Rawalpindi Medical University

Curriculum

Fellowship In Interventional Pain Medicine

(F.I.P.M.)

Rawalpindi Medical University, Rawalpindi

Certificate of Board of Faculty

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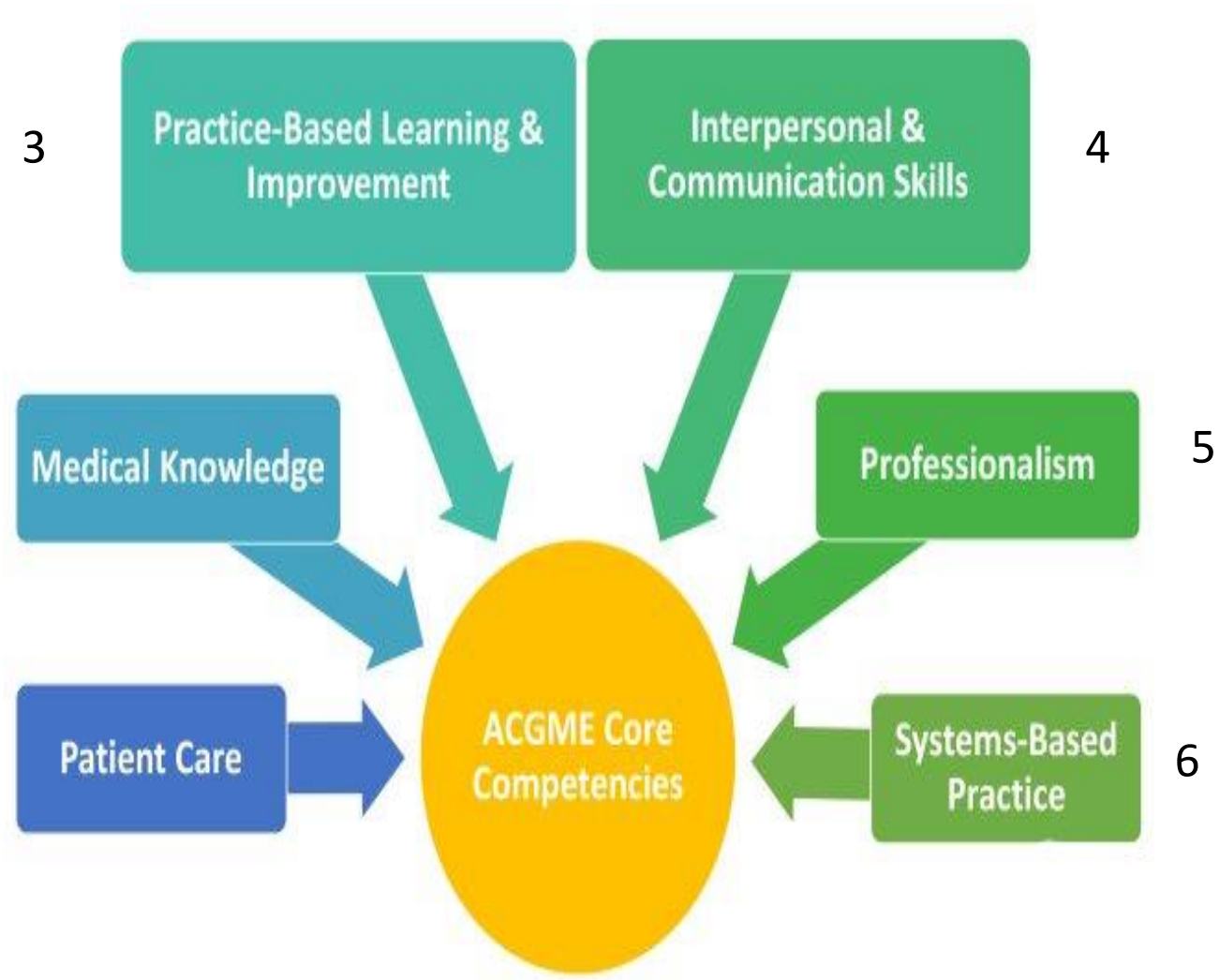
Section 1: General

