Be familiar with the duty as an assistant in colorectal cancer surgical operation.

3. Gastric cancer

A. Diseases to practice:

The students should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment of gastric cancer.

B. Clinical skills

1. Physical examination

Master the superficial lymph nodes, abdominal and anorectal examination.

2. Imaging tests and basic clinic procedures:

(1) Understanding of abdominal imaging, gastroscope, ultrasound.

(2) Master the surgical indications of gastric cancer, preoperative preparation and postoperative management.

(3) Be familiar with the duty as an assistant in gastric cancer surgical operation.

IV. Measures for clerkship

1. When clerkship students get into the ward for the first time, the Director in charge or the chief resident gives a general introduction to important points of the clerkship and regulations. After the clerkship, the department should give each student a performance evaluation summary and arrange exams and tests. The department will also need to take the

feedback from the students in order to continuously improve the teaching of clinical practice.

2. The out-patient practice will be guided by the teachers and will be mainly focused on the medical history of newly diagnosed patients. All prescription of examination should be reviewed, modified and signature by teachers.

3. When student get into the ward, the Director or the chief resident will arrange and introduce the ward requirements, work disciplines, teachers; assignment of hospital beds. Each student is in charge of 6-8 beds.

4. The department should select the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. The instructor has the responsibility to supervise, inspect and modify all records written by the student. Attending physician or chief physician should review the records regularly. The medical history should be accurate and complete, focused, coherent and in logical, fluent, clear writing. If necessary, the teacher can ask the student to rewrite those records.

5. When exam the patient with trauma or in critical condition, the teachers should accompany the student so that the teachers can make correction during the procedure, and help the student to get the correct clinical signs and reduce unnecessary pain to the patient.

6. Those uncommon diseases and items that student didn't see and practice during the clerkship, can be strengthen through ward rounds, teaching, lectures, case discussions, and multimedia teaching, video, practice on dummy. So the student can have more clinical learning opportunities.

7. To adhere to the three-level rounds system, during the ward-round, the senior physician should analysis the medical history systematically, make the correct diagnosis, differential diagnosis, and formulate treatment according to the examinations, and foster the student's independent clinical abilities through both theoretical teaching and clinical practice.

8. Teaching rounds: every 1-2 weeks once, carried out by the Deputy Chief Physician. Clinical small lecture: every 1-2 weeks once, carried out by the attending physician.

9. The student should participate in the discussion sections of typical and difficult cases, and all kinds of academic activities organized by hospital or departments.

10. The department should organize a test after completing the practice.

V. Requirements for student

1. Student must abide by the various national laws and regulations regarding medical work, and comply with all the hospitals and departments rules and regulations.

2. Not be late and leave early, no unexcused absences. To attend the ward rounds twice a day and the weekend rounds.

3. The student should respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. The student should get patients' permission before the physical examination. Handle doctor-patient relationship well, familiar with the patient rights, and avoid disputes.

4. To respect teachers and the other hospital staff, establish a harmonious working relationship with others.

5. To recognize the personal limitations, seek appropriate cooperation and help from others, admit mistakes and take responsibility.

6. To improve oneself constantly by reading the medical literature and journals.

7. To concern about the medical ethics, the universal problems of medical law and to acquire the relevant knowledge.

VI. Evaluation

1. The content and marks distribution

The examination will be divided into two parts:

General performance (20%)

Assessment of clinical competence (80%)

2. Organization

Assessment of clinical competence (80%): history taking, physical examination, medical records writing (including diagnosis, differential diagnosis name of disease, treatment options, etc.); basic operations: such as dressing, suture removal, surgical hand-washing, disinfection of operating area and shop towels, wearing surgical clothes, wearing surgical gloves, skin incision, bleeding, suturing, knotting, etc..

General performance (20%): including medical ethics, labor discipline, work initiative, practical attitude and values, exchange and communication skills

The assessment team in the department is responsible for arranging regular tests of clinical competence.

3. Schedule

The test should be completed at the end of the second clerkship week.

Medical Imaging

I. Purpose and Teaching objectives

Through clinical practice of radiology, students are required to consolidate the radiological knowledge, to improve the ability of radiological diagnosis, and to use learned knowledge and skills to diagnose common diseases.

II. Content and requirements

1. Diseases of various systems:

(1) Bone and Joint: trauma, slipped disc, purulent inflammation, tuberculosis, tumor (including giant cell tumor, osteosarcoma, metastatic bone tumor), joint degeneration, and so on.

(2) Lung and mediastinum: bronchiectasis, pneumonia, lung abscess, tuberculosis, primary lung cancer, metastatic lung cancer, and mediastinal tumor.

(3) The heart and great vessels: rheumatic heart disease, coronary heart disease, pulmonary embolism, aortic dissection.

(4) The acute abdomen: gastrointestinal perforation, obstruction, blunt abdominal trauma.

(5) The digestive tract: esophageal cancer, esophageal varices, gastric and duodenal ulcers, gastric cancer, intestinal cancer, colon cancer.

(6) Liver, gallbladder, pancreas, spleen: hepatic cyst, hepatic abscess, hepatic hemangioma, primary hepatocellular carcinoma, metastatic liver cancer, liver cirrhosis; cholecystitis and cholelithiasis, carcinoma of gallbladder, acute and chronic pancreatitis, adenocarcinoma of pancreas.

(7) Urinary system and adrenal gland: urinary calculi, renal carcinoma, renal cyst, polycystic kidney, renal angiomyolipoma, tuberculosis and congenital anomalies; vesical calculus, carcinoma of bladder; adrenal hyperplasia, adrenal tumors common.

(8) Reproductive system: ovarian cysts and ovarian tumor, hysteromyoma, benign prostatic hyperplasia, prostate carcinoma.

(9) Central nervous system: brain trauma, cerebral vascular disease, meningioma, glioma, pituitary tumors, acoustic neuromas and metastatic brain cancer.

(10) Interventional Radiology: Transcatheter embolization, percutaneous transluminal

angioplasty, and percutaneous needle biopsy.

III. Time Duration: 2 weeks

IV. Professional Attitudes and values

A. Communication skills

1. The basic communication skills

(1) Language fluency;

(2) Well-organized;

(3) Appropriate self-confidence;

(4) Appropriate visual communication.

2 The Oral report of cases

(1) Well-organized;

(2) Language fluency;

(3) Report without written document;

(4) To distinguish between major and minor issues;

(5) Including positive and negative results;

(6) With own opinion and reasonable explanation.

B. Written Report

(1) Correct terminology;

(2) Well-organized;

(3) Complete descriptions of signs, including positive and negative signs;

(4) The logical relationship between description and conclusion;

C. Communication with patients

(1) When ask the medical history, the students should communicate well with patients so as to get their trust and cooperation, including the items as age, race, cultural background, family, social activity, personality and mental state;

(2) Pay attention to listening, when talking with patients. To listen with compassion and deep feeling, do not add personal judgments when listening. Patients should be allowed to fully express themselves;

(3) To get the patient's confidence and cooperation before physical examination, so that patients feel comfortable and modesty;

(4) To explain the purpose and plans of the laboratory examinations to the patients;

(5) To tell patients the test results in a concerned and considerate way.

D. Education of patients

To explain every step involved in an interventional operation by the language that the patient can understand; to answer the precautions during and after interventional treatment; participate in signing the agreement of informed and accepting intervention operation, and respect the patients' choice.

V. Measures

A. The department will provide the PACS service for the student, and the teaching and learning environment should meet the practical needs. The director takes the overall responsibility for the quality of student. Once the student get into the department, the director or the chief resident introduce the overview of department, routine report writing and work system. The hospital should select the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Every instructor will take care of 1-2 students. Student is required to complete the following contents:

1. Read through the textbook.

2. Report writing: 100 copies of plain film report, mainly focus on chest, and followed by skeletal system; 20 copies of CT report, including 3 for head and brain, 5 for chest, 5 for the upper abdomen, 2 for pelvis, 2 for lower abdomen, 3 for spine; 3 copies of MRI report, including 1 for head and brain, 2 for spine.

3. To observe and participate in at least 4 gastrointestinal examination and write 4 copies of

gastrointestinal report.

4. To participate the morning meeting in the department, and the hospital and department academic activities

5. To participate in the course examination

(The student must complete all the above items)

6. To read the reference books chosen by the teachers.

7. To observe interventional operation.

B. The instructor must carefully examine the reports finished by student and point out both of their inadequacies and progress, help them to master the general skill of report writing and learn to recognize the signs of image, analysis diagnosis and differential diagnosis.

C. The instructor must pay attention to overall quality of student training, give comprehensive guidance and evaluation of the student's attitudes, values, practical ability and theoretical knowledge.

Examination

1. The content and marks proportion

The examination will be divided into two parts: general performance (20%) and ability of clinical competence (80%)

2. Organization

The general performance will be assessed by the chief director, teaching secretary and instructor. The clinical competence will be assessed by the department evaluation team.

3. Schedule

The test of clinical competence should be arranged at the end of the second week.

Anesthesiology

I. Purposes and Teaching Objectives

Consolidate and deepen the theoretical knowledge through clinical clerkship, further improve basic clinical skills and thinking ability, and apply the knowledge and skills to make diagnosis and treatment of common diseases; on the other hand, establish good professional ethics, and lay the foundation for fostering high-level medical professionals.

II. Time duration: 2 weeks

III. Contents and requirements

1. Types and methods

(1). Familiar with the anesthesia preparation, anesthesia management, post-operation visit, good anesthesia record.

(2). Master the principles of choosing anesthesia methods.

(3). Master the method of using patient-controlled analgesia (PCA) and micro-injection pump.

(4). Master the basic methods of face mask pressurized ventilation and life support measures.

(5). Master the general anesthesia procedures.

(6). Familiar with the basic methods of spinal anesthesia.

(7). Familiar with the observation and management during the recovery period after anesthesia.

(8). Familiar with the use of local anesthetics, intravenous anesthetics, analgesics, anesthetics and muscle relaxant.

(9). Familiar with common complications and treatment of general anesthesia and local anesthesia.

(10). Know the service scope of pain clinic.

2. Clinical skills

A. Physical examination

(1) Familiar with the patient's conditions, master basic cardiopulmonary auscultation

(2) Check the patient, medical record number, surgical site before anesthesia

(3) Judge wholly the patient's mind, circulation, respiration after anesthesia.

B. Basic operations

(1) Master the basic airway management skills: airway assessment, airway opening, artificial respiration, the use of laryngoscope.

(2) Master the basic circulation management skills: peripheral venipuncture, common used liquids, blood pressure measurement, ECG monitoring, mean pulse oxygen saturation monitoring, respiratory carbon dioxide monitoring and judging.

(3) Familiar with location and basic skills of the epidural needle puncture, spinal needle puncture. Familiar with location and basic skills of internal jugular vein puncture

(4) Understand the basic methods of nerve block

C. Interpretation of laboratory test results

(1) Master the interpretation of blood routine examination, blood electrolytes test and blood biochemical test.

(2) Master the interpretation of routine electrocardiograms and chest films.

(3) Familiar with the interpretation of the 24-hours Holter cardiography. echocardiography, respiratory function test results and their clinical significance

(4) Familiar with interpretation of preoperative immune report and its clinical significance.

IV. Measures

1. The teaching environment of practice sections is expected to meet the needs of clinical clerkship, director bears the overall responsibility of clerkship quality..

2. The director or the teaching secretary gives introduction of operation rooms, regulations, routine work and anesthesia allocation.

3. Senior doctors, who are responsible, experienced in clinical teaching, will be selected as instructor, each for one student.

4. Student should complete in-patient cases and a variety of in-patient observations. Clinical instructor are expected to carefully revise the medical records written by student, supervise student on technical operations, analyze and solve clinical problems, and master basic clinical skills.

5. Focus on cultivating student's overall quality, comprehensively guide and evaluate clerkship' attitudes, values, clinical skills, theoretical knowledge, etc..

V. Requirements

1. Abide by hospital and ward rules and regulations, working system; don't be late, leave early and absent without permission.

2. Respect patients; sympathize and deeply feel the suffering of patients; avoid inappropriate jokes or comments; do physical examination with patients' consent. Deal well with the relationship between doctors and patients, be familiar with patients' rights, avoid doctor-patient disputes.

3. Respect teachers; handle the relationship with the medical staff. Recognize personal limitations; appropriately seek cooperation and help; admit mistakes, and be responsible for your behavior.

4. Read relevant medical literature and magazines, and improve yourself gradually.

5. Pay attention to medical ethics, general problems of medical law, and acquire the relevant knowledge.

VI. Examination

1. Contents and grade composition

1). performance assessment (20%): medical ethics and responsibility (5 points), attendance check and disciplines (5 points), practical attitudes and initiatives (5 points), and communication skills (5 points)

2) clinical skills assessment (80%): history taking and medical records writing (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills operation (20 points), laboratory test analysis ability (10).

2. Forms and organization

Written exam and skills assessment are Arranged by the department.

3. Schedule

Completed within the last day of clerkship

Clinical Pathology

I. Theoretical knowledge

1. To further consolidate and enhance student's theoretical knowledge of pathology, particularly the basic concepts related to pathological diagnosis, to have a preliminary understanding of the tumor and non- tumor disease pathological features, diagnostic criteria and differential diagnosis of the following systems: digestive, respiratory, urinary, male and female reproductive, breast, thyroid, soft tissue, peripheral nerves, lymphatic hematopoietic tissue.

2. To help the student to understand the process of giant test and getting sample.

II. Clinical skills

1. To further consolidate and enhance the theoretical knowledge of pathology, particularly the basic concepts related to pathology diagnosis.

2. To get to know the clinical application of diagnosis pathology: the scope and methods of pathological examination, and the norms of application.

3. To be familiar with the technology room in the Department of Pathology, the technical principles of conventional biopsy, frozen section, immunohistochemistry, and the work procedures.

4. To get to know the tumor and non-tumor pathological manifestations of common surgical diseases such as gastrointestinal tract, lung, liver, breast, thyroid.

Learning objectives for each system:

1. Gastrointestinal system

The gastrointestinal normal histological manifestations

The basic pathological changes of gastrointestinal tract (including gross, histological, immunohistochemical)

The diagnosis and differential diagnosis of common gastrointestinal diseases, including gastric and duodenal ulcers, gastric cancer, colon cancer, pathological diagnosis of colon cancer and polypus

2. Respiratory system

The bronchopulmonary normal histological manifestation

The basic pathological changes of respiratory diseases (including the gross, histological, immunohistochemical)

The diagnosis and differential diagnosis of common respiratory diseases, including pulmonary inflammation, tuberculosis, lung cancer and lung cancer metastasis

3. Urinary and male reproductive systems

The normal histological manifestation of kidney, bladder, prostate, etc

The basic pathological changes of urinary tract (including gross and histological, immunohistochemical)

The diagnosis and differential diagnosis of common urinary system diseases, including renal cell carcinoma, renal tumors, bladder cancer, prostate hyperplasia, prostate cancer

4. Female reproductive systems

The basic pathological changes of female reproductive tract (including gross and histological, immunohistochemical)

The diagnosis and differential diagnosis of common female reproductive system diseases including ovarian cysts, ovarian tumors, uterine fibroids, endometrial cancer and cervical common diseases

5. The pathological knowledge of common diseases, including thyroid, breast, soft tissue, peripheral nerves and lymphoid tissue

III. Content and measures

1. To participate in the record of collecting gross and frozen specimens under the guidance of a supervisor.
2. To observe and participate in the procedure of routine biopsy and frozen biopsy
3. To learn the immunohistochemical staining and be familiar with its applications
4. To participated in pathological cytology examination
5. To participate in the department academic activities
6. To complete the test at the end of the practice.

