

STUDYGUIDE

MS Neurosurgery

NEUROSURGERY DEPARTMENT

ALLAMA IQBAL TEACHING HOSPITAL

DERA GHAZI KHAN MEDICAL COLLEGE

DERA GHAZI KHAN

Prepared by:

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ABG	Arterial Blood Gas	PT/INR	Prothrombin Time / International Normalized Ratio
ACEi	Angiotensin-Converting Enzyme Inhibitor	RA	Rheumatoid Arthritis
ARDS	Acute Respiratory Distress Syndrome	RBC	Red Blood Cell
AKI	Acute Kidney Injury	SIRS	Systemic Inflammatory Response Syndrome
AOM	Acute Otitis Media	TIA	Transient Ischemic Attack
BPH	Benign Prostatic Hyperplasia	TLC	Total Leukocyte Count
BP	Blood Pressure	TSH	Thyroid-Stimulating Hormone
BMI	Body Mass Index	U/A	Urinalysis
CBC	Complete Blood Count	URTI	Upper Respiratory Tract Infection
COPD	Chronic Obstructive Pulmonary Disease	WBC	White Blood Cell
CRP	C-Reactive Protein	ASA	Acetylsalicylic Acid (Aspirin)
CKD	Chronic Kidney Disease	BB	Beta-Blocker
CVA	Cerebrovascular Accident (Stroke)	CCB	Calcium Channel Blocker
DIC	Disseminated Intravascular Coagulation	HCTZ	Hydrochlorothiazide
DKA	Diabetic Ketoacidosis	IVF	Intravenous Fluids
DVT	Deep Vein Thrombosis	LMWH	Low-Molecular-Weight Heparin
ECG	Electrocardiogram	NSAID	Non-Steroidal Anti-Inflammatory Drug
EEG	Electroencephalogram	OCP	Oral Contraceptive Pill
ESR	Erythrocyte Sedimentation Rate	PPI	Proton Pump Inhibitor
GERD	Gastroesophageal Reflux Disease	SSRIs	Selective Serotonin Reuptake Inhibitors



GFR	Glomerular Filtration Rate	SGLT2i	Sodium-Glucose Co-Transporter 2 Inhibitor
HIV	Human Immunodeficiency Virus	TCA	Tricyclic Antidepressant
HR	Heart Rate	AFP	– Alpha-Fetoprotein
HTN	Hypertension	ALT	Alanine Aminotransferase
ICU	Intensive Care Unit	AST	Aspartate Aminotransferase
IDDM	Insulin-Dependent Diabetes Mellitus	BUN	Blood Urea Nitrogen
LDH	Lactate Dehydrogenase	CXR	Chest X-Ray
LFT	Liver Function Test	CT	Computed Tomography
MI	Myocardial Infarction	ESR	Erythrocyte Sedimentation Rate
MODS	Multiple Organ Dysfunction Syndrome	HbA1c	Hemoglobin A1c
MRSA	Methicillin-Resistant Staphylococcus aureus	MRI	Magnetic Resonance Imaging
NIDDM	Non-Insulin-Dependent Diabetes Mellitus	Na/K/Cl	Sodium / Potassium / Chloride
PE	Pulmonary Embolism		
PFT	Pulmonary Function Test		



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Sr. No	Name	Designation	Role
1	Dr. Adnan Qasim	SR	Chairman
2	Dr. Safdar Manzoor	PGR	Member
3	Dr. Tayyaba Shakeel	PGR	Member

Dr. Atta UR Rehman Khan
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Sr. No	Name	Designation	Role
1	Dr. Atta UR Rehman Khan	AP	Chairman
2	Dr. Adnan Qasim	SR	Member
3	Dr. Safdar Manzoor	PGR	Member
4	Dr. Tayyaba Shakeel	PGR	Member

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Time Table

Days	8-9 am	9-10 am	10-11 am	11-12am	12am-01 pm	01-02 pm
Monday	Ward Round	Ward Round	Case Discussion	Supervisor Lecture	CPC	Journal Club
Tuesday	Ward Round	Ward Round	Case Discussion	Self-Learning	Research Work	Research Work
Wednesday	OT List	OT List	OT List	OT List	OT List	OT List
Thursday	Ward Round	Ward Round	Case Discussion	Skill Lab	Lecture/ Topic Presentation	Journal Club
Friday	Ward Round	Ward Round	Case Discussion	Lecture / Class / Test	-	-
Saturday	OT List	OT List	OT List	OT List	OT List	OT List