Accreditation Council for Graduate Medical Education (ACGME) 6 Competencies based Model



Mission statement

The mission statement of **Fellowship in Interventional Pain Medicine (FIPM)** of Rawalpindi Medical University is:

- To acquire the competence pertaining to Pain that is required to be practiced in the community and at all levels of health care systems
- To acquire the skills to manage the patient's pain issues effectively
- To acquire effective communication skills to council patients and his attendants
- To have the desired interventional skills to perform procedures
- To be aware of recent advances in the field of Pain Medicine
- To orient to principles of research methodology
- To acquire skills in educating medical students juniors and paramedical professionals

Statues

- ## Nomenclature:

Name of the proposed course shall be **Fellowship in Interventional Pain Medicine (FIPM).**

- ## Training centers:

Department of Anesthesia and Pain Medicine at Rawalpindi Medical University

- ## Duration of course:

It is a 2 years program

- ## Course structure:

It is a 2 years program which will be conducted in 8 modules. Each module will be of 3 months.

Admission criteria

For admission in Fellowship the candidate should have:

- MBBS Degree
- Completed one-year house job
- Registration with PMC
- FCPS/MS Anesthesia OR FCPS/ MS Surgery and Allied

- Preference will be given to MSc Pain Medicine candidates
    - Number of Seats: **20** (**75%** for Anesthesia candidates **25%** for Surgery Allied)
    - Domicile: All Pakistan and Foreign National can apply

Registration & Enrolment

- 4-6 trainees will be registered with one supervisor.
- The university will approve supervisors for the program.
- The candidates selected for the course shall be registered with the university as per prescribed registration regulations.

Aim & Objectives of the Program

Aim of the Program:

The overall aim of the course is to improve competencies and professional clinical practice of doctors in pain management.

To meet these aims, the course

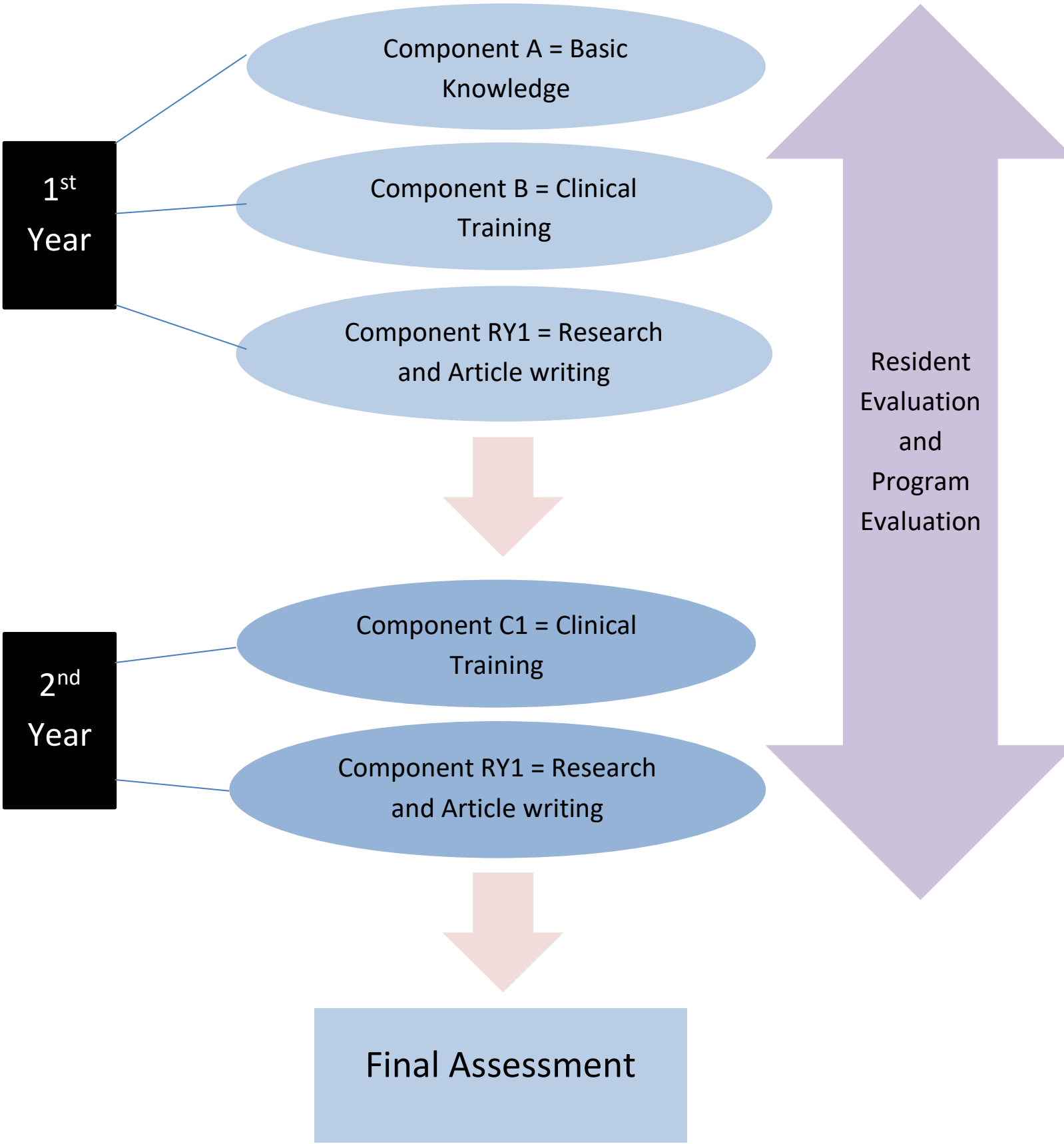
- Conforms to the IASP (International Association for the Study of Pain / a chapter of Pain Management of WHO), WIP (World Institute of Pain) recommendations for core curricula in pain management, offering the knowledge base to support clinical practice.
- Incorporates elements of work-based practice to facilitate skill transfer from the study environment to clinical situations.