IV. Assessment and Evaluation

1. The content and marks distribution

General performance assessment (20%)

Clinical competence assessment (80%)

Urologic Surgery

I. Purposes and Teaching Objectives

The clerkship is designed to further consolidate student's basic theory and knowledge of common urological diseases, help them to be familiar with the basic procedures and special examinations in the urologic surgery, and to meet part of the requirements of national medical license examination for urological specialty.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Disease to practice

Master the clinical manifestations, diagnosis and treatment of the following diseases, be familiar with their etiology and pathology.

(1) Urinary and male genital infections (including Tuberculosis)
(2) Urinary calculus
(3) Prostatic hyperplasia
(4) Kidney cancer, bladder cancer and prostate cancer
(5) Renal injury, anterior and posterior urethral injury
(6) Varicocele, Cryptorchidism and Hydrocele

2. Clinical skills

A. Physical examination
(1) Percussion pain on kidney region: site, radiating pain;
(2) Bladder percussion
(3) Digital rectal examination: prostate size, texture, nodular

Optional: scrotal palpation: testicles, epididymis, spermatic vein palpation;

B. Basic operation
(1) Master the urethral catheterization
(2) Be familiar with the circumcision, Suprapubic Cystostomy and Bladder Irrigation
(3) The methods of cystoscopy and retrograde/antegrade urography
(4) The open surgery, radical cystectomy, nephrectomy, , orchiectomy
(5) Endourological surgery,TURP and TURP, Laparoscopic surgery, Ureteroscopic lithotripsy, percutaneous nephrolithotomy

(6) The indications and treatment for ESWL.

C. Understanding of auxiliary examination results
(1) Urine analysis, various indicators of renal function tests, PSA referal values and clinical significance.
(2) The abdominal plain film, intravenous urography, urinary calculi positive characteristics
(3) The ultrasound features of urinary tract stones, bladder cancer, prostate cancer
(4) Urinary CT, CTU, MRI, MRU examination.

Notice: The privacy protection when take special body site examinations and operations

IV. Measures

1. To see out-patient practice twice a week guided by the instructor.
2. When student first operates the medical procedures such as urethral catheterization, bladder irrigation, catheter fixation and so on, the instructor should give a demonstration. All the common surgical operations should be led by the supervisors.
3. Each student will be in charge of 6-8 beds, to write medical record, participate in ward rounds and daily treatment. The student also should take part in the night rounds except Saturdays and Sundays.
4. To participate in the department academic activities such as case discussion, reading report, reading films, preoperatively seminars and all kinds of lectures.
5. To read reference books，such as Campbell Urology, Guidelines for Urological Disease.
6. To arrange the assessment at the end of the practice.

V. Requirements

1. The student will be in charge of 6-8 beds and finish the writing of 2 or 3 copies of medical records under the guidance of the supervisor doctor. The basic items and the urological summary are required for the complete medical records. The medical record must be revised by the supervisor. When qualified, the student will allow to write the in-patient medical records.
2. All the medical notes, doctor's advice, preoperative summary, surgical records must be handed to the instructor for review and revise. The medical notes must be promptly recorded. The progressive notes of critical illness should be recorded anytime. The student should also write down attending doctors' and professors' opinions and suggestions after consultation or case discussion.
3. The medical orders, prescriptions, and various examination application sheets should be written timely, and should be complete, clearly written, with no correction marks and should be signed by the supervisor doctor before implementation. The student should keep abreast of all the test results, and post them on the medical record book according to the requirement.
4. The student can participate in conversations between the doctors and the families of the patient for surgery. However, the student must not talk about the necessity and risk of surgical anesthesia and postoperative complications with the patient's family members alone so as to avoid the unnecessary medical disputes. The post-surgery medical order and shifts

report including the name of operation, surgical procedure, intraoperative and postoperative blood transfusion, total transfusion and postoperative considerations, should be written under the guidance of supervisor.

5. To learn doctor-patient communication skills under the guidance of the supervisor doctor.
6. To participate actively in the ward case discussion, prepare for the talk and take notes in the discussion.
7. To get to work 30 minutes earlier, check the patient, and be familiar with their condition, particularly the postoperative blood pressure, pulse, respiration, the main symptoms and signs,, and tests results (including posting a variety of test results), keep the drainages unobstructed before ward round and report to the supervisor doctor's. The student should take the initiative to give his/her own analysis and suggestion to the treatment.
8. To visit the patient more than once every morning and afternoon, report the condition changes to the supervisor doctor and give treatment order timely. If not on duty on Saturday and Sunday morning, the student are still required to visit the patients in the ward and can leave after finishing all the routine work.
9. To participate in ward duty (including the rotation duty for rescuing patients). After shifts, the student should visit the critically ill and postoperative patients, observe their health condition, and promptly report to the doctor on duty. Do not leave the ward without permission when on duty. The student should visit the patients regularly and participate in emergency surgery and treatment under the guidance of the supervisor doctor.
10. To practice the nursing care of patients, such as exsanguination, transfusion, blood transfusion, stomach cannula, catheter, and enema.
11. To carry out routine outpatient work under the guidance of the supervisor doctor, including writing out-patient medical records and other minor surgery; the outpatient prescriptions, certificate of diagnosis and sick-leave certificate should be signed by the supervisor doctors. The diagnosis and sick-leave certificates are not valid without the department seal.

VI. Assessment and Evaluation

1. The content and marks distribution

General performance assessment: including medical ethics and responsibility (5 points), practice attendance and work discipline (5 points), practical attitude and initiative (5) communication skills (5 points), assessment is carried out by the Division Director, education secretary and instructor based on daily performance.

Assessment of clinical skill: including medical history taking and medical record (10 points), physical examination and specialist examination (10 points), basic clinical operations (15 points), clinical comprehensive analysis capability (15 points), capacity of dealing with the cases (15 points), the ability of reading image and examination results (15 points).

2. Organization

The Assessment of clinical skill will be organized by the department, including questions related

to the above urological cases and issues related.

3. Schedule

The test should be completed at the end of the 2nd week practice. Every student has about 20-30 minutes.

Cardiothoracic Surgery

I. Purposes and Teaching Objectives

The Clerkship is designed to consolidate and deepen students' basic and theoretical knowledge of common diseases of cardiothoracic surgery;

To help the students to master the principles of diagnosis, treatment, indications and contraindications of operations of common cardiothoracic diseases as well as the basis procedures and skills of cardiothoracic surgery;

To foster the students' essential professional attitudes for their future medical careers.

II. Time Duration

2 weeks.

III. Contents and Requirements

1. Diseases

The student should master the etiology, pathogenesis, diagnosis criteria and treatment principles of the following diseases.

(1) Rib fracture;
(2) Pneumothorax;
(3) Hemothorax;
(4) Lung cancer;
(5) Esophageal cancer;
(6) Primary mediastinal tumor and myasthenia gravis;
(7) Chronic constrictive pericarditis;
(8) Heart valve diseases (mitral stenosis/regurgitation, aorticstenosis/regurgitation);
(9) Congenital heart diseases (atrial septal defect, ventricular septal defect, PDA, tetralogy of Fallot).
(10) Coronary artery disease
(11) Great vessel diseases (aortic aneurysm, aortic dissection)

2. Clinical Skills

A. Physical examination

1. Chest inspection
(1) The landmark of chest surface
Including skeletal landmark, vertical signs, natural lacuna, the boundaries of the lung and pleura.
(2) Chest wall and outline
(3) Respiratory movement, respiratory rate, respiratory rhythm

2. Chest palpation
Thoracic expansion degree, voice tremor, sense of pleural friction

3. Chest percussion
Percussion methods, percussion of lung boundaries, lower pulmonary boundary movement

4. Chest auscultation
Auscultation methods, normal breath sounds, abnormal breath sounds, rales, pleuritic rub.

5. Cardiac inspection
Precardiac prominence, the apex beating

6. Cardiac palpation
Apex beating, tremor.

7. Cardiac percussion
Heart boundaries.

8. Cardiac auscultation

ausculation area, auscultation order, auscultation content (heart rate, heart rhythm, heart sounds, extra heart sounds, heart murmurs, pericardial friction).

9. Perivascular signs

B. Basic procedures

The indications and operation procedures of closed thoracic drainage;

The indications and operation procedures of drainage tube removal.

IV. Measures

1. The department should choose a senior attending surgeon to teach the students, and to introduce the practice regulations. After the clerkship, the students will be given evaluation and assessment tests. The department should take the feedback from the students seriously to improve the teaching quality continuously.

2. When the students entering into the ward, the director should give them a general introduction of the ward, disciplines and routine work, assign the supervisors for them and distribute the beds to them. Each student should be in charge of 3-5 beds. The students should participate in routine clinical job and case discussion in the department.

3. The supervisor should arrange the teaching round once a week and organize the case discussion. The supervisor should also try to inspire the students to consolidate and expand their professional knowledge during the discussion.

4. The student can participate in the operations of their patients and complete basic surgical training under the guidance of the supervisor.

5. Each student has one supervisor. The supervisor has the responsibility to supervise, inspect and revise the records written by student. Attending physician or chief physician should review the records regularly. The medical history should be accurate, complete, focused, coherent and logical. The text should be fluent and in clear handwriting. If necessary, the teacher can ask the student to rewrite those records.

6. The supervisor and the student can do the physical examination for patients together. Thus the supervisor can teach the student directly.

7. To complete the assessment at the end of the practice.

V. Requirements

1. The student must abide by hospital and ward rules and regulations. Being late or leaving early is not allowed.

2. All the rights of the patient should be fully considered. The student should get patients' permission before doing physical examination.

3. To respect teachers and the hospital staffs as well. The student should be aware of personal

limitations and seek appropriate cooperation and help from others.

4. To review the chapter of Cardiothoracic Surgery in the textbook of *Surgery*. The student can improve themselves by reading the related medical literatures and magazines.

5. To pay attention to the medical ethics, universal problems of medical laws and the relevant knowledge.

VI. Assessment and Evaluation

1. The contents and marks distribution

The examination will be divided into two parts: assessment of clinical ability 80% and general performance 20%.

2. Organization

General performance:

Medical ethics and sense of responsibility (5 points), attendance and practice discipline (5 points), clerkship and job initiative (5 points), communication (5 points), assessment by the Division Director, Education Secretary and supervisor based on student's regular performance.

Clinical skills:

The department assessment team organizes the test, including collection of medical records and medical history (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills (20 points), diagnostic analysis (10 points)

3. Schedule

The test of clinical competence should be complete at the end of the 2nd week of practice.

Neurosurgery

I. Goals and Teaching Objectives

The clerkship is designed to further consolidate student's theoretical knowledge of neurosurgical common diseases; help them to be familiar with normal value of ICP and CPP, to understand the pathogenesis, clinical manifestations, diagnosis, treatment of increased intracranial pressure; to master the mechanism, diagnosis and treatment of traumatic brain injury, to evaluate the scale of GCS; to get familiar with etiology, clinical manifestation and treatment of common CNS tumor; to know the related neurosurgical operations, the procedures of preoperative preparation, common positions, operation, indications, contraindications and complications; to know working system of outpatient, emergency, ward and operating room. Meanwhile, in the process of medical practice the student should establish a positive professional values and standardized behavior and attitude in order to lay the foundation for high-level medical personnel.

II. Time Duration: 2 weeks.

III. Contents and Requirements

1. Diseases to practice

The student should master and be familiar the etiology, pathogenesis, diagnostic criteria and treatment of the following diseases.

(1) Intracranial hypertension and brain herniation
(2) Acute epidural hematoma
(3) Acute / chronic subdural hematoma
(4) Skull fracture
(5) Diffuse axonal injury
(6) Intraparenchymal hematoma
(7) Glioma
(8) Meningioma
(9) Pituitary tumors
(10) Aneurysm

(11)AVM

2. Clinical skills

Taking medical history, writing medical records, especially the examination of nervous system
Clinical cases analysis, understanding the results of laboratory tests, familiar with image (CT, MR, DSA) of common neurosurgical disease
Basic skills, indications and contraindications of neurosurgical procedures, such as lumbar puncture, wound dressing, etc

3. Basic procedures

The basic principles of aseptic neurosurgical operations, its indications and contraindications

The operational approaches and precautions

Basic neurosurgical procedures: wound dressing, suture removal, performing scalp debridement and suturing, lumbar puncture and etc. under the guidance of the teacher.

IV. Requirements

(1) The student must abide by hospital and ward rules and regulations, working system. Not late and leave early, without undue absence.

(2)The student should respect and care about the patients, deeply feel the suffering of patients and avoid inappropriate joke or judgment. The student should get patients' permission before performing a physical examination. Handle doctor-patient relationship well, familiar with the patient rights, and avoid disputes.

(3) To respect teachers and the other hospital staff, establish a harmonious working relationship with others.

（4） The student should be aware of personal limitations, to seek appropriate cooperation and help from others, to admit mistakes and take responsibility.

（5）To review the chapter of neurosurgery in the textbook of *Surgery*. The student can improve themselves by reading the related medical literature and magazines. The student should pay attention to the medical ethics, universal problems of medical law and the relevant knowledge.

V. Measures:

1. The student should get together in the designated place when entering the ward first time, and will be given a general introduction of disciplines, rotation arrangement, then will be designated to different clinic groups. After the clerkship, the department should give each

student a performance evaluation summary and arrange exams and tests. The department will also need to take the feedback from the students in order to continuously improve the teaching of clinical practice.

2. The student will see out-patients under the guidance of instructor. The main duty for the student is to take medical history for the newly diagnosed patients. However, the prescriptions must be reviewed, modified, and signed by the instructor.
3. When the student gets into the ward, the director gives a general introduction of ward, disciplines, routine work, arrange the instructor and distribute the hospital beds. Each student is in charge of 4-8 beds.
4. The department should appoint physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Each student will have one instructor. The instructor has the responsibility to supervise, inspect and revise the various medical records written by student. Attending physician or chief physician should review the records regularly. The medical history should be accurate and complete, focused, coherent and logical. The text should be fluent and in clear writing. If necessary, the teacher can ask the student to rewrite those records with too many mistakes.
5. To complete the assessment at the end of the clerkship.

VI. Assessment and Evaluation

1. The content and marks distribution

The examination will be divided into two parts: assessment of clinical ability 80% and general performance 20%.

2. Organization

1. General performance:

Medical ethics and sense of responsibility (5 points), attendance and practice discipline (5 points), practical attitude and job initiative (5 points), communication (5 points), assessment by the Division Director, Education Secretary and instructor based on student' regular performance.

2. Clinical competence:

The department assessment team organizes the test, including collection of medical records and medical history (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills (20 points), capacity of diagnostic analysis (10 points)

3. Schedule

The test of clinical competence should be completed at the end of practice week.

Anorectal surgery

I. Goals and teaching Objectives

The practice is designed to enhance student's basic medical theory, basic knowledge and basic skills training; to consolidate and enhance student's knowledge of anorectal surgical common diseases; and help the student to learn more about inspections and treatment of common anorectal disease.