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PGRs - Duty Distribution

Sr No.	Name of PGR	Duty	Description
01	Dr. Safdar Manzoor	Maintenance and progression in all ward's administration work.	☐ Making rigorous efforts in smooth working of ward's daily obligations. ☐ Coordinate / assisting other colleague in their work. ☐ Making and implementation of new plans (administrative, academic, Co-curricular) in ward progression.
02	Dr. Tayyaba Shakeel	Maintenance and progression of ward academic activities.	☐ Assisting other in making diagnosis and treatment plans of all patients. ☐ Making schedule and implementation of Case presentation, Formative tests, Summative tests, Short cases, Long cases, TOACS, History taking, examination. ☐ Maintaining ward skill lab and library. ☐ Assisting others in synopsis and thesis writing
03	Dr. Fahad Malik	Health Card Patients Management	☐ Making sure of all pre op patients to be in health card list. ☐ If any patients rejected despite complete documentation, find out the reason and complete the short coming. ☐ Coordinate with director health card.
04	Dr. Safdar Manzoor	PMDC visit preparation	☐ Complete all documentation required for PMDC visit. ☐ Ensure implementation of these documented work in ward. ☐ Coordinate and assisting other clinical ward members in completion of their work.

05	Dr. Fahad Malik	HO Coordinator	☐ Distribution of Beds to HS's ☐ Ensuring daily ward, ER, Suction room duties. ☐ Timely check in and out ☐ Coordinate with admin registrar regarding any issues facing HO's.
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Sr No.	Name of PGR	Duty	Description
06	Dr. Tayyaba Shakeel	Inpatients patients file / Discharges	☐ Complete admitted patient's file (history, examination, daily morning and evening notes of HO's PGR's with signs and stamps, supervisor orders with stamps, medication charts with generic names and proper dose/weight with stamp, surgical procedure with stamp, transfusion notes with consent, vitals charting) ☐ Emergency register. ☐ Patients deaths record ☐ Diphtheria patients record ☐ Complete discharge paper with document evidence. ☐ Endoscopic patients record ☐ Patients complain box record ☐ Endoscopic patients record
07	Dr. Tayyaba Shakeel	Infections Control	☐ Maintenance of aseptic condition
08	Dr. Iqra Shafeeq	Maintenance of inpatients medications availability	☐ Should know about the available medications in hospital and in ward ☐ Ensure that prescribed medication should be available. ☐ Proper in sign of staff of prescribed medication. ☐ Daily checking of total stock and total patient requirement of medications ☐ Coordinate with admin registrar regarding required medication according to patient's sensitivity. ☐ Culture and sensitivity of all susceptible patients before antibiotic use and maintaining their record for audits.

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OBJECTIVES

At the end of the training for FCPS II Neurosurgery a trainee shall be able to:

1. Initially assess the patients seeking medical/Surgical advice for their problems by:
 - Obtaining pertinent history.
 - Performing appropriate physical examinations correctly.
 - Formulating a working diagnosis.
 - Deciding whether the patient requires:
 - Ambulatory care or hospitalization.
 - Referral to other health professionals.
 - Performing Emergency and Elective Surgery Under Supervision
2. Manage patients requiring treatment:
 - Justify the ordering and interpretation of test and investigations.
 - Appropriately diagnose, and rule in and rule outcontending conditions.
 - Manage the problem in a cost-effective manner
 - Apply the requisite knowledge and skills to thinkcritically and solve
 - Problems maintain follow-up of patients at required intervals.
 - Maintain records of patients.
3. Present well in the clinics, rounds and conferences and communicates effectively with, for example
 - Patients and their attendants with empathy and compassion, in interviewing, counseling, breaking badnews, behavioural modification and shareddecision-making, recognizing the impact of thecondition on the patients and theirfamilies
 - Seniors, peers, juniors, learners and other healthprofessionals;
 - Demonstrate risk analysis and emphasis on prevention
4. Ensure patient safety.
5. Recognize the role of teamwork and function as an effectivemember/leader of the team.
6. Demonstrate honesty, integrity and timeliness (punctualityand task completion).
7. Maintain confidentiality, patient autonomy, takeappropriate consent and do no harm.
8. Consult with colleagues and refers as necessary.
9. Demonstrate effective teaching skills.