Objectives of the Program:

- To advance knowledge of pain medicine through creative research, academics and hands-on-trainings.
- To extend knowledge through innovative educational programs built on strong foundation in which emerging scholars are motivated to realize their highest potential and assume roles of leadership, responsibility, and service to society.

- To apply knowledge to provide solutions to the problems in order to improve the quality of life and enrich the economy of the nation, and the world.
- To practice the specialty of Pain medicine keeping in mind about professional ethics
- To recognize and identify various Pain problems
- To Institute diagnostic therapeutic rehabilitative and preventive measures to provide proper care to the patient.
- To take detailed history, perform full physical examination and make clinical diagnosis.
- To perform relevant investigative and therapeutic procedures.
- To interpret important imaging and laboratory investigations
- To independently perform basic Pain procedures.
- To manage Acute Pain efficiently.
- To demonstrate empathy and human approach towards patient and their families.
- To develop skills as a self-directed learner, recognize continuing educational needs and use appropriate learning resources.
- To teach medical / nursing students' paramedical staff and healthcare providers.

Road Map of the Program



Scheme of the Course

A summary of 2 years course is:

Course structure	Components
❖ 1st year training	❖ Basics of pain medicine ❖ Radiology rotation ❖ Pharmalogical and non-pharmacological management ❖ Musculoskeletal and rheumatological pain conditions
❖ 2nd year training	❖ Nerve blocks ❖ Neuro-ablative procedures ❖ Education and scientific enquiry (Rea writing)

Time Table Of First Year

Pain Clinic + Pain Acute Services	Rotations	Workshops
3 months at Department of Anesthesia and pain medicine (RMU) 5 students/3 months	▪ 2 Weeks Radiology ▪ 2 Weeks Spine Unit (Neurosurgery) ▪ 2 Weeks Rehabilitation	• Research and methodology • Basic life support (BLS) • Communication skills