II. Time Duration: 2 weeks, ward-based.

III. Contents and Requirements

The student will work both in the specialist out-patient and emergency room, in order to be exposure to more types of diseases. Each student will be in charge of 6 to 8 beds, should participates in ward shift changes timely and the discussion of difficult cases, book reports and academic seminars.

1. To get familiar with the anorectal surgery wards, routines and work system of outpatient clinics.
2. To manage the medical history taking, writing, physical examination, diagnostic and identification methods of common anorectal surgical diseases.
3. To diagnose and deal with some common anorectal surgical emergency, such as acute intestinal obstruction, lower gastrointestinal bleeding, rectal injury, acute hemorrhoids, perianal abscess.
4. To make diagnosis and treatment of some common anal diseases such as hemorrhoids, anal fissure, anal abscess, anal fistula, constipation, etc.
5. To understand the diagnosis and treatment of related functional gastrointestinal diseases.
6. To be familiar with the diagnosis and treatment of colorectal cancer.
7. To understand some common anorectal surgical outpatient diagnostic and treatment procedures, such as electronic colonoscopy, rectal mirror, internal hemorrhoid sclerotherapy, etc.
8. To master the anorectal preoperative preparation, intraoperative key points and postoperative treatments.

IV. Measures

1. Organization and management: To establish teaching team led by the ward director and formed by 3-5 clinical teachers of different levels. The team will assign the experienced teacher to conduct, inspect and complete the teaching work.

2. The management of patients: Each student will be in charge of 6-8 hospital beds, and

completes the basic daily medical work under the guidance of clinical instructor.

3. Rounds

(1) Medical rounds: Under the guidance of attending physician, the students should understand and be familiar with ward routine medical procedures and methods.

(2) Teaching rounds: once a week led by the teachers in the team, the team will organize the discussion combined with the patients managed by the student. The discussion is required to focus on the syllabus and pay attention to inspire the students.

(3) Specialist rounds: once a week, students will first report disease, give their own diagnosis and treatment advice, in the discussion to consolidate and expand their professional knowledge, increase understanding of difficult medical cases in the discussion.

(4) Night rounds: student should participate in the night rounds led by chief resident and attending physicians, to discuss the specific medical cases and relevant issues.

4. Operation: The student can participate in their patients' operation, and complete some basic operation training under the guidance of physicians at a higher level.

5. Out-patient: once a week with the teacher in the team.

6. To complete the assessment at the end of the practice.

V. Requirements

1. The student must be subject to department management and attendance, participate in department shifts every morning. Not be late or absence.

2. The student should take the overall management of the patient under the guidance of superior physicians, give their own views of diagnosis and treatment, and implement them with the permission from superior physicians. During the round discussion, student should report the medical history and patient's diagnosis and treatment management with serious and responsible attitude.

3. The student is responsible for medical record writing, including fill in the admission records. The instructor should revise and sign the various records written by student. If necessary, the teacher can ask the student to rewrite those records with too many mistakes. New patients' medical history should be completed within 24 hours after admission.

4. The student will give medical advice, prescription, and treatment under the guidance of a

superior physician, be careful and meticulous to complete laboratory test, special inspection form, and consultation forms, signed by the physician before the implementation; be familiar with the all kinds of tests such as X-ray examination, ECG, ultrasound, endoscopy and so on.

5. The student are required to be familiar with the patients' condition at least visit patients every morning and afternoon; to participate in ward duty led by a superior physicians; be in charge of the acceptation and treatment of newly admitted patients and their medical records; to inspect the patients regularly when on duty, particularly those critically ill patients and the diagnosis undetermined patients, immediately report to the physician on duty once find problem, then carry out the treatment timely.

VI. Assessment and Evaluation

1. The content and marks distribution

(1) General performance (20%): medical ethics and responsibility (5 points), attendance and work discipline (5 points), practical attitude and initiative (5 points), and communication skills (5 points)

(2) Assessment of clinical competence (80%): collection of medical records and medical history (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical operation skills (20 points), the analysis capacity of assistant examination(10 points).

2. Organization

All the small quiz and Assessment of clinical skills will be organized by the general chief residents.

3. Schedule

The test should be complete at the last day of practice.

Plastic Surgery

I. Goals and Teaching Objectives

The clerkship is designed to help the student to understand the contemporary status and role of plastic surgery in the modern medicine, to train the student with the basic quality of plastic surgery, that is, to attach importance to physical beauty when resume the shape and function of human body; be familiar with diagnosis and treatment of common plastic surgery diseases; be familiar with a variety of medical cosmetic methods and the corresponding indications and contraindications; to master the basic techniques and principles of plastic surgery and be familiar with the special suture techniques.

II. Time Duration: 2 weeks

III. Disease and Clinical Skills to Practice

1. Contents

(1) The treatment, reconstruction and plastic surgery of a variety of facial trauma and deformities

(2) The treatment and reconstruction of all hand injuries and deformities

(3) The diagnosis, treatment and rehabilitation of skin and soft tissue tumor

(4) The reconstruction of the extremities and trunk injury or tissue defect.

(5) Microsurgery.

(6) The Cosmetic Surgery.

2. Clinical skills

A. Physical examination

(1) The observation of hand injuries, skin and soft tissue injury, tendon, nerve and vascular damage and signs, evaluation of hand function.

(2) The inspection and palpation of skin and soft tissue tumors, and the palpation of superficial lymph nodes.

(3) The inspection of a variety of deep wounds and skin ulcers.

B. Basic operation

(1) The dressing changes of the depth wound and skin ulcers

(2) The special plastic surgery skin suture technique

(3) The tendon, nerve and vascular anastomosis

(4) The various types of tissue transplantation method

C. Understanding of assistant examination results

(1) X-ray examination of hand injury

(2) The results of various types of conventional preoperative examination.

IV. Practice Attitudes and Values

1. The general principles and requirements of medical aesthetics
2. To understand the needs of patients, and guide them to the correct understanding of medical aesthetics.
3. Focusing on functional recovery while repairing the tissues.

V. Measures

1. The teaching environment of practice sections (wards) and the number of beds should meet the needs of clinical practice; the director should take the responsibility for the quality training of student.
2. When the student entering the ward first time, the Director or the chief resident should give a general introduction of ward, disciplines, routine work and the distribution of hospital beds. Each student will be in charge of 6-8 beds.
3. The department should select the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Each student has one instructor. The other physicians and nurses will collaboratively manage to ensure the quality of clinical clerkship.
4. During the practice, the student complete inpatient medical records and a variety of observation records, clinical instructor must carefully scrutinize the medical records written by the student, and teach students all kinds of operative techniques, analyze and solve clinical problems, and improve the basic clinical skills.
5. The department should focus on the overall quality of student training, including student' attitudes, values, clinical practice ability, and theoretical knowledge.

6. The department should implement the three-level ward rounds, and arrange the experienced associate professors to give talks, organize clinical case discussion and teaching rounds at least once or twice a week, and focus on innovation and research ability.

VI. Assessment and Evaluation

1. The content and marks distribution

(1) General assessment (20%): medical ethics and responsibility (5 points), attendance and discipline (5 points), attitude and initiative (5 points), and communication skills (5 points)

(2) Assessment of clinical skills (80%): collection of medical records and medical history (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills (20 points), capacity of diagnostic analysis (10 points).

2. Organization

The assessment team in the department is responsible for arranging regular tests of clinical competence.

3. Schedule

The assessment should be completed within the last day of clerkship.

Ophthalmology

I. Goals and Teaching Objectives

Goals:

The practice is designed to help the student to master the basic principles of the diagnosis and treatment for common eye diseases; to be familiar with the primary treatment methods and procedures for ophthalmic outpatient and emergency; to be familiar with the inpatient management in the ophthalmology department.

Objectives:

1. Knowledge

(1) Diagnosis and treatment of common external eye diseases, such as ptosis, blepharitis, conjunctivitis, dry eye disease, etc.
(2) Diagnosis and treatment of cornea diseases including inflammation of the cornea, ulcerative keratitis, nonulcerative keratitis.
(3) Cataract and its etiological classification. Cataract surgery including preoperative evaluation, types of cataract extraction.
(4) Primary open-angle glaucoma and primary angle-closure glaucoma: risk factors, clinical features and treatment.
(5) Myopia, hyperopia, astigmatism and anisometropia: etiology, types, clinical features and treatment.
(6) Strabismus: etiology, types, clinical features and treatment.
(7) Characteristics, differential diagnosis and management of common vitreoretinal diseases such as central retinal vein occlusion, age-related macular degeneration and retinal detachment.
(8) Ocular injuries: classification and ocular trauma terminology and emergency treatment.
(9) Ocular manifestations of common systemic disorders such as diabetes and the common systemic infective diseases.

2. Clinical skills

1) Be able to perform:

(1) External eye examination
(2) Visual acuity assessment
(3) Eye movement examination

(4) Slit-lamp examination
(5) Direct ophthalmoscopy

2) Be familiar with：

(1) Optometry
(2) Tonometry
(3) Topography
(4) A/B-scan ocular ultrasound
(5) Corneal confocal microscopy
(6) Corneal endothelium specular microscopy
(7) Ultrasound biomicroscopy (UBM)
(8) Fundus fluorescein angiography
(9) Optical coherence tomography (OCT)
(10) Other ocular imaging (including X-ray examination, CT, MRI，etc.)
(11) Common ophthalmic medications

3) Know the procedures of:

(1) Chalazion excision
(2) Pterygium excision
(3) Ptosis surgery
(4) Strabismus surgery
(5) Phacoemulsification with intraocular lens implantation
(6) Vitrectomy
(7) Trabeculectomy

II. Time Duration: 2 weeks

III. Measures

1. At the beginning of the internship, the chief resident gives the student a general introduction of ward, disciplines, routine work and the distribution of patients' beds.
2. Doctors with both teaching and clinical experience and strong sense of responsibility are selected to be the instructors. Each student has one instructor. The other doctors and nurses will collaboratively manage to ensure the quality of clinical clerkship.
3. The student is responsible for medical record writing, including fill in the admission records. The instructor will modify and signature the various records written by interns
4. The student can participate in their patients' operation, and complete some basic surgical training under the guidance of the instructor. The instructor will also help the student to solve clinical problems and improve the basic clinical skills.
5. The department will implement three-level ward round system, arrange experienced associate professors or professors to give talks, host clinical case discussion and teaching ward round, once or twice per week, and also pay attention to cultivating innovation and research ability of student.

6. The student will work with the mentor in eye clinic and give a simple diagnosis and treatment for outpatients under the guidance of the mentor.

IV. Requirements

1. Be subject to department management and attendance. Not be late or absence.
2. Respect patients, sympathize and deeply feel the suffering of patients; avoid inappropriate jokes or comment. Make physical examination and treatment procedures with patients' consent. Get familiar with patients' rights and avoid disputes with patients.
3. Respect teacher and establish good relationship with the medical staff.
4. Recognize personal limitations and appropriately seek cooperation and help. Admit mistakes and shoulder the responsibility for your acts bravely.
5. Review one at least ophthalmology textbook. Read relevant medical literature and journals in ophthalmology.
6. Pay attention to medical ethics, medical law and the relevant knowledge.

V. Assessment and Evaluation

1. The content and marks distribution

(1) General assessment (20%): medical ethics and responsibility (5 points), attendance and discipline (5 points), attitude and initiative (5 points), and communication skills (5 points)
(2) Assessment of clinical competence (80%): collection of medical records and medical history (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills (20 points), capacity of diagnostic analysis (10 points).

2. Organization

The assessment team and the instructors in the department are responsible for arranging regular tests of clinical competence.

3. Schedule

The evaluation should be completed within the last day of internship.

Otolaryngology

I. Goals and Clerkship Objectives

Consolidate and deepen the theoretical knowledge through clinical clerkship, further improve basic clinical skills and thinking ability, and apply the knowledge and skills to diagnosis and treatment of common diseases; on the other hand, establish good professional ethics, and lay the foundation for fostering high-level medical professionals.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Diseases to practice

By the end of two weeks rotation in otolaryngology department, students must have the knowledge of the etiology, pathogenesis, diagnostic criteria and differential diagnosis for the following diseases.

(1) Acute and chronic rhinitis, allergic rhinitis, rhinosinusitis, nasal polyps, epistaxis

(2) Acute and chronic pharyngitis, acute and chronic tonsillitis, adenoidal hypertrophy, nasopharyngeal carcinoma, obstructive sleep apnea hypopnea syndrome

(3) Acute epiglottitis, acute and chronic laryngitis, laryngeal obstruction, laryngeal cancer

(4) Otitis externa, acute and chronic otitis media, hearing loss, vertigo

(5) Head and neck injury, foreign bodies in trachobroncheal tree and esophagus, neck mass

2. Clinical skills

1) Physical examination

Perform a comprehensive physical examination as it relates to the ear, nose, paranasal sinuses, pharynx , larynx, and head and neck.

(1) Otoscopy

(2) Tuning fork testing

(3) Rhinoscopy

(4) Indirectlaryngoscopy and pharyngoscopy

(5) Fiberoptic endoscopy

(6) Anatomic zones of the neck

2) Basic skills

(1) Be capable of performing anterior nasal packing

(2) Be competent for the maxillary sinus puncture, irrigation of external auditory canal and tympanotomy

3) Assessment for common otolaryngology examinations

(1) Describe the main structures of the nasal cavity, pharynx, larynx and the tympanic membrane by endoscopic examinations.

(2) Describe the results of X-ray and CT for common otolaryngology diseases.

(3) Recognize the results of the pure tone audiometry and acoustic immittance.

(4) Evaluation of the eustachian tube function test, auditory brainstem response and vestibular function test.

IV. Measures

1. The teaching environment of practice sectors (wards) and the number of beds should meet the needs of clinical practice; the director takes the responsibility for the quality of clerkship.

2. Director or the chief resident doctor gives introduction of wards, regulations, routine work and bed allocation. Students mainly work with the medical team in the wards. Student will be assigned by the higher management of this group a certain number of beds, each student will be in charge of 4 to 8 appropriately. Student should carefully take and write history, and complete records on time. The new patient's medical history must be completed within 24 hours.

3. Senior doctors, who are responsible, experienced in clinical teaching, will be selected as tutors, each for one student. Student should participate in daily ward rounds with attending doctor and resident doctor. Before ward rounds, student should ask about the illness and do necessary inspections. Student should give a detailed report on the patient's condition and help senior doctors redress patients after the operation. When on duty at night, student should go night ward rounds.

4. Student should complete in-patient cases and a variety of out-patient observations. Clinical tutors are expected to carefully revise the medical records written by student, direct student on technical operations, analyze and solve clinical problems, and master basic clinical skills.

5. Otolaryngology department requires student to attend on time director ward round, teaching ward rounds, difficult case discussions, death discussions and other activities. Student should

get familiar with otolaryngology perioperative treatment measures and possible physiological and psychological reactions.

6. Focus on cultivating student's overall quality, comprehensively guide and evaluate interns' attitudes, values, clinical skills, theoretical knowledge, etc..

7. Implement three-level ward round system, arrange experienced associate professors or professors to give talks, host clinical case discussion and teaching ward rounds, on the other hand, pay attention to cultivating innovation and research ability of student.

V. Requirements

1. In the ward

1). Student must obey the department regulations and attendance check, attend department morning shifting report on time.