10. Undertake research, publish findings and use research in improving clinical practice.
11. Participate in clinical governance and clinical audit
12. Maintain highest standards of practice
13. Demonstrate conflict resolution, management skills and leadership qualities.
14. Advise the community on matters related to promoting health and preventing disease.
15. Train paraprofessionals and other junior members of the team.

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COGNITION

The learning outcomes will all be at the application level since that is the gold standard. Therefore, the candidate will be able to:

1. Relate how body function gets altered in disease states.
2. Request and justify investigations and plan management
3. for medical/And Neurosurgical disorders.
4. Assess new medical knowledge and apply it.
5. Practice quality assurance procedures.

SKILLS - Written Communication Skills

The trainee will be able to:

1. Write medical records, which are clear, concise and
2. accurate.
3. Write clear management plans, discharge summaries and letters for outpatients.
4. Demonstrate competence in academic writing.

Verbal Communication Skills

The trainee will be able to:

1. Establish professional relationships with patients and their relatives or caregivers in order to obtain history, conduct physical examination and provide appropriate management.
2. Demonstrate usage of appropriate language in seminars, bedside sessions, outpatients and other work situations.
3. Demonstrate the ability to communicate clearly, considerately and sensitively with patients, relatives, other health professionals and the public.
4. Demonstrate competence in presentation skills.

Examination Skills

The trainee will be able to:

1. Perform an accurate physical and mental state examination in complex medical problems often involving multiple systems.
2. Interpret physical signs after physical examination so as to formulate further management plans.

Patient Management Skills

The trainee will be able to:

1. Interpret and integrate the history and examination findings and arrive at an appropriate differential diagnosis and final diagnosis.
2. Demonstrate competence in problem identification, analysis and management of the problem at hand by the use of appropriate resources, interpretation of investigations.
3. Prioritize different problems within a time frame.

Skills in Research

The trainee will be able to:

1. Use evidence-based medicine and evidence-based guidelines.
2. Conduct research individually by using appropriate research methodology and statistical methods.
3. Correctly guide others in conducting research by advising about study designs, research methodology and statistical methods that are applicable.
4. Interpret and use results of various research articles.

ATTITUDES - Towards Patients

The trainee will be able to:

1. Establish a positive relationship with all patients in order to ease illness and suffering.
2. Facilitate the transfer of information important to the management and prevention of disease.
3. Demonstrate awareness of bio-psycho-social factors in the assessment and management of a patient.
4. Demonstrate sensitivity in performing any examination.
5. Consistently show consideration of the interests of the patient & the community as paramount, and these interests should never be subservient to personal or professional interest.

Towards Self Development

The trainee will be able to:

1. Demonstrate, consistently, respect for every human being irrespective of ethnic background, culture, socioeconomic status or religion.
2. Deal with patients in a non-discriminatory and prejudice-free manner.
3. Deal with patients honestly and with compassion.
4. Demonstrate flexibility and willingness to adjust appropriately to changing circumstances.

5. Foster the habit and principle of self-education and reflection in order to constantly update and refresh knowledge and skills and as a commitment to continuing education.
6. Recognize stress in one self and others.
7. Deal with stress and support medical colleagues and allied health workers.
8. Handle complaints including self-criticism or criticism by colleagues or patients.
9. Understand the importance of obtaining and valuing a second opinion.

Towards Society

The trainee will be able to:

1. Understand the social and governmental aspects of healthcare provision.
2. Offer professional services keeping in consideration, the cost effectiveness of individual forms of care.
3. Utilize hospital and community-based resources available for patients and care givers in rural areas.
4. Understand the use of 'telemedicine' in practicing health.

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Assessment Policy for Postgraduate Students

1. Individual programs will follow the guidelines provided by the relevant regulatory or accreditation body (CPSP for FCPS and UHS for MD/MS).
2. The institute's Educational and Assessment Committee will define the specific summative and formative assessment tools.
3. The individual departments will develop learning objectives outlining what the students will have learned upon completion of a course, module, or rotation. These objectives will include a plan for organized learning opportunities that will assist in achieving the stated learning objectives.
4. An Objective Assessment Map will be developed and completed for each Course, Module, or Rotation which will provide details of how the achievement of the learning objectives by the students will be assessed.
5. Appropriate assessment methods will be selected to ensure that the assessment covers the modalities of knowledge, skills, and attitudes. This will involve the use of a wide range of assessment methods and multiple assessors.
6. Assessment Blueprints will be developed based on the Table of Specifications (TOS) for major/summative assessment procedures or wherever appropriate.
7. Assessment planning documents (objective maps, plans, and blueprints) will be reviewed and subsequently approved by the Assessment Committee to ensure the compatibility of assessment practices with educational outcomes and instructional methods.
8. There will be one formative exam with constructive feedback monthly and two summative exams on the assessment pattern given by the university/CPSP in a year (after every 6months).
9. Students' results should preferably be given in grade point average except for degrees provided by CPSP.
 - The formula for calculating GPA = credit hours x grade points/ total number of credit hours of the semester/year
10. There will be implementation of pre-, per-and post-exam quality assurance procedures in assessment.