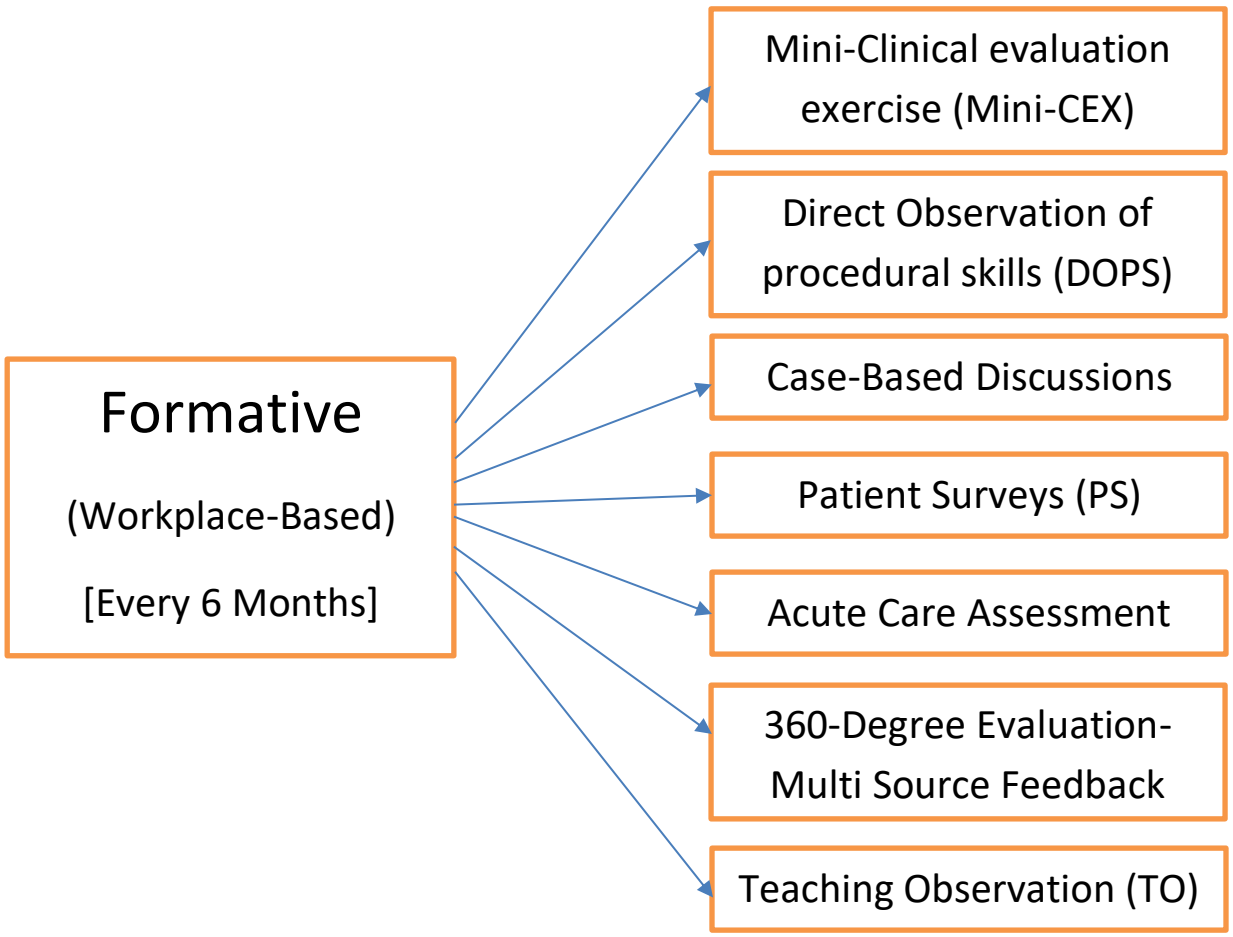
Time Table Of Second Year

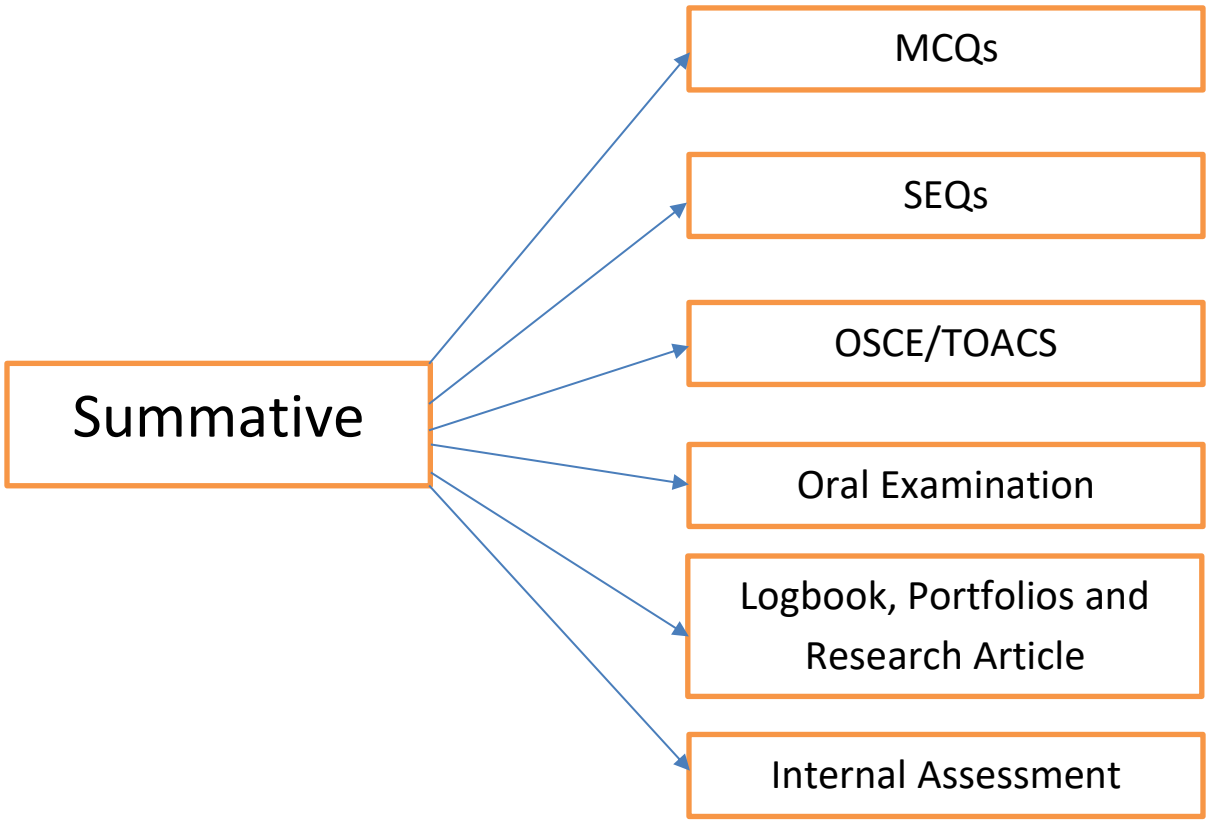
Pain Clinic + Pain Acute Services	Rotations	Workshops
2nd Cycle of: - 3 months at Department of Anesthesia and pain medicine (RMU) 5 students/3 months	▪ 2 Weeks Radiology ▪ 2 Weeks Spine Unit (Neurosurgery) ▪ 2 Weeks Rehabilitation	• Ultrasound guided workshops of pain-relieving procedures • Fluoroscopic guided neuraxial blocks

Methods of Teaching & Learning

A. Classrooms
B. Modular (workshops/ seminar/master classes)
C. Hands-on live procedures, cadavers
D. Video conferencing system
E. Log book completion under supervision of supervisor.
F. Dissertation

Assessment Scheme of FIPM





End of first year:

- Theory paper of 100 mcqs (passing criteria 60 %)
- Logbook/portfolio
- synopsis approved by ehtical approval committee

End of second year:

- one article published in PMDC recognized journal
- summative exam at the end of second year as mentioned above