2). Student should report medical history and conditions of the patient in the ward round discussion. Student should be responsible, careful and scrupulous for the diagnosis and treatment of their patients.

3). Student is responsible for medical record writing, including fill in the hospital medical records (progress notes, disease stage summary, discharge summary, transferred medical records, death records, etc.). Medical records should be carefully revised and signed by senior doctors. Student will have to rewrite records of poor quality if necessary. The initial record of a new patient should be completed within 24 hours after in hospital.

4). Student should write medical order, prescription and treatment under the guidance of senior doctors, carefully apply for laboratory sheets, and check application sheets and consultation sheets particularly, which will be executed after signed by senior doctors.

5). Familiar with the patient conditions. Visit patients at least every morning and afternoon. Responsible for patients newly admitted and completing medical records (at least one text record should be completed, revised by a specified teacher, and later saved as clerkship files). Student should regularly visit patients, particularly critical patients and patients without specific diagnosis; report immediately to the senior doctor on duty if there is any problem for due treatment.

6) Appropriately participate in and get familiar with basic nursing care; know the particular nursing of critical patients.

7). Participate in communication with patients for the explanations of illness to patients under the

guidance of senior doctors and learn the communication skill with patients.

8) Actively participate in ward and general case discussions, prepare to speak, and write a detailed record.

9). Allowed to join in the talk with the patient or his family members on the surgery with a senior doctor together, but not allowed to talk with them alone about the necessity and risks of anesthesia, and post-operative complications, in order to avoid unnecessary medical disputes.

10). Participate in ward duty (including critical patient rescue rotation), visit critical and postoperative patients after taking over on duty, and promptly report to the duty doctor. Duty student should visit the patient regularly, perform medical treatment of patients under the instruction of senior doctors, and join in emergency surgery. Make night rounds under the instruction of the duty doctor, attend the morning shift, student should attend ward rounds the next day if there is no emergency patient rescue.

2. In the out-patient and emergency room

1) Carry out routine service in the outpatient under the guidance of senior doctors, including writing out-patient medical history, wound treatment (dressing change, suture removal) and otorhinolaryngology endoscopy.

2) Prescription, diagnosis certificate and sick should be signed by the senior doctor and sealed by the hospital before being sent.

3) Work under the guidance of senior doctors for emergency diagnosis, treatment, and patients kept in observation, including out-call, wound debridement, suturing, dressing etc..

4) Participate in emergency duty and rotation; when on duty, interns can not leave without permission.

VI. Clerkship Departmental Rotation Examination

1. Contents and grade composition

Final grades consist of clinical skills assessment grades and performance grades: clinical skills assessment accounts for 80%, and performance accounts for 20%.

2. Forms and organization

1). Performance assessment:

Medical ethics and responsibility (4 points); practice attendance rate and disciplines (4 points); attitudes and job initiatives (4 points); teamwork (4 points); communication skills (4 points);

graded by director of otolaryngology department, teaching secretary and intern supervisor based on performances.

2). Clinical skills assessment

history taking (10 points), medical history writing (10 points), physical examination (10 points), basic clinical operations (10 points), a comprehensive clinical analysis ability (15 points), case management ability (15 points), accessory examinations (10 points).

3. Schedule

After each round of clerkship, on the last Thursday or Friday afternoon, the teacher will organize the exam, then clerkship departmental rotation final grade forms will be sent to the department office (scientific education section) and the education office, which need to be signed by the teaching director of otolaryngology teaching and research section (or department), and made a copy for archives.

Dermatology & Venereology

I. Purpose and Teaching Objectives

1. The clerkship is designed to further consolidate and deepen the knowledge of the basic dermatology theory, to help the students combine the theoretical knowledge with clinical practice and further grasp the basic technology of clinical treatment and establish the correct way of clinical thinking. Under the guidance of teachers, the students could not only apply their knowledge and skills to clinical diagnosis and treatment of skin diseases, but also learn to communicate with patients and set up good work ethics. .
2. The students will learn how to take medical history and write the record for dermatology diseases.
3. To study the diagnosis and treatment of common skin diseases and get to know the nature, dosage and treatment of external used medicine.
4. To learn the daily inpatient care in the department of dermatology,

II. Time Duration: 2 weeks

III. Contents and requirements

1. Disease to practice

Should master the etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment for the following diseases:

Contact dermatitis, eczema, urticaria, drug eruption, allergic purpura, psoriasis, shingles, superficial mycosis, systemic lupus erythematosus, dermatomyositis, scleroderma, gonorrhea, condyloma, syphilis, non-gonococcal urethritis (cervicitis), genital herpes, etc.

2. Clinical skills

A. Physical examination
   (1) Visual examination: rash appearance, color.
   (2) Palpation: Rash texture and slide pressure rash, Nepal's sign.
B. Basic procedures
   (1) Skin biopsy, fungal microscopy
   (2) Laser, freeze, microwave, ultraviolet treatment, allergen detection
C. Understanding of examination results:
   (1) Complement, ASO, immune globulin, erythrocyte sedimentation rate, C reactive protein, rheumatoid factor, smear and culture of Neisseria gonorrhoeae, the culture od mycoplasma and chlamydia, serological test for syphilis.
   (2) The full range of reference values of ANA
   (3) The basic performance of skin diseases.

IV. Measures

1. The teaching environment of practice sections (wards) and the number of beds should meet the needs of clinical practice; the director takes the responsibility for the quality of students.
2. When each round of students get into the ward first time, the Director or the teaching secretary should give a general introduction of ward, disciplines, routine work and the distribution of hospital beds. Each student should be in charge of 4-8 beds.
3. To select the physicians with both teaching and clinical experience and strong sense of responsibility to be the instructors. Each student has one instructor. The other physicians and nurses will collaboratively manage to ensure the quality of clinical clerkship.
4. During the practice, the students complete inpatient medical records and a variety of observations records, clinical instructor must carefully scrutinize the medical records written by the students, and teach students all kinds of technical operations, analyze and solve clinical problems, and improve their basic clinical skills.
5. Focusing on the overall quality of training, including students' professional attitudes, values, clinical practice ability, and theoretical knowledge.
6. To implement the three levels ward rounds system, and arrange the experienced associate professors give talks, organize clinical case discussion and teaching rounds, once or twice a week. During the ward round led by superior doctor, student should report the conditions of patients, and particularly changes in skin lesions and take notes from the superior doctor
7. To participate in out-patient once or twice a week, to be familiar with the diagnosis and treatment of common skin and venereal diseases.
8. Organize the test after completing the practice.

V. **Requirements**

1. To start work half an hour before, be familiar with yesterday's examination results and check the patient's last night condition. The students should report (in the way of reciting) to the superior doctor during the ward rounds, also give their own ideas and suggestion which can be implemented with the permission of the superior doctor. The students should visit the patients before getting off work and back to the ward during 7-10 at night to finish the work left at day time and carry out cross-rounds and the other activities. Report (in the way of reciting) the patients' condition and test results and take part in seminars and the night round led by the doctor on duty.
2. The students will take turns to participate in ward duty, visit the seriously ill patients followed with the superior doctor. The students can join the superior doctor in making diagnosis, when the condition changes. If the superior doctor is not in the ward, the students should check the patient, report to the superior doctor, and implement the treatment with the permission of the superior doctor. The treatment for seriously ill patients should report to the superior doctor. The students should sleep in the ward during the night duty and recite last night's findings in the morning shifts in the way of reciting.
3. To participate in the department activities, such as case discussions, including death and difficult cases, students' forum; to fill the student's feedback forms and actively engage in health education and promotion.
4. To finish 4 medical record writing during the practice and the illness process record.
5. To arrange the test at the end of the practice.

VI. Assessment and Evaluation

1. The content and marks distribution

General assessment (20%): attendance and work discipline (5%), medical ethics and responsibility (5%), practical attitude and initiative (5%), and communication skills (5 %)

Assessment of clinical competence (80%): including history taking, physical examination, medical writing, disease analysis and diagnosis, differential diagnosis and the ability of treatment and reading fungal smear film.

2. Organization

The general assessment will be scored by the instructor according the interns' regular performance. The assessment of clinical competence will be tested by the evaluation team (Division Director and the instructors, etc.)

3. Schedule

The test of clinical competence should be completed at the last day of practice.

Burn Surgery

I. Purposes and Teaching Objectives

The clerkship is designed to help the student to get familiar with the basic treatment of burn wounds through practice, understand the basic theoretical knowledge of wound healing, know the methods of the fluid resuscitation and nutritional support treatment for patients with extensive burn.

II. Time Duration: 2 weeks

III. Contents and requirements

1. Diseases to practice

1) Be familiar with the following disease etiology, pathogenesis, diagnostic criteria, differential diagnosis and treatment:

(1) small area burns

(2) shallow second degree burn

(3) deep second degree burns

(4) third-degree burns

(5) fourth-degree burns

(6) burns due to special cause

(7) burns in special site

(8) inhalation injury

(9) combined injury

2) Be familiar with the treatment principles of the following diseases:

(1) small area burns

(2) shallow second degree burn

(3) deep second degree burns

(4) third-degree burns

(5) fourth-degree burns

3) Understand the treatment principles of the following diseases:

(1) fluid resuscitation for large area burn patients

(2) nutritional support for severe burn patients

2. Clinical skills

1). Physical examination

(1) burn area calculation

(2) Burn depth estimation

2). Basic operations

1) Master the basic observation and considerationso of the following items:

(1) vital signs

(2) urine volume per unit time

(3) use of rolling bed

2) Participate in the following basic operations under the guidance of senior doctors, and master its indications, contraindications and precautions:

(1) burn debridement

(2) burn dressing

(3) indwelling stomach tube

(4) indwelling catheter

3) Understand the following operations, and get familiar with indications, contraindications and perioperative management:

(1) skin grafting

(2) skin harvesting

3. Interpretation of auxiliary test results

1) laboratory test results interpretation

(1) master the interpretation of routine blood, urine and stool examination

(2) master the interpretation of serum electrolytes

(3) master the interpretation of blood sugar control

(4) master the interpretation of liver function

(5) master the interpretation of renal function

(6) be familiar with the interpretation of myocardial enzyme

(7) be familiar with the interpretation of blood gas analysis

(8) be familiar with the interpretation of the bacterial culture and drug susceptibility test

2) X films

be familiar with chest films analysis

IV. Measures

1. The teaching environment of practice sections (wards) and the number of beds are expected to meet the needs of clinical clerkship, director bears the overall responsibility of clerkship quality.

2. The burn surgery director or the chief resident doctor gives introduction of wards, regulations, routine work and bed allocation, each student will be in charge of 4 to 8 beds.

3. Senior doctors, who are responsible, experienced in clinical teaching, will be selected as tutors, each for one student. Collaborative management of doctor and nurse ensures clinical clerkship quality.

4. Students should complete in-patient cases writing and a variety of in-patient medical record. Clinical tutors are expected to carefully revise the medical records written by students, direct students on technical operations, analyze and solve clinical problems, and master basic clinical skills.

5. Focus on cultivating student's overall quality, comprehensively guide and evaluate students' attitudes, values, clinical skills, theoretical knowledge, etc..

6. Implement three-level ward round system, arrange experienced associate professors or above to give talks, host clinical case discussion and teaching ward rounds once or twice every week, as well as pay attention to cultivating innovation and research ability of students.

V. Assessment and Evaluation

1. Contents and grade composition

1). Performance assessment (20%): medical ethics and responsibility (5 points), attendance check and disciplines (5 points), attitudes and initiatives (5 points), and communication skills (5 points)

2). Clinical skills assessment (80%): history taking and medical record writing (20 points), clinical comprehensive analysis and logical thinking ability (30 points), physical examination and clinical skills operation (20 points), laboratory test analysis (10).

2. Forms and organizations

The burn surgery department will organize routine assessment and skills assessment.

3. Schedule

Completed within the last day of clerkship

Annex 1:

Basic Standards of Medical Records of the People's Republic of China (trial)

(Ministry of Health, the National Chinese Traditional Medicine Administrative Bureau, Health Medicine [2002] No. 190)

Chapter 1 Basic requirements

Article 1 Medical record refers to the form of words, symbols, graphics, images, slices, etc by the medical staff in the medical activities. It includes the outpatient (emergency) record and inpatient record.

Article 2 Medical record writing refers to the behavior of medical staff to summarize, analyze, organize and form medical records through inquiry, physical examination, laboratory examinations, diagnosis, treatment, care and other medical activities.

Article 3 Written medical record should be objective, true, accurate, timely and complete.

Article 4 Blue-black ink, carbon ink should be used to write inpatient medical record. Blue or black ballpoint pen can be used to write outpatient (emergency) record or data that need replication.

Article 5 Medical record writing shall be in Chinese and with medical terminology. The symptoms, signs, names of diseases with common foreign abbreviations and no official Chinese translation can be written in the foreign language.

Article 6 Medical record should be written neatly, clearly, accurately with logic statement and correct punctuation. When wrong words are written by mistake, they should drawn through with double lines instead of scraping, sticky coating methods such as cover or remove the original handwriting.

Article 7 Medical record should be written in accordance with the provisions of the contents and signed by the appropriate medical personnel.

Medical record written by medical student or personnel on probation must be reviewed, modified and signed by qualified medical staff of the medical institution.

Medical trainee is entitled to write medical record after being granted according to their actual professional competence by the receiving medical institution.

Article 8 Superior medical staff is responsible for the review and revise of medical record written by those at lower levels. When making revise, the reviser should write down the date

and signature, and keep the original record clearly discernible.

Article 9 Medical staff who fail to write medical record due to rescuing the patient in emergency and critical condition, should make up for records with clear indication within 6 hours after the end of rescue.

Article 10 Clinical activities (such as special inspections, special treatment, surgery, experimental clinical and health care) can only be carried out with consent of patients in accordance with the relevant provisions, the patients need to sign the consent letter. Patient dose not have full capacity of civil conduct, it should be signed by their legal representatives; if patients with illness can not sign, it should be signed by their close relatives, or the parties if no close relatives; in order to rescue patients, the head or authorized person of the medical institution is to sign in case their legal representatives, close relatives or parties were all absent

If the situation is not appropriate to be explained to the patients because of the implementation of protective measures, it should be informed to the patients' close relatives, who need to sign the consent letter and write timely records. When patients have no close relatives or close relatives of patients are unable to sign a consent letter, the patient's legal representatives or parties need to sign.

Chapter 2: Requirements and Contents of Writing Outpatient (emergency) Medical Record

Article 11 Outpatient (emergency) medical record contents include first page (out-patient manual covers), case history, the laboratory (test) sheet, medical imaging information, etc.

Article 12 Outpatient (emergency) medical record booklet's first page should include patient's name, sex, date of birth, nationality, marital status, occupation, work unit, address, history of drug allergy ,etc..

The out-patient manual cover should include patient's name, sex, age, work unit, address, history of drug allergy, etc.

Article 12 Outpatient (emergency) case medical records are classified as first visit and return visit

First visit medical record should include visiting time, divisions, chief complaint, present illness, past history, positive signs, negative signs and the necessary supporting test results, diagnosis and treatment advice and physician signatures.

Return visit t medical record should include visiting time, divisions, chief complaint, medical history, necessary physical examination and support examination, diagnosis, treatment advice and physician's signatures.

Emergency medical record writing should be specific to the minutes of visiting time.

Article 14 Outpatient (emergency) medical record shall be completed in time when the patient visits.