11. If the students miss 20% of contact hours, he/she cannot claim the complete credit hours for that module/semester/course and must do extra work in the form of skill work/ assignments, if allowed by the program provider otherwise.
12. If the attendance of the module/semester/course/annual system is less than 75 %, the student will not be allowed to take the examination.
13. If the student secures less than 60 % marks cumulatively, he/she will not qualify for the degree award.
14. Calculation of Grade (suggestive)

Break down of 100% for the grade can be:

40-50% assignments

30-40 % examination

10-20 % internal assessment (Attendance 10%, Attitude 5%,

Participation during sessions 5%)

15. For graduation, the minimum qualifying CGPA for Master's Students is 2.0. Whenever an undergraduate student's GPA decreases from 2.0, she/he will be on first probation for the next semester.
16. If the student does not come out by increasing his/her C.GPA to 2.0, then again, she/he will go on Last Probation".
17. If the student who was earlier on 1st probation does not come out in the last probation by achieving the minimum desired C.GPA, he will not qualify for the degree. Freezing of the Semester will only be allowed after successful completion of 1st Semester.
18. Log books will be maintained by the students as per the established rules and regulations of CPSP and UHS as applicable.
19. The departments will encourage the students to make their assessment portfolios.
20. In case of any grievance or complaint by the students regarding the assessment process and outcomes of the same the students will be eligible to appeal to the PG Trainee Oversight Committee.

External examiners will be called for assessment of the postgraduate students.

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Multiple assessment procedures and methods will be used and their application will be either continuous or periodic.

Continuous assessment methods	Periodic assessment methods
Case based discussion during rounds	MCQs, SAQs, Case reports
Direct observation of procedural skills	OSCE, TOACS, Short and Long cases
Case presentation (CPC)	360degree multisource feedback
Journal club	Clinical supervisor's report
Mini-Clinical Evaluation Exercise (Mini-CEX)	

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Sr #	System	Marks	COMPONENT						
			Mini CEX	DOPS	CBD Quiz	MCQs	CLINICAL		
							TOACS	Short Case	Long Case
1	Spine & Vascular Neurosurgery	100	20	20	60	--	--	--	--
2	Pediatric Neurosurgery	100	20	20	60	--	--	--	--
3	Trauma & Brain Tumor	100	20	20	60	--	--	--	--
4	Summative Test	400	--	--	--	100	100	100	100
5	Spine & Vascular Neurosurgery	100	20	20	60	--	--	--	--
6	Pediatric Neurosurgery	100	20	20	60	--	--	--	--
7	Trauma & Brain Tumor	100	20	20	60	--	--	--	--
8	Summative Test	400	--	--	--	100	100	100	100
9	Spine & Vascular Neurosurgery	100	20	20	60	--	--	--	--
10	Pediatric Neurosurgery	100	20	20	60	--	--	--	--
11	Trauma & Brain Tumor	100	20	20	60	--	--	--	--
12	Summative Test	400	--	--	--	100	100	100	100
13	Spine & Vascular Neurosurgery	100	20	20	60	--	--	--	--
14	Pediatric Neurosurgery	100	20	20	60	--	--	--	--
15	Trauma & Brain Tumor	100	20	20	60	--	--	--	--
16	Annual Summative Test	400	--	--	--	100	100	100	100



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Physiology

- Human Physiology By: Guyton

Pharmacology

- Review of Pharmacology By: Lippincott's Illustrated

Neurosurgery

1. Youmans and Winn Neurological Surgery 8th Edition, H. Richard Winn
2. Schmidek and Sweet Operative Neurological Techniques 7th Edition, Jeffrey A Bruce & Guy M. McKhann.
3. Hand Book of Neurosurgery 10th Edition, Mark S Green berg