Methods of Assessment

- **360-Degree Evaluation Instrument- Multi-source Feedback (MSF):**
    - 360-degree evaluations consist of measurement tools completed by multiple people in a person's sphere of influence.
    - Evaluators completing rating forms in a 360-degree evaluation usually are superiors, peers, subordinates, and patients and families.
    - Most 360-degree evaluation processes use a survey or questionnaire to gather information about an individual's performance on several topics (e.g., teamwork, communication, management skills & decision-making).
    - Most 360-degree evaluations use rating scales to assess how frequently a behavior is performed (e.g., a scale of 1 to 5, with 5 meaning "all the time" and 1 meaning "never").
    - The ratings are summarized for all evaluators by topic and overall to provide feedback. Evaluators provide more accurate and less lenient ratings when the evaluation is intended to give formative feedback rather than summative evaluations.
    - A 360-degree evaluation can be used to assess ACGME criteria including interpersonal and communication skills, professional behaviors, and some aspects of patient care and systems-based practice.

- **Chart Stimulated Recall Oral Examination (CSR)**
    - In a chart stimulated recall (CSR) examination patient cases of the examinee (resident) are assessed in a standardized oral examination.
    - A trained and experienced physician examiner questions the examinee about the care provided probing for reasons behind the work-up, diagnoses, interpretation of clinical findings, and treatment plans.
    - The examiners rate the examinee using a well-established protocol and scoring procedure. In efficiently designed CSR oral exams each patient case (test item) takes 5 to 10 minutes.
    - A typical CSR exam is two hours with one or two physicians as examiners per separate 30 or 60-minute session. These exams assess clinical decision-making and the application or use of medical knowledge with actual patients.

- **Checklist Evaluation**
    - Checklists consist of essential or desired specific behaviors, activities, or steps that make up a more complex competency or competency component.
    - Typical response options on these forms are a check (√) or “yes” to indicate that the behavior occurred or options to indicate the completeness (complete, partial, or absent) or correctness (total, partial, or incorrect) of the action.

- The forms provide information about behaviors but for the purpose of making a judgment about the adequacy of the overall performance, standards need to be set that indicate, for example, pass/fail or excellent, good, fair, or poor performance.
- Checklists are useful for evaluating any competency and competency component that can be broken down into specific behaviors or actions. Documented evidence for the usefulness of checklists exists for the evaluation of patient care skills (history and physical examination, procedural skills) and for interpersonal and communication skills.
- Checklists have also been used for self-assessment of practice-based learning skills (evidence-based medicine). Checklists are most useful to provide feedback on performance because checklists can be tailored to assess detailed actions in performing a task.

- **Objective Structured Clinical Examination (OSCE)**
  - In an objective structured clinical examination (OSCE) one or more assessment tools are administered at 12 to 20 separate standardized patient encounter stations, each station lasting 5-10 minutes.
  - Between stations candidates may complete patient notes or a brief written examination about the previous patient encounter. All candidates move from station to station in sequence on the same schedule.
  - Standardized patients are the primary assessment tool used in OSCEs, but OSCEs have included other assessment tools such as data

interpretation exercises using clinical cases and clinical scenarios with mannequins, to assess technical skills.

- OSCEs have been administered in most of the medical schools worldwide, many residency programs, and by the licensure board examinations.
- The OSCE format provides a standardized means to assess: physical examination and history taking skills; communication skills with patients and family members, breadth and depth of knowledge; ability to summarize and document findings; ability to make a differential diagnosis, or plan treatment; and clinical judgment based upon patient notes.

- **<u>Procedures, Operative or Case Logs</u>**
  - Procedure, operative, or case logs document each patient encounter by medical conditions seen, surgical operation or procedures performed.
  - The logs may or may not include counts of cases, operations, or procedures. Patient case logs currently in use involve recording of some number of consecutive cases in a designated time frame.
  - Operative logs in current use vary; some entail comprehensive recording of operative data by CPT code while others require recording of operations or procedures for a small number of defined categories.

  - Logs of types of cases seen or procedures performed are useful for

determining the scope of patient care experience. Regular review of logs can be used to help the resident track what cases or procedures must be sought out in order to meet residency requirements or specific learning objectives.