Article 15 When rescuing critically illed patients, rescue records should be written. Observation records should be written for emergency department patients during the observation.

Chapter 3 Requirements and Contents of Writing Inpatient Medical Record

Article 16 Inpatient medical record should include inpatient medical record home page, hospitalized records, body temperature sheet, doctor orders, laboratory test sheets, medical imaging data, a special examination (treatment) consent letter, consent letter to surgery, anesthesia record sheet, surgical and surgical nursing records, pathological data, nursing records, hospital discharge records (or death records), case course record (including emergency treatment records), record of the discussions of difficult cases, consultation advice, superior physician rounds records, death case discussion records.

Article 17 The hospitalized record refers to information obtained during patients hospitalization through physicians' inquiry, physical examination and support examinations, and analysis and summary of these data. The hospitalized record writing includes resident admission record for the first time, second time or more, discharge record within 24 hours, death records within 24 hours after admission.

The resident admission record for the first time, second time or more should be completed within 24 hours after admission; records of admission and discharge within 24hours should be completed within 24 hours after discharge, death record within 24hours after admission should be completed within 24 hours after the patient's death.

Article 18 The requirements and contents of resident admission record writing

(1) The patient's general situation includes name, gender, age, nationality, marital status, place of birth, occupation, admission date, recording date and history presenter.

(2) The main complaint refers to the main symptoms (or signs), and duration.

(3) The current case history is the details of the occurrence, evolution, and treatment of this disease. It should be written in chronological order. The writing contents Include the incidence, main symptoms and development, accompanied

symptoms ,onset and outcome after treatment, changes in sleep and diet, as well as the positive or negative information related to differential diagnosis.

Other diseases that have nothing to do with this disease, but still need treatment can be written in a new paragraph.

(4) Previous history refers to the patient's past history of health and disease. It includes previous general health status, disease history, infectious disease history, vaccination history, history of surgical trauma, blood transfusion history, drug allergic reaction history.

(5) Personal history, obstetrical history, menstrual history of female patients, family history.

(6) Physical examination record writing should be conducted in accordance with the system sequence, including body temperature, pulse, respiration, blood pressure, general condition, skin, mucosa, superficial body lymph nodes, head and organs, neck, chest (thorax, lungs, heart, blood vessels), abdomen (liver, spleen, etc.), rectum anus, external genitalia, spine, limbs, nervous system.

(7) Specialist record covers the specialist situation according to requirement of specialist clinic.

(8) Auxiliary examination refers to the main examinations and results related to this disease before admission. Examination date and the medical institution where examinations were done should be indicated clearly.

(9) Initial diagnosis refers to the diagnosis based on comprehensive analysis and summary by the physician according to the patient's situation when admission. If the initial diagnosis involves more than one item, it should be prioritized.

(10) The physician's signature who writes the resident admission records.

Article 19 Resident admission records of second time or repeatedly refer to those written during the patient's hospitalization for the second time or repeatedly in the same medical institution due to the same disease. Requirements and contents are almost the same as that of resident admission record, its characteristics are: chief complaints were the main symptoms (or signs) this admission and its duration; prior to current case history writing, summary of past hospitalization treatment and diagnosis is necessary.

Article 20 For patients discharged from hospital less than 24 hours, a within-24- hour records can be written, it should includes patient name, sex, age, occupation, time of admission, discharge time, chief complaint, admission conditions, admission diagnosis, conditions after discharge, the discharge diagnosis, discharge advice from doctors, physician

signatures.

Article 21 For patients who die less than 24 hours after admitted to hospital , a within-24- hour death records can be written, it should includes patient’s name, sex, age, occupation, admission time, time of death, chief complaint, admitted the situation, admission diagnosis, treatment process(rescue process), cause of death, death diagnosis, physician signatures.

Article 22 Course record refers to the continuous recording of patients’ condition and treatment process following the hospitalized record, including patient's condition changes, important auxiliary examination findings and clinical significance, the views of higher physicians when making rounds, consultation advice, doctors discussion views, measures taken and the effect of treatment, changes of doctor's advice and reasons for changes, important matters concerning informing their close relatives.

Article 23 The requirements and contents of course record.

(1) The first course record is to be finished by physicians or physician on duty within 8 hours after patients’ admission to hospital, including the case features, diagnosis base and differential diagnosis, treatment planning.

(2) Daily course record is the regular, continuous recording during patients’ hospitalization written by a physician or by medical interns or medical trainee, including the record date and other details from a new line. For critically illed patients, it should be updated at any necessary time at least once a day specific to minutes. For seriously illed patients, at least once every 2 days. For the patients in stable condition, at least once every 3 days. For the chronic patients in stable condition, at least once every 5 days.

(3) Superior physician rounds record is recording of physician’s analysis of the condition of patients, diagnosis, and differential diagnosis, the current efficacy of therapeutic measures as well as opinions of next clinical treatment.

The first rounds record should be completed within 48 hours after patients’ admission to hospital, including rounds physician's name, professional and technical positions, added case history and symptoms, diagnosis base and differential diagnosis analysis and treatment programs. The interval of attending physician ‘s daily rounds record is determined by the situation of patients and treatment, contents including rounds physician's name, professional and technical positions, the analysis and treatment of the disease. Rounds record written by doctors with professional and technical positions qualification of Division Director or Deputy Director or over includes rounds physician's name, professional and technical positions, the analysis

of the case condition and treatment opinions.

(4) Record of difficult cases discussion is recording of discussion of cases difficult to diagnose or without exact treatment effect sponsored by doctors with professional and technical positions qualification of Division Director or Deputy Director or over, who convene the medical staff concerned including discussion date, presenters' and participants' names, professional and technical positions, opinions.

(5) Shift (succession)record is the recording both the shift doctor and succession doctor's brief summary of patients' condition and treatment. Shift record should be written by shift doctor before the completion of the shift; succession record should be completed by the succession physician within 24 hours after the succession, including admission date, shift or succession date, patient's name, sex, age, chief complaint, patient's situation when admission, diagnosis after admission, treatment process, the current situation, the current diagnosis, shift notes or succession treatment programs, doctors' signatures.

(6) Department transfer record is written for patients when they are hospitalized and need a transfer of department by both the doctors of department transferred out from and department transferred to, after the latter consents and accepts, including the transfer- out record and transfer-in record. Transfer-out record is completed by the physician of the department of transferred out from before patients were transferred out(except for emergency situations), the transfer-in record is completed by the transferee department physician within 24 hours after the transfer. Department transfer record includes date of admission, transfer-out date or transfer-in date, patient's name, sex, age, chief complaint, admission situation, admission diagnosis, treatment process, current situation, current diagnosis, purpose of transfer department, as well as notes or treatment plans, physician's signatures.

(7) Stage summary is the monthly summary of patients' situation and treatment for long hospital stay of patients, including the admission date, summary date, patient's name, sex, age, chief complaint, admission situation, admission diagnosis, treatment process, present situation, current diagnosis, treatment plan, doctors' signatures.

Shift (succession)record can substitute stage summary.

(8) Rescue record is recording of critical situation of patients and rescue measures taken, including changes in condition, rescue time and measures, names and professional and technical positions of medical staff to participate in the rescue. Rescue time should be specific to the minutes.

(9) Consultation records (including consultation advice) is completed both by applicant physician and consultation physicians when hospitalized patients need assistant

diagnosis and treatment from other departments or other medical institutions, contents including consultation record and consultation view record. Applicant record should contain patients' situation and treatment condition, the reasons and purpose of consultation, applicant physician's signature. Consultation view record should contain the views of consultation, consultation physicians' departments or medical institution's names, consultation time and consultation doctors' signatures.

(11) Preoperative summary is the attending physician's summary of patient condition for preoperative patients before surgery, including patients' situation, preoperative diagnosis, surgical indications, the proposed operation's name and method, form of anesthesia to be applied, notes, etc.

(12) Preoperative discussion record refers to the record of the discussion held by higher physicians about the proposed operation method and intraoperative surgical problems that may occur and the response measures for patients with serious situation or difficult surgery. It includes preoperative preparations, surgical indications, surgical options, possible accidents and preventive measures, participants' names and professional and technical positions discussion date, recorder's signatures.

(13) Anesthesia record contains anesthesia process and treatment measures written by anesthesiologists in the implementation of narcotic anesthesia. Anesthesia record should be in a separate sheet, including general condition of patients, premedication, preoperative diagnosis, intraoperative diagnosis, anesthesia, anesthesia medication and treatment, beginning and ending time of surgery, anesthesiologists' signatures.

(14) Surgery record is specific record written by surgeons reflecting general condition of surgery, surgery process, intraoperative findings and treatment of records, etc., It should be completed within 24 hours after surgery. Under special circumstances when written by the first assistant, the surgeon should sign. Operation record should be in a separate sheet, including the general items (patient's name, gender, specialty, ward, bed number, inpatient medical record number), date of surgery, preoperative diagnosis, intraoperative diagnosis, surgery name, surgeon's and assistants' names, anesthesia method, surgical process, intraoperative occurrence and treatment.

(15) Surgical nursing record is written by traveling nurses about patients condition undergoing surgery and the use of instruments and dressings. It should be completed immediately after the end of surgery. Surgical Care record should be in a separate sheet, including patient's name, inpatient medical record number, surgery date, surgical procedure, intraoperative care situation, the number of dressings with various equipment and inventory check, itinerate nurses' and instrument nurses'

signatures.

(16) First postoperative course record is written by physicians participating in the surgery about the patient's condition immediately after the surgery, including surgery time, intraoperative diagnosis, anesthesia method, surgery method, brief surgery procedure, treatment measures, postoperative notes, special attention that should be observed after the surgery.

Article 24 Surgery consent letter is informed before surgery by physicians to patients about this proposed operation and related conditions, and signed by the patient who agreed to the surgery. It includes preoperative diagnosis, surgical procedure, intraoperative or postoperative complications that may occur, surgical risks, patient's signature, physician's signatures.

Article 25 Consent letter of special inspection and treatment is informed before the special inspection and treatment by the physician to the patient about the relevant conditions in the implementation of special inspection and treatment, and signed by the patient to consent to the special examination and treatment. It includes the items of the special inspections, special treatment, possible complications and risks, the patient's signature, physician's signatures.

Article 26 Discharge record is the attending physician's summary of the patient's diagnosis and treatment during hospitalization. It should be completed within 24 hours after discharge, mainly including the admission date, discharge date, the situation in admission, admission diagnosis, treatment, discharge diagnosis, discharge condition, physician advice, physician signatures.

Article 27 Death record means the attending physician's recording of the patient's diagnosis and treatment and rescue during hospitalization. It should be completed within 24 hours after patient's death, including admission time, time of death, the situation in admission, admission diagnosis, treatment (put stress on the progression of disease and rescue process), cause of death, death diagnosis. Record of the time of death should be specific to the minutes.

Article 28 Dead case discussion record refers to the record of analysis and discussion by physicians with professional and technical positions qualification of Division Director or Deputy Director or over about the patient's death case. It should be completed within one week after the patient's death, including the discussion date, presenters and participant names and professional and technical positions, opinions.

Article 29 Medical advice is medical instructions issued by physicians in the medical activities.

Medical advice content, starting time and ending time should be written by the

physician.

Medical advice content should be accurate, clear, each advice containing only one element, and indicating the assigned time and it should be specific to the minutes.

Medical advice may not be altered. To cancel, you should use red ink marked "cancel" on and signed.

In general, medical advice can not be oral. In rescuing critical patients emergency when medical order issued orally, the nurse should repeat it again. After emergency treatment, physicians should supplement the medical advice immediately.

Medical advice is classified into long-term advice and temporary advice.

Long-term medical advice includes the patient's name, specialty, inpatient's medical record number, page number, starting date and time, the contents of long-term medical advice, ending date and time, physician signature, execution time, the executive nurse signature. Temporary medical advice includes advice issue time, the contents of the temporary medical advice, physician signature, execution time, executive nurse signature.

Article 30 Auxiliary examination report sheet records the patient's all test results and examination results during the hospitalization , including patient name, sex, age, inpatient medical record number , examination items, test results, reporting date, reporter's signature or stamp.

Article 31 Temperature sheet is of table format to be filled mainly by the nurse. It includes patient name, department, bed number, admission date, inpatient's medical record number, date, days after surgery, body temperature, pulse, respiration, blood pressure, stool frequency, fluid volume, weight, number of weeks hospitalized and so on.

Article 32 Nursing records are divided into general patient care records and critical patient care records.

General patient care record is the nurse's objective record of the general patient's nursing process according to the medical advice and patient situation during hospitalization, including patient name, specialty, inpatient medical record number, bed number, page number, recording date and time, the observation conditions and effects of nursing interventions, nurse signatures.

Critical patient care record is the nurse's objective record of the critical patient's nursing process according to the medical advice and patient situation during hospitalization, including patient name, specialty, inpatient medical record number, bed number, page number, recording date and time, the fluid volume, temperature, pulse,

respiration, blood pressure, and other conditions observed and effects of nursing interventions, nurse signatures. Recording time should be specific to the minutes.

Chapter 4 Others

Article 33 The inpatient medical record first page format should be in accordance with the " Revision Notice of Inpatient Medical Record Issued by Ministry of Health" (Methodist Medicine [2001] No. 286)

Article 34 The meaning of the special examination and special treatment refers to the Ministry of Health Order No. 35 "Implementation Rules of medical institutions," Article 88 on August 29, 1994.

Article 35 Basic standards for writing medical records of traditional Chinese medicine will be formulated separately.

Article 36 This specification shall come into effect since September 1, 2002.

Annex 2:

Ministry of Health Ministry of Education's Issue on

"Interim Provisions of Clinical Practice Management of Medical Education "

Provinces, autonomous regions and municipalities health bureau, Department of Education (BoE), the Xinjiang Production and Construction Corps Health Bureau, Education Bureau:

In order to regulate the management of clinical practice in medical education, protect the legitimate rights and interests of patients, teachers and students during clinical practice, ensure the teaching quality of medical education, we have formulated the " Interim Provisions of Clinical Practice Management of Medical Education", which is now issued to you, please comply.

August 18, 2008

Interim Provisions of Clinical Practice Management of Medical Education

Article 1 To regulate the management of clinical practice in medical education, protect the legitimate rights and interests of patients, and ensure the quality of medical education, this provision is developed according to "The People's Republic of China Medical Practitioners Act " and "the People's Republic of China Higher Education Act ".

Article 2 This provision shall be applied to medical students from medical institutions of all levels and types approved by the education administrative department, and to medical graduates of the trial period (hereinafter referred to as medical graduates of the trial period) in their clinical practice activities.

Article 3 The term "clinical practice in medical education" refers to medical students' all clinical practice activities such clinical observation, clinical internships, graduate internships and clinical practice activities by medical graduates of the trial period.

Medical students refer to those of a registered student status with medical specialties in the school. Medical students' clinical practice in clinical teaching base is under the guidance of teachers involving clinical diagnosis and treatment activities so that learning objectives are achieved.

Medical graduates of the trial period refer to the medical graduates who are employed by medicine related institutions and have not yet obtained medical practice qualification. The clinical practice activities by Medical graduates of the trial period in the relevant medical institutions under the guidance of the Clinical instructors include clinical diagnosis and treatment activities to improve their clinical service capabilities.