- Patient logs documenting clinical experience for the entire residency can serve as a summative report of that experience; as noted below, the numbers reported do not necessarily indicate competence.

- **Patient Surveys**
  - Surveys of patients to assess satisfaction with hospital, clinic, or office visits typically include questions about the physician's care.
  - The questions often assess satisfaction with general aspects of the physician's care, (e.g., amount of time spent with the patient, overall quality of care, physician competency (skills and knowledge), courtesy, and interest or empathy).
  - A typical patient survey asks patients to rate their satisfaction with care using rating categories (e.g., poor, fair, good, very good, excellent).
  - Each rating is given a value and a satisfaction score calculated by averaging across responses to generate a single score overall or separate scores for different clinical care activities or settings.
  - Patient feedback accumulated from single encounter questionnaires can assess satisfaction with patient care competencies (aspects of data gathering, treatment, and management; counseling, and education; preventive care); interpersonal and communication skills;

professional behavior; and aspects of systems-based practice (patient advocacy; coordination of care).

- If survey items about specific physician behaviors are included, the results can be used for formative evaluation and performance improvement.

- **Portfolios**
  - A portfolio is a collection of products prepared by the resident that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audio-recordings, photographs, and other forms of information.
  - Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met.
  - In graduate medical education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients.
  - Portfolios can be used for both formative and summative evaluation of residents. Portfolios are most useful for evaluating mastery of

competencies that are difficult to evaluate in other ways such as practice-based improvement, use of scientific evidence in patient care, professional behaviors, and patient advocacy.

- Teaching experiences, morning report, patient rounds, individualized study or research projects are examples of learning experiences that lend themselves to using portfolios to assess residents.

- **Medical Record Review**
  - Trained staff in an institution's medical records department or clinical department perform a review of patients' paper or electronic records.
  - The staff uses a protocol and coding form based upon predefined criteria to abstract information from the records, such as medications, tests ordered, procedures performed, and patient outcomes.
  - Record review can provide evidence about clinical decision-making, follow-through in patient management and preventive health services, and appropriate use of clinical facilities and resources (e.g., appropriate laboratory tests and consultations).
  - Often residents will confer with other clinical team members before documenting patient decisions and therefore, the documented care may not be directly attributed to a single resident but to the clinical team.

- **Simulated Teaching**
    - Simulations used for assessment of clinical performance closely resemble reality and attempt to imitate but not duplicate real clinical problems.
    - Key attributes of simulations are that: they incorporate a wide array of options resembling reality, allow examinees to reason through a clinical problem with little or no cueing, permit examinees to make life-threatening errors without hurting a real patient, provide instant feedback so examinees can correct a mistaken action, and rate examinees' performance on clinical problems that are difficult or impossible to evaluate effectively in other circumstances.
    - Simulation formats have been developed as paper-and-pencil branching problems (patient management problems or PMPs), computerized versions of PMPs called clinical case simulations (CCX®), role-playing situations (e.g., standardized patients (SPs), clinical team simulations), anatomical models or mannequins, and combinations of all three formats.
    - Mannequins are imitations of body organs or anatomical body regions frequently using pathological findings to simulate patient disease. The models are constructed of vinyl or plastic sculpted to resemble human tissue with imbedded electronic circuitry to allow the mannequin to respond realistically to actions by the examinee.
    - Virtual reality simulations or environments (VR) use computers sometimes combined with anatomical models to mimic as much as feasible realistic organ and surface images and the touch sensations

(computer generated haptic responses) a physician would expect in a real patient.

- The VR environments allow assessment of procedural skills and other complex clinical tasks that are difficult to assess consistently by other assessment methods. Simulations using VR environments have been developed to train and assess anesthesiologists managing life-threatening critical incidents during surgery and residents responding to cardio-pulmonary incidents on a full-size human mannequin.
- Written and computerized simulations have been used to assess clinical reasoning, diagnostic plans and treatment for a variety of clinical disciplines as part of licensure and certification examinations. Standardized patients as simulations are described elsewhere.

- **<u>Standardized Viva-Voce</u>**
  - The standardized Viva examination is a type of performance assessment using realistic patient cases with a trained physician examiner questioning the examinee.
  - The examiner begins by presenting to the examinee a clinical problem in the form of a patient case scenario and asks the examinee to manage the case. Questions probe the reasoning for requesting clinical findings, interpretation of findings, and treatment plans.
  - An examinee can be tested on 18 to 60 different clinical cases. These exams assess clinical decision-making and the application or use of medical knowledge with realistic patients. Multiple-choice questions are better at assessing recall or understanding of medical knowledge.

- **Written Assessment (MCQ)**
    - A written or computer-based MCQ examination is composed of multiple-choice questions (MCQ) selected to sample medical knowledge and understanding of a defined body of knowledge, not just factual or easily recalled information.
    - Each question or test item contains an introductory statement followed by four or five options in outline format. The examinee selects one of the options as the presumed correct answer by marking the option on a coded answer sheet.
    - Only one option is keyed as the correct response. The introductory statement often presents a patient case, clinical findings, or displays data graphically. Medical knowledge and understanding can be measured by MCQ examinations.
    - Comparing the test scores on in-training examinations with national statistics can serve to identify strengths and limitations of individual residents to help them improve.
    - Comparing test results aggregated for residents in each year of a program can be helpful to identify residency training experiences that might be improved.

- **Mini-Clinical Evaluation Exercise (mini-CEX)**
    - This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning.
    - The trainee receives immediate feedback to aid learning. They can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

- **Direct Observation of Procedural Skills (DOPS)**

    - A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development.

- **Case-based Discussion (CbD)**

    - The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care.
    - It also serves as a method to document conversations about, and presentations of, cases by trainees.

- The CbD should focus on a written record (such as pre-op assessment, intra-op management, post-op/ recovery room discharge notes).

- **Acute Care Assessment Tool (ACAT)**

  - The ACAT is designed to assess and facilitate feedback on a doctor's performance during their practice on the Acute Medical Take.
  - Any doctor who has been responsible for the supervision of the Acute Medical Take can be the assessor for an ACAT.

- **Audit Assessment (AA)**

  - The Audit Assessment tool is designed to assess a trainee's competence in completing an audit.
  - The Audit Assessment can be based on review of audit documentation OR on a presentation of the audit at a meeting.
  - If possible, the trainee should be assessed on the same audit by more than one assessor.

- **Teaching Observation (TO)**

    - The Teaching Observation form is designed to provide structured, formative feedback to trainees on their competence at teaching.
    - The Teaching Observation can be based on any instance of formalized teaching by the trainee who has been observed by the assessor.
    - The process should be trainee-led (identifying appropriate teaching sessions and assessors).

- **Decisions on Progress (ARCP)**

    - The Annual Review of Competence Progression (ARCP) is the formal method by which a trainee's progression through her/his training program is monitored and recorded.

Final Assessment

Eligibility for Final Examination:

- The candidate must have certificate of completion of 2 years training from supervisor, along with rotations
- The Candidate must present certificates of all workshops attended during 2 years of training
- At least 60 percent marks in the examination conducted at the end of first year of training.
- Submission of Research work at the end of/or before 2 years of training
- At least 60 percent marks in continuous internal assessment.

- The Vice-Chancellor shall appoint a panel of 3 examiners (2 external and 1 internal) approved by Dean.
- The degree shall be awarded on the result of an examination consisting of:
    i. One written paper (MCQs)
    ii. A Viva-Voce covering the entire field of the examination including the academic writing.
    iii. A high degree of performance will be expected from the candidate in the whole examination in order to get through.

The whole examination has to be taken together and cannot be taken in parts.

iv. The viva voce, clinical examination shall be conducted by the three examiners (2 external and 1 internal) appointed by the Vice-Chancellor from the panel approved by Dean.

The Diploma of FIPM under the seal of Rawalpindi Medical University shall be awarded to the successful candidate after the result of the theory & clinical and/or practical examinations

1) Passing marks in theory (MCQ'S) 60%.
2) Passing marks in Oral & Practical aggregates 