Article 4 The clinical teaching bases refer to the affiliated hospitals and medical institutions

which medical schools have established teaching partnerships with and are expected to undertake the teaching task, including the teaching hospital, practice hospital and community health services organizations.

The setting of clinical teaching base must meet the relevant provisions of the education, health administrative departments, must have a sufficient number of clinical teaching teachers with medical clinical qualification.

Article 5 Clinical teaching bases responsible for clinical teaching practice of medical students provide necessary conditions for the implementation and completion of teaching tasks, maintaining the legitimate rights and interests of participants in the process of clinical teaching practice.

Article 6 Relevant medical institutions undertake the medical clinical practice of medical graduates of the trial period. They are responsible for arranging clinical practice for medical graduates of the trial period, determining practitioners to guide them in the trial period.

Article 7 Clinical teaching bases and related medical institutions should take effective measures to protect the patient's rights of being informed, privacy and other rights

Clinical teaching bases and related medical institutions are responsible for ensuring the patient safety and medical care quality in the process of clinical practice and informing the related patients through various forms.

Article 8 Clinical teaching base and related medical institutions should strengthen the education of medical students and medical graduates of the trial period in medical ethics and professional quality.

Article 9 Clinical teachers are clinical practitioners authorized by clinical teaching bases and relevant medical schools to undertake clinical teaching and personnel training. Clinical instructors are authorized by relevant medical institutions to undertake the task of supervision of medical graduates of trial period.

Article 10 Clinical teachers and clinical instructors responsible for supervision medical students and medical graduates of trial period in their clinical practice should determine the specific content of clinical practice, examine medical files written by medical students and medical graduates of trial period.

Article 11 Clinical teachers and clinical instructors should be firmly established with sense of teaching and concept of communication between doctors and patients, actively convincing patients to cooperate in clinical practice activities; should inform the patients and get consent from them before clinical practice. In teaching practice to

patient safety and legtimate rights and interests should be ensured.

Article 12 Under the clinical teacher's supervision and guidance medical students can access and observe the patients, take medical history, examine patients' physical signs, have access to patient information, analyze and discuss patients disease, write medical records and inpatient progress record, fill in the sheets of various inspections ,disposal , medical advice and prescriptions, and participate in the surgery.

Article 13 Under the monitoring and guidance of clinical instructors, medical graduates of the trial period can provide appropriate service of clinical diagnosis and treatment for patients.

Article 14 Medical students and medical graduates of the trial period cannot participate in clinical diagnosis and treatment activities or provide clinical treatment services to patients without the monitoring and guidance of clinical teachers or clinical instructors Diagnosis and treatment text generated in the process of clinical practice must be audited and signed by the clinical teacher or Clinical instructor before becoming an official medical document.

Article 15 Medical students and medical graduates of the trial period should respect the patient's informed consent and privacy in clinical practice activities, without prejudice or damage to the legitimate rights and interests of patients.

Article 16 For medical accidents or disputes occurring during clinical practice, if they are caused by the hospital, the clinical teaching base or relevant medical institution should take the responsibility; if they are caused by improper guidance of the clinical teacher and clinical instructor, the clinical teacher or clinical instructor is accountable.

Article 17 Medical students and medical graduates of the trial period are responsible for medical accidents or medical disputes in clinical practice activities monitored and guided by clinical teachers and clinical instructors.

Medical students and medical graduates of the trial period should take appropriate responsibility for clinical diagnosis and treatment activities without the authorization of clinical teachers or clinical instructors.

Article 18 Clinical practice of nursing, pharmacy and other relevant medical specialties in medical education refer to this provision.

Article 19 This provision comes into effect from January 1, 2009.

Annex 3:

Ministry of Education, Ministry of Health issue on

"Undergraduate Medical Education Standards – Clinical medicine (Trial)"

Higher Education No. [2008] 9

Provinces, autonomous regions and municipalities Department of Education (BoE), Health Department (Bureau), Education Bureau and Health Bureau of Xinjiang Production and Construction Corps, universities directly affiliated to the Ministry of Education, units directly affiliated to the Ministry of Heath:

To further improve the quality of medical education, standardized medical education, the Ministry of Education, Ministry of Health commissioned the Institute of Higher Education Medical Education Committee study and formulate the "Undergraduate Medical Education Standard - Clinical Medicine (Trial) "(hereinafter referred to as" standard ") in accordance with the actual situation in China, with reference to international standards of medical education. After self-assessment test by some institutions, audited by the Ministry of Education, Ministry of Health, and modified by the National Medical Education Conference, now the "standard" is issued to you, please comply.

The "standard" is suitable to five-year undergraduate clinical medicine and presents the basic requirements that this professional education must meet. It's the main basis of education quality control and self-evaluation of this profession. Ministry of Education's certification of the undergraduate clinical medicine profession will be based on the "standard".

Provincial education departments will be requested to forward this notice to the respective colleges and universities. If the relevant colleges and universities have any comments and suggestions in self-evaluation of teaching based on the "standard", please timely feed back to the Ministry of Education, Division of Higher Education in order to adjust the "standard."

Attachment: Undergraduate Medical Education Standard- Clinical Medicine(Trial)

September 16, 2008

Cc: State Administration of Traditional Chinese Medicine, PLA General Logistics Department, Ministry of Health

Undergraduate Medical Education Standards – Clinical Medicine (Trial)

Foreword

The fundamental purpose of medical education is to provide the community with high quality medical and health human resources. To strengthen the quality assurance of medical education

is meets the purpose and requirement of cultivating high-quality talents to provide better health care for the people and build a harmonious human-centered society.

In 1998, after approval of the World Health Organization and the World Medical Association, World Association of Medical Education established "international standards of medical education" project. In June 2001, the Executive Committee of the World Federation of Medical Education adopted and promulgated the "Undergraduate Medical Education global standards." Based on this standard, the WHO Western Pacific Regional Office of Medical Education developed regional standards of "Undergraduate Medical Education Quality Assurance Guide" and published in July 2001.

In 2002, the Ministry of Education convened a seminar of international standard of medical education, studying the international medical education standards, and the deployment of international standard "localization". After the meeting, the Ministry of Education, Ministry of Health set up a special project, commissioned the Professional Committee of Medical Education to establish the research group "China Medical Quality Assurance System in Higher Education." The research group proposed the requirements that undergraduate clinical medicine education must meet, studied and formulated a "standard of undergraduate medical education – clinical medicine (Trial), based on ”the People's Republic of China Law on Higher Education," and "The People's Republic of China Medical Practitioners Act"", and experience of our medical education’s qualified assessment, excellent assessment, teaching evaluation and evaluation of seven-year graduate medical education and degree award. This standard has been authorized by the Ministry of Education and Ministry of Health.

The standard is applicable to 5-year undergraduate clinical medicine profession. It presents only the most basic requirements of the basic aspects of professional education. Undergraduate medical education is the first stage in a continuum of medical education, whose fundamental task is to train for health institutions medical graduates with initial clinical competence, lifelong learning ability and good professional quality; and thus lays the necessary foundation for their further study and practice in various health care system after graduation. Medical graduates’ professional ability in clinical practice can be gradually increased by medical education, continuing professional development and continuing medical practice. This standard is applicable nationwide, but it also respects the rights of independent schooling due to difference between the various schools in different regions. The standard’s way of guidance is not to propose mandatory requirements such as specific teaching program, core curriculum, teaching methods, etc, but to leave enough reform and development room for various schools to develop characteristics and personality. This standard reflects the international trend, domestic environment and social expectations that medical education faces, which is the basis for the formulation of educational programs and regulating the teaching management frame, whereby the medical colleges should develop their own educational goals and educational programs, establish self-assessment system and education quality assurance mechanism of their own. The

standard is applicable to certification for medical education, generally the procedure of which includes school self-evaluation, site visits, make certification recommendations and publish certification, but not applicable to the sorting of medical universities.

The "Undergraduate Medical Education Standards –Clinical Medicine (Trial)" developed by "China's research group of medical education quality assurance system" is based on the Ministry of Education policy on medical education and draws on the Education Evaluation index system since 1994.Meanwhile, to promote China's medical education development to coordinate with the development of the world medical education, the research group took the World Federation of Medical Education's 2003 version of "Undergraduate Medical Education global standards", the WHO Western Pacific Region's "Undergraduate Medical Education Quality Assurance Guide" and international medical education organization's, "Global minimum essential requirements in medical education" as a reference and also referred to the relevant national standards and requirements of medical education.

Part 1 Basic Requirements of Undergraduate Medical graduates

The quality of medical graduates is the ultimate measure standard of the quality of the medical school education. The goal undergraduate education in clinical medicine is to develop medical graduates with preliminary clinical competence, lifelong learning ability and professional quality. The graduate, as medical practitioner, must be able to engage in medical and health service, must be able to progress in a rapidly changing medical environment to maintain its level of medical services continuously updated. This depends on medical students' mastery training and scientific methods at school.

1. Moral and professional quality objectives

(A) to comply to the laws and regulations, establish a scientific world outlook, outlook on life, values, and the socialist concept of honor and love the motherland and the people, and to be willing to struggle life-long for the development of the motherland's health course and human well-being.

(B) to cherish the value of life, care for patients with humanitarian spirit; to prevent disease, get rid of pain as his life-long responsibility; to provide hospice care as their moral responsibility; to safeguard the health interests of the people as their professional responsibility.

(C) to have the concept of lifelong learning, recognizing the importance of continuous self-improvement and continually strive for excellence.

(D) to have the sense of communicating with patients and their families in order to involve their full participation the treatment plan.

(E) to focus on medical ethical issues, respect for patient privacy and personality in professional

activities.

(F) to respect the personal beliefs of patients, to understand their cultural background and cultural values.

(G) to be realistic, for he could not do and safe disposal of medical problems, and seek the help of other doctors in the case which he is not capable enough to handle .

(H) to respect colleagues and other health care professionals, and to have the collective spirit of team work in medical practice.

(I) to establish the concept of legal medical practice, and learn to use the legal protection of patients and their own interests.

(J) to take the interests of patients and their families into consideration in the application of the technology possible to pursue an accurate diagnosis or change the process of disease, making the health resources applied into maximum efficiency.

(K) to possess a scientific attitude, the spirit of innovation and critical analysis.

(L) To perform the obligation of maintaining medical ethics.

2. Target in Knowledge Mastery

(A) to master the basic knowledge and scientific approach of the medical-related courses such as mathematics, physics, chemistry, life sciences, behavioral sciences and social sciences ,and can be used to guide future study and medical practice.

(B) to master the normal structure and function of the normal state of mind of all stages of human life.

(C) to master all common disease pathogenesis of all stages of human life, and to aware of the effect of environmental factors, social factors and behavior of psychological factors on the formation and development of the disease, recognizing the importance of disease prevention.

(D) to master the pathogenesis, clinical manifestations, diagnosis and prevention principles of a variety of common diseases in all stages of life.

(E) to have basic pharmacology knowledge and principles of rational clinical drug use.

(F) to master basic knowledge on normal pregnancy and delivery common obstetric emergency, prenatal and postnatal health care principles and medical knowledge of family planning.

(G) to master the basic knowledge of general medicine, to master the principles of health education, disease prevention and screening , as well as relevant knowledge of mitigation and

improvement of disease and disability, rehabilitation and hospice care.

(H) to master the relevant knowledge and methods of clinical epidemiology and to understand the important role of scientific experiments in medical research.

(I) to master the basic characteristics of Chinese Medicine (Chinese Medicine), to understand the basic clinical principles of Chinese medicine (Chinese medicine).

(J) to master the basic law of the occurrence, development and transmission of infectious diseases, as well as the prevention of common infectious diseases.

3. Target in Skill Mastery

(A) a comprehensive, systematic ability to correctly capture case history.

(B) the ability to carry out systematic and regulated physical and mental examination and the capacity of write medical records.

(C) a strong ability of clinical thinking and expression.

(D) the ability to diagnose and treat all kinds of common diseases of internal medicine, surgery, gynaecology and pediatrics.

(E) the capacity diagnosis, first-aid and treatment of general emergency.

(F) the capability to employ appropriate technology and most economical diagnosis and treatment under the specific conditions .

(G) an initial capacity of verification to clinical issues with evidence-based medicine principles.

(H) the basic capacity of community health services.

(I) the ability to communicate effectively with patients and their families

(J) the ability to communicate with the doctors, nurses and other health care practitioners .

(K) the ability to study medical problems and obtain new knowledge and related information in combination with clinical practice and by the use of library materials and modern information technology, and the ability to use a foreign language to read the medical literature.

(L) the ability to educate patients and the public knowledge on healthy lifestyles, disease prevention.

(M) the capability of independent learning and lifelong learning.

Part 2 the Education Standards of Undergraduate Clinical Medicine

4, Aims and Objectives

(A) the purpose and objectives

in the course of Implementation of national education policy, medical institutions (referring to the independent medical institutions and universities established in the college) must make clear their education missions and objectives based on the expectations of the medical community and regional development needs,which includes orientation, educational philosophy, development planning, training objectives and quality standards.

(B) to determine the purposes and objectives

Medical institutions mission and goals are to be identified by all staff through the serious discussion, and approved of by higher authorities, and known to the teachers and students all over university.

Explanatory Note

Aims and objectives of education can include the university's policies and special problems of the area.

All staff refer to school leadership, medical administrators, faculty, students, employing departments, and government authorities or the organizers of the school.

(C) the academic autonomy

Medical institutions should formulate the curriculum plan and its implementation program, plan of employment and reasonable allocation of resources, based on the principle and views of undergraduate teaching plan, in accordance with their development requirements. Medical schools in the university or College should have academic support from the social and natural disciplines, in an effort to strengthen the integration of interdisciplinary of the university.

(D) Education Results

Medical schools should, based on the basic requirements that the medical graduates must meet ,formulate appropriate training objectives and educational programs, implement the teaching plan and academic assessment to ensure the students to complete their studies during the effective period of study and meet the above requirements, and get a certificate and medical bachelor’s degree.

5. Educational Programs

The educational programs medical schools develop should meet the training goal, focusing on coordination of curriculum and teaching methods, and mobilizing the initiative of teachers to promote student active learning initiative.

(A) Curriculum

1. Medical institutions must, based on medical and health service needs, the progress of medical science and medical model, formulate the school curriculum plan practical to the school.

2. Teachers and students need to participate in and understand the formulation of curriculum.

3. The curricular design model and its basic requirements are prior to curriculum.

4. Medical institutions should actively carry out vertical or (and) the horizontal integration of the curriculum reform, integrating teaching content reasonably. Curriculum plan must reflect the principles of strengthening basis, capacity cultivation, focusing on quality and development of personality. Curriculum design should include mandatory courses and elective courses, the ratio between the two decided by the schools according actual situation.

(B) Teaching methods

Medical institutions must actively carry out the teaching method reform, the content of which may be "student-centered" and "independent learning" , focusing on the cultivation of critical thinking and lifelong learning abilities, as well as awareness of communication and collaboration.

Explanatory Note

Teaching methods include methods of both teaching and learning. The elicitation, problem – centered and interactive modes.

In learning biomedical and clinical course stage, the adoption of small classes and group instruction is recommended.

(C) The education of scientific method

Medical schools should implement scientific method and evidence-based principles into education to enable students to develop scientific thinking and scientific research method.

(D) The ideological and moral training course

Medical institutions must open ideological and moral courses.

(E) Natural science courses

Natural science must be opened for medical students as a foundation for them to learn basic medical science, theory, basic knowledge and basic skills.

Explanatory Note

Science courses usually contain mathematics, physics, and chemistry.

(F) Biomedical Science

Curriculum plan must contain proper biomedical courses for medical students to lay a solid foundation for clinical specialty courses.

Explanatory Note

Biomedical Science generally contain human anatomy, histology and embryology, biochemistry, physiology, molecular biology, cell biology, pathogen biology, medical genetics, immunology, pharmacology, pathology, pathophysiology, etc. and also include integrated courses that reflect the content of these biomedical courses.

(G) Behavioral science, humanities and social science, and medical ethics courses

1. Behavioral science, social science and medical ethics courses are necessary to be included into curriculum plan for medical students to meet the development of medical science and health service needs.

2. Curriculum plan should contain courses of humanistic education.

Explanatory Note

Behavioral sciences, humanities and social sciences, and medical ethics courses usually include discipline content of psychology, social medicine, medical sociology, medical ethics, health economics, health law, health service management, etc.

Humanistic education courses usually include content of literature and art, medical history, etc.

(H) Public health courses

Public health courses must be included into curriculum in order to develop students' awareness of prevention strategies and public health, to control group health care knowledge and skills.

Explanatory Note

Public health courses usually refer to courses such as preventive medicine and (or) health science and content of other courses such as covering epidemiology, health statistics, health education, primary health care and the labor health and occupational health, health and toxicology, environmental health, nutrition and food hygiene science, children and adolescents hygiene, maternal and child health science and other relevant content.

(I) clinical course

1. Curriculum plan should contain clinical course and clinical practice, contact with clinical practice and basic skill training with use of simulated teaching from early study stage of study is

advocated

2. Curriculum plan must contain the outline of clinical practice before graduation, including at least 48 weeks of practice to ensure that students receive sufficient clinical experience and ability.

Explanatory Note

Clinical courses usually contain diagnostics, internal medicine (including infectious diseases, neurology, psychiatry), surgery, obstetrics and gynecology, pediatrics, ophthalmology, otolaryngology, stomatology, dermatology, anesthesiology , emergency medicine, rehabilitation medicine, geriatrics, Chinese traditional medicine, general medicine, evidence-based medicine courses and clinical practice, but also contain courses in the form of curriculum integration of the above courses .

Clinical competence contains case history taking, physical examination, auxiliary examinations, diagnosis, differential diagnosis, treatment plan development and implementation, clinical operations, clinical thinking, emergency treatment, communication skills, etc.

(J) Curriculum plan management

1. Medical schools must have a special institution of curriculum program management responsible for curriculum program development and operations, information feedback, adjustment of the program as well as the implementation curriculum program.

2. Curriculum program management must respect the ideas of the teachers, students and other stakeholder representatives.

(K) Links to continuing medical education after graduation

Education program must take into account the effective links to medical education after graduation to enable students to receive continuing medical education.

6, student academic performance assessment

(A) Academic Assessment System

Medical institutions must establish the assessment system and assessment standards of student academic performance, apply and refer to advanced test methods such as multi-station objective structured clinical examination, computer simulation case examinations. Types of student assessment and performance evaluation method are clearly regulated and instructed in order to fully evaluate the students in knowledge, skills, behavior, attitudes, and analysis and problem-solving skills, ability to acquire knowledge and interpersonal communication skills.

Explanatory Note

Assessment system includes the formative assessment and terminative assessment. Formative assessment includes quizzes, observation record, inspection of practice manuals; terminative assessment includes the final examination and comprehensive examination before graduation.

(B) Relationship between examination and study

Evaluation activities must focus on training objectives, and requirements and the purpose of curriculum, help to promote student learning. Comprehensive examination is advocated in order to encourage students to digest learning; student self-assessment is also advocated in order to promote the formation of students' active learning.

Explanatory Note

Frequency and type of examination should focus on the guiding role of the examinations in student learning, avoiding negative effects.

(C) Test result analysis and feedback

Upon completion of all examinations, examination analysis based on education surveying is necessary in an effort to improve both teaching and learning by conveying feedback of examination results in an appropriate manner to the relevant students, teachers and teaching management staff.

Explanatory Note

Test analysis includes the overall results, test reliability and validity, item difficulty and discrimination, as well as professional content analysis.

(D) Test management

School management must develop specific management rules and regulations concerning the examination, establish special organizations with responsible staff. Teachers in medical colleges should be trained in the exam theory in order to improve the examination quality.

7. Students

(A) The admission policies

1. The job of student enrolment in medical schools must develop specific provisions with reference to admission policies of superintending education authorities.

2. Enrollment must be reasonable and based on social needs, educational resources, administrative regulations

3. Enrollment charter must be public to society, including the institution profiles, recruitment plans, specialties, fees, scholarships, and the complaint mechanism. It's advocated to explain

curriculum program to candidates through network.

Explanatory Note

Undergraduate enrollment in higher school is performed under the control of the national enrollment plan, and under the leadership of the local educational administration.

Educational resources should take into account the occupation of clinical education resources by medical education after graduation.

(B) Admission

1. Medical institutions must follow national admission policies.

2. In the premise of ensuring admitting quality students, attention should also be paid to the diversity of student groups, without discrimination and prejudice.

(C) Support and advice to students

1. Medical institutions must establish appropriate institutions to provide students with support services by the necessary specialized personnels.

2. Advice and guidance must be provided to students concerning course selection, result assessment ,learning, psychological counseling, employment, living, work-study and so on.

Explanatory Note

Student support services include health, employment guidance, reasonable accommodation to disabled students, financial aid system such as scholarships, study loan, stipend, difficult subsidy, and similar financial assistance for students.

(D) Student representative

1. Medical institutions must absorb and encourage student representatives into school management, teaching reform, curriculum development and assessment and other student matters.

2. Medical institutions should support students to establish student organizations, guide and encourage students to organize extracurricular activities, and provide them with necessary equipment and premises.

Explanatory Note

Student organizations include student self-management, self-education, self-service related organizations.

8. Teachers

(A) Appointment policy

Medical institutions must implement teacher qualification system and the appointment system, with an appropriate number of teachers, to ensure a reasonable structure to meet the needs of teaching, research, community services; must clearly define responsibilities of teachers; teachers appointed must have good professional ethics and academic level and teaching ability commensurate with their academic rank to shoulder the commitment of relevant courses and teaching tasks; must periodically assess the performance of teachers.

Explanatory Note

The number of teachers must accord with the school size and orientation, and meet the needs of teaching, research and teaching reform.

Teacher structure includes medical teaching staff and non-medical academic staff, full-time and part-time teachers and teachers qualification and degree ratio.

(B) Teacher policy and teacher training

Medical schools must safeguard the teacher's legitimate rights and effective implementation of their duties. Teacher policy must be effectively implemented, ensuring the balance between teaching, research and their duties, recognizing and supporting valuable activities to ensure personnel cultivation as a core task. Teachers participate in the development of curriculum program and education policy so that they can understand the significance of teaching content and curriculum program adjustment. Program of teacher group establishment should be developed to ensure that teachers can get professional improvement opportunities through cultivation, assessment and exchanges.

Explanatory Note

Service functions include clinical services, student guidance, administration and other social services in health care system.

The recognition of valuable professional can be achieved through incentives, promotion or remuneration.

The content of teacher exchanges should be within his own discipline or between the disciplines as well as inter-school and international exchanges, with particular emphasis on communication between basic medicine teachers and clinical medicine teachers in the medical school .

9. Education resources

(A) The education budget and resource allocation

1. Medical institutions must have sufficient financial support and reliable funding sources.

Education Investment should be increased year by year, ensuring completion of education programs.

2. Sound financial management system should be established according to the law, specifying the responsibilities and rights of the education budget and resource allocation so that strict management of education funding can be achieved and benefits of investment in education can be increased.

Explanatory Note

The school fees should be managed and used in accordance with relevant national regulations. The proportion of teaching fund in the school year final accounting should meet the requirements of national regulations.

Education budget depends on the usual budget practice of various medical institutions or regions. With view of the high cost of medical education, medical institutions' funding amount per student is higher than other subjects.

(B) Infrastructure

1. Medical schools must have adequate infrastructure for teaching activities of teachers and students to use. The infrastructure is regularly updated and added to ensure that education programs can be completed.

2. Use advanced laboratory equipped with scientific instruments to ensure medical experiment teaching, skills training to complete.

Explanatory Note

Infrastructure should include the various types of classrooms and multimedia equipments, group discussion (study) rooms, basic laboratories and laboratory equipments, clinical demonstration rooms, and clinical skills simulation laboratories and equipments, teaching evaluation facilities, library, IT facilities and Internet access , cultural and sports venues and student apartments, etc.

(C) Clinical teaching base

Medical schools must

1. have at least one affiliated hospital of third classification first degree , the ratio of the total number of medical students to beds in hospital should reach more than 1 ：

2. establish a stable clinical teaching base management system and coordination mechanism to ensure adequate clinical teaching bases to meet the needs of clinical teaching.

3. strengthen the establishment of clinical teaching base infrastructure.

4. Strengthen a good and stable relationship with urban community health service centers, rural hospitals, disease prevention and control agencies to ensure stable bases for general medicine and public health education.

5. Equip clinical teaching base with special agencies and full-time staff responsible for leadership and management of clinical teaching, and establish and improve management system and teaching file of clinical teaching to enhance teaching quality monitoring, particularly to the management of clinical proficiency examinations. Beds of affiliated hospitals and teaching hospitals must meet the needs of clinical teaching.

Explanatory Note

Clinical teaching bases are basically divided into affiliated hospitals, teaching hospitals, teaching hospitals and internship hospitals according to the relationship with the school of medicine and the tasks they bear. Teaching hospital must meet the following requirements of(to) : being ratified by the provincial government to have qualifications of clinical teaching base for the medical colleges; schools and hospitals have a written agreement; have the ability and accountability to shoulder the entire clinical teaching task including some clinical and theoretical courses, observation and practice; to have rules and regulations for clinical teaching, teaching organization and teaching team; to have at least a term of graduates to prove capable of the hospital clinical teaching.

(D) Books and Information services

Medical schools must have and maintain good libraries and a good network of information facilities with appropriate policies and regulations to ensure that modern information and communication technology can be effectively used in teaching so that teachers and students can use information and communication technologies for learning, access to information, treatment and management of patients and health care.

(E) Education experts

Medical schools must

1. have education experts to take part in the decision-making of medical education, the development of education program and the reform of teaching methods.

2. establish contact with experts in education in an effective way, and confirm the important role that education experts are playing in medical education.

Explanatory Note

Education experts in medical colleges are experts of medicine, who study medical education, process and practice, including teachers with experience of medical education research faculty,

management experts, educators, psychologists and sociologists, etc.. Education experts are provided by an educational unit of the school or may also be hired from other universities or institutions.

(F) Educational exchanges

1. Medical institutions are to establish cooperation with other institutions of higher education and credit mechanisms for mutual recognition.

2. Medical institutions must provide adequate resources for teachers and students to exchange between regions and countries.

Explanatory Note

Mutual recognition of credits mechanism can be realized by recognition of credits between medical colleges.

10, Educational Evaluation

(A) Educational evaluation mechanism

1. Medical college education evaluation system must be established so that the leadership, administrators, teachers and students can actively participate in educational evaluation to form effective educational quality monitoring mechanism in ensuring the implementation of curriculum program and the normal operation of all teaching aspects, as well as discovery and solution of problems.

2. Education evaluation must cover all aspects of teaching, with its emphasis on the inspection of education programs, the education process and education results.

(B) Feedback from teachers and students

Medical schools must determine the appropriate agencies to systematically collect and analyze feedback from teachers and students in order to obtain valid teaching management information to provide decision-making basis for teaching.

(C) The participation of stakeholders

1. Education evaluation in medical colleges must involve the participation of the leadership, administrative staff, teaching staff and students.

2. Teaching evaluation must involve the participation of government authorities, employers, educational institutions after graduation and take their suggestions for improving education plan into consideration and inform them of the results of educational evaluations.

(D) The quality of graduates

Medical institutions must

1. Establish the investigation system of the quality of medical college graduates, collecting feedback from medical graduates working environment to improve the quality of education.

2. Must take the graduates' information of the performance, operational ability, professional quality and the employment situation and other relevant information as the main basis of the adjustment of education programs and improvement of teaching.

11. Scientific Research

(A) The relationship between teaching and research

1. Medical institutions must be clear that scientific research is one of the main functions of the school and it's necessary to establish appropriate management systems to develop active research policy, development planning and management.

2. Medical institutions must provide teachers with the basic conditions for scientific research, create a strong academic environment, promote innovation and critical thinking, and promote combination between teaching and research.

3. Teachers are encouraged to will promote research activities, and achievements into the teaching process to cultivate students' scientific thinking, scientific method and scientific spirit through scientific research.

4. Medical institutions must strengthen the research of medical education and management to provide theoretical basis for teaching reform and development.

(B) Teachers' research

Medical institution teachers should have the appropriate scientific research capabilities with commitment to appropriate research projects to obtain the appropriate scientific research achievements.

Explanatory Note

Research projects, scientific research achievements includes national, provincial (city)-level and the school-level research projects and achievements, teaching and research projects and achievements.

(C) Students' Research

1. Medical schools must take students' scientific research activities as an important way to train students' scientific literacy and innovative thinking, take positive and effective measures to

provide the students involved in scientific research with opportunities and conditions.

2. Curriculum plan must contain appropriate comprehensive designing experiments and academic lectures for students, who are enabled to organize research groups to take part in research capacity-building activities.

12. Management and Administration

（一） (A) Management

Higher schools with medical education must

1. establish medical education authority to undertake the functions of the implementation of education plans.

2. establish a scientific teaching management system with procedures of operation.

3. Establish the academic committee, education committee and other organizations to consider important matters such as teaching plans, teaching reform and research.

(B) Medical college leadership

Medical institutions must make clear the rights that the leaders in charge of teaching have in the organization, development and implementation of education programs, a reasonable allocation of resources for education.

(C) Administrative staff

Medical institutions must establish a reasonable structure of the administration team, who must bear the corresponding responsibilities, perform appropriate management system to ensure that teaching plans and other teaching activities are successfully implemented.

(D) The relationship with the health departments

Medical schools must take the initiative communication and ties with the social and health-related government departments to obtain their support in personnel training.

Explanatory Note

Health-related government departments include health care service system, medical research institutions, health promotion organizations, disease control agencies and health administration and coordination organizations.

13. Reform and Development

(A) Development planning

Medical institutions must regularly review and examine their own development plans.

(B) Continuous reform

Medical institutions must, based on national medical and health service system reform and the development of medical science, reform teaching, research and medical service reform to meet the evolving needs of society.

Explanatory Note

Medical institutions must, with the social development, scientific progress and cultural prosperity, constantly improve the school management system in reviewing and revising the established school policy, system and planning based on summary and analysis, in the summary and analysis.

Medical institutions must regularly adjust the training objectives, educational programs, curriculum structure, teaching content and methods, and improve assessment methods to meet the changing needs of society.

Medical institutions must , based on the number and structure of teachers, capital investment, allocation of teaching resources such as teaching facilities and health manpower needs, adjust periodically enrollment to maintain the appropriate admission number of medical specialty students to promote sustainable development of medical education

Annex 4:

Global Minimum Essential Requirements in Medical Education

CORE COMMITTEE, INSTITUTE FOR INTERNATIONAL MEDICAL EDUCATION*
Institute for International Medical Education, White Plains, New York, USA

SUMMARY *The process of globalization increasingly evident in medical education makes the task of defining the global essential competencies required by the 'global physicians' an urgent matter. This issue was taken up by the newly established Institute for International Medical Education (IIME). The IIME Core Committee developed the concept of 'global minimum essential requirements' (GMER) and defined a set of global minimum learning outcomes, which students of the medical schools must demonstrate at graduation. The 'Essentials' are grouped under seven broad educational domains with set of 60 learning objectives. Besides these 'global competencies', medical schools should add national and local requirements. The focus on student competences as outcomes of medical education should have deep implications for curricular content as well as the educational processes of medical schools.*

Introduction

The Board of Trustees of the China Medical Board of New York, Inc. approved a grant to establish the Institute for International Medical Education (IIME) on 9 June 1999. The Institute's task is to provide the leadership in defining the 'global minimum essential requirements' ('essentials') of undergraduate medical programs. These 'essentials' were to consist of the medical knowledge, clinical skills, professional attitudes, behavior and ethics that all physicians must have regardless of where they are trained.

The task of defining the 'global minimum essential requirements' was given to the Core Committee, which comprised international medical education experts from different parts of the world. The IIME Steering Committee, consisting of eight senior education and health policy experts with broad national and international experience, advises the leadership of the Institute and helps guide the Core Committee. Further advice is provided by the IIME Advisory Committee composed of Presidents or senior representatives of 14 major international organizations active in medical education. The Committee provides a forum for information exchange, advice and helps to ensure that other efforts are complementary and not contradictory to the IIME process.

It was understood from the beginning that defining such competencies or outcomes of the medical education process would have significant implications for medical school curricula. Medical school graduates should demonstrate professional competencies which will ensure that high quality care could be provided with empathy and respect for patients' well-being. Graduates should be able to integrate management of illness and injury with health promotion and disease prevention and be able to work in multi-professional teams. In addition, they should

be able to teach, advice and counsel patients, families and the public about health, illness, risk factors and healthy lifestyles. They should be able to adapt to changing a pattern of diseases, conditions and requirements of medical practice, medical information technology, scientific advances, and changing organization of health care delivery while upholding the highest standards of professional values and ethics.

The IIME Project Consists of Three Phases:

The first phase (Phase I) **'Defining Essentials'**, began with the establishment of the Institute for International Medical Education. Its task was to develop a set of 'global minimum essential requirements' ('GMER') drawn in part from standards that currently exist. These standards were to include the sciences basic to medicine, clinical experiences, knowledge, skills, professional values, behavior and ethical values. These 'essentials' were to represent only the core of a medical curriculum since each country, region and medical school also has unique requirements that their individual curricula must address. Hence, each school's educational program will be different but all will possess the same core.

In the second phase(Phase II), the **'Experimental Implementation'** of the 'GMER' will be used to evaluate the graduates of the leading medical schools in China. The schools will use the evaluation methods that are consistent with their experience, and have to cover all seven domains and 60 learning outcomes, to identify the strengths and deficiencies eventually found in the schools participating in this experiment. Efforts then will be made to improve all areas of weakness before a second evaluation is made. If a school meets all of the 'Essentials', it will be certified accordingly.

In the third (Phase III), **or 'Dissemination Phase'**,the lessons learned and the process used will be modified and offered to the global medical education community for its use. Hopefully the 'essentials' will serve as a tool for improving the quality of medical education and a foundation for an international assessment of medical education programs.

Background

Globalization forces are becoming increasingly evident in medical education. This is quite natural as medicine is a global profession and medical knowledge and research have traditionally crossed national boundaries. Physicians have also studied medicine and provided services in various countries of the world. Furthermore, human creativity demands that globalization includes activities in the intellectual and cultural domains. Various multilateral agreements and conventions are opening the doors to global mobility and encouraging the development of common educational standards, mutual recognition of qualifications, and certification processes by which professionals are allowed to practice their vocation.

Presently, there are about six millions physicians worldwide, serving over six billion inhabitants. They receive their education and training in over 1800 medical schools throughout the world. Although, at first glance, global medical curricula appear similar, their content varies greatly. While there have been a number of near-successful efforts to evaluate the process leading to the MD or its equivalent degree, few of these have focused on the outcomes of their educational effort. However, there has never been an attempt to define the core or minimal competencies that

all physicians should possess at the completion of their medical school training and before they enter their specialty or postgraduate training. Finally, in some countries, there has been a proliferation of new medical schools without proper assurance of educational quality.

At the same time, health services and medical practice are undergoing profound changes forced by economic difficulties in financing healthcare systems. The increasing cost of health interventions and related cost-containment policies could threaten physician's humanism and values. As a result, there is a need to preserve the goals of social benefit and equity in the face of these increasing economic pressure and constraints.

Rapid advances are occurring in biomedical sciences, information technology and biotechnology. These advance**s** present new ethical, social and legal challenges for the profession of medicine and call for preservation of a balance between science and the art of medicine. An important task of medical education is to prepare future doctors to be able to adapt to the conditions of medical practice in a rapidly changing health care environment. The challenge before the medical education community is to use globalization as an instrument of opportunity to improve the quality of medical education and medical practice.

In defining the essential competencies that all physicians must have, an increasing emphasis needs to be placed on professionalism, social sciences, health economics and the management of information and the health care system. This must be done in the context of social and cultural characteristics of the different regions of the world. The exact methods and format for teaching may vary from school to school but the competencies required must be the same. Thus, the concept of 'essentials' does not imply a global uniformity of medical curricula and educational processes. Furthermore, the global essential requirements are not a threat to the fundamental principle that medical education has to identify and address the specific needs in social and cultural context where the physician is educated and will practice. Finally in pursuing the 'global minimum essential requirements', medical schools will adopt their own particular curriculum design, but in doing so, they must ensure that their graduates possess the core competencies envisioned in the minimum essentials. They must in short 'think globally and act locally.'

The Core Committee grouped the 'essentials' under following seven, broad educational outcome-competence domains shown in Figure 1:

Professional Values, Attitudes, Behavior and Ethics

Professionalism and ethical behavior are essential to the practice of medicine. Professionalism includes not only medical knowledge and skills but also the commitment to a set of shared values, the autonomy to set and enforce these values, and responsibilities to uphold them. The medical graduate must demonstrate: recognition of the essential elements of the medical profession, including moral and ethical principles and legal responsibilities underlying the profession; professional values which include excellence, altruism, responsibility, compassion, empathy, accountability, honesty and integrity, and a commitment to scientific methods, an understanding that each physician has an obligation to promote, protect, and enhance these elements for the benefit of patients, the profession and society at large; recognition that good medical practice depends on mutual understanding and relationship between the doctor, the patient and the family with respect for patient's welfare, cultural diversity, beliefs and autonomy;

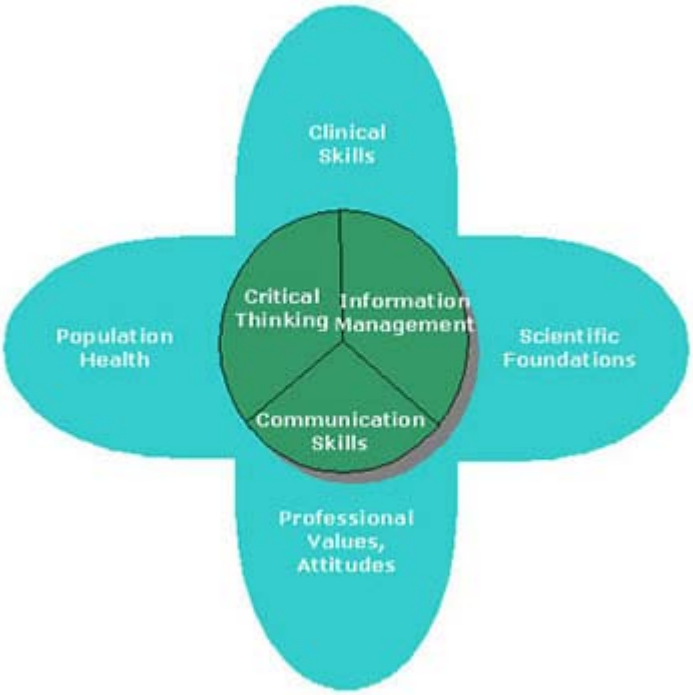

Figure 1. Domains of global essential requirements

· an ability to apply the principles of moral reasoning and decision-making to conflicts within and between ethical, legal and professional issues including those raised by economic constrains, commercialization of health care, and scientific advances; self-regulation and a recognition of the need for continuous self-improvement with an awareness of personal limitations including limitations of one's medical knowledge; respect for colleagues and other health care professionals and the ability to foster a positive collaborative relationship with them; recognition of the moral obligation to provide end-of-life care, including palliation of symptoms; recognition of ethical and medical issues in patient documentation, plagiarism, confidentiality and ownership of intellectual property; ability to effectively plan and efficiently manage one's own time and activities to cope with uncertainty, and the ability to adapt to change; personal responsibility for the care of individual patients.

Scientific Foundation of Medicine

The graduate must possess the knowledge required for the solidscientific foundation of medicine and be able to apply this knowledge to solve medical problems. The graduate must understand

the principles underlying medical decisions and actions, and be able to adapt to change with time and the context of his/her practice. In order to achieve these outcomes, the graduate must demonstrate a knowledge and understanding of: the normal structure and function of the body as a complex of adaptive biological system; abnormalities in body structure and function which occur in diseases;the normal and abnormal human behavior; important determinants and risk factors of health and illnesses and of interaction between man and his physical and social environment; the molecular, cellular, biochemical and physiological mechanisms that maintain the body's homeostasis; the human life cycle and effects of growth, development and aging upon the individual, family and community; the etiology and natural history of acute illnesses and chronic diseases; epidemiology, health economics and health management; the principles of drug action and it use, and efficacy of varies therapies; relevant biochemical, pharmacological, surgical, psychological, social and other interventions in acute and chronic illness, in rehabilitation, and end-of-life care.

Communication skills

The physician should create an environment in which mutual learning occurs with and among patients, their relatives, members of the healthcare team and colleagues, and the public through effective communication. To increase the likelihood of more appropriate medical decision making and patient satisfaction, the graduates must be able to: listen attentively to elicit and synthesize relevant information about all problems and understanding of their content; apply communication skills to facilitate understanding with patients and their families and to enable them to undertake decisions as equal partners; communicate effectively with colleagues, faculty, the community, other sectors and the media; interact with other professionals involved in patient care through effective teamwork; demonstrate basic skills and positive attitudes towards teaching others; demonstrate sensitivity to cultural and personal factors that improve interactions with patients and the community; communicate effectively both orally and in writing; create and maintain good medical records; synthesize and present information appropriate to the needs of the audience, and discuss achievable and acceptable plans of action that address issues of priority to the individual and community.

Clinical Skills The graduates must diagnose and manage the care of patients in an effective and efficient way. In order to do so, he/she must be able to: take an appropriate history including social issues such as occupational health; perform a physical and mental status examination; apply basic diagnostic and technical procedures, to analyze and interpret findings, and to define the nature of a problem; perform appropriate diagnostic and therapeutic strategies with the focus on life-saving procedures and applying principles of best evidence medicine; exercise clinical judgment to establish diagnoses and therapies; recognize immediate life-threatening conditions; manage common medical emergencies; manage patients in an effective, efficient and ethical manner including health promotion and disease prevention; evaluate health problems and advise patients taking into account physical, psychological, social and cultural factors;

understand the appropriate utilization of human resources, diagnostic interventions, therapeutic modalities and health care facilities.

Population Health and Health Systems

Medical graduates should understand their role in protecting and promoting the health of a whole population and be able to take appropriate action. They should understand the principles of health systems organization and their economic and legislative foundations. They should also have a basic understanding of the efficient and effective management of the health care system. The graduates should be able to demonstrate: knowledge of important life-style, genetic, demographic, environmental, social, economic, psychological, and cultural determinants of health and illness of a population as a whole; knowledge of their role and ability to take appropriate action in disease, injury and accident prevention and protecting, maintaining and promoting the health of individuals, families and community; knowledge of international health status, of global trends in morbidity and mortality of chronic diseases of social significance, the impact of migration, trade, and environmental factors on health and the role of international health organizations; acceptance of the roles and responsibilities of other health and health related personnel in providing health care to individuals, populations and communities; an understanding of the need for collective responsibility for health promoting interventions which requires partnerships with the population served, and a multidisciplinary approach including the health care professions as well as intersectoral collaboration; an understanding of the basics of health systems including policies, organization, financing, cost-containment measures of rising health care costs, and principles of effective management of health care delivery; an understanding of the mechanisms that determine equity in access to health care, effectiveness, and quality of care; use of national, regional and local surveillance data as well as demography and epidemiology in health decisions; a willingness to accept leadership when needed and as appropriate in health issues.

Management of Information

The practice of medicine and management of a health system depends on the effective flow of knowledge and information. Advances in computing and communication technology have resulted in powerful tools for education and for information analysis and management. Therefore, graduates have to understand the capabilities and limitations of information technology and the management of knowledge, and be able to use it for medical problem solving and decision-making. The graduate should be able to: search, collect, organize and interpret health and biomedical information from different databases and sources; retrieve patient-specific information from a clinical data system; use information and communication technology to assist in diagnostic, therapeutic and preventive measures, and for surveillance and monitoring health status; understand the application and limitations of information technology; maintain records of his/her practice for analysis and improvement.

Critical thinking and research The ability to critically evaluate existing knowledge, technology and information is necessary for solving problems, since physicians must continually acquire new scientific information and new skills if they are to remain competent. Good medical practice requires the ability to think scientifically and use scientific methods. The medical graduate should therefore be able to: demonstrate a critical approach, constructive skepticism, creativity and a research-oriented attitude in professional activities; understand the power and limitations of the scientific thinking based on information obtained from different sources in establishing the causation, treatment and prevention of disease; use personal judgments for analytical and critical problem solving and seek out information rather than to wait for it to be given; identify, formulate and solve patients' problems using scientific thinking and based on obtained and correlated information from different sources; understand the roles of complexity, uncertainty and probability in decisions in medical practice; formulate hypotheses, collect and critically evaluate data, for the solution of problems.

To retain and advance competencies acquired in medical school, graduates must be aware of their own limitations, the need for regularly repeated self-assessment, acceptance of peer evaluation and continuous undertaking of self-directed study. These personal development activities permit the continued acquisition and use of new knowledge and technologies throughout their professional careers.

The 'Essentials' alone are not likely to change graduates' competencies unless they are linked to evaluation of students' competencies. Therefore, assessment tools for the evaluation of educational outcomes are essential for the implementation of this document. This will ensure that graduates, wherever they are trained in the world, have similar core competencies at the start of further graduate medical education (specialty training) or when they begin to practice medicine under the appropriate, nationally determined supervision. Such tools are under development by the specially established IIME Task Force for Assessment.

The presented 'Global Minimum Essential Requirements' are considered an instrument for improvement of the quality of the medical education and indirectly of the medical practice. It is hoped that the IIME project will have significant influence on medical school curricula and educational processes, paving the road to the competence-oriented medical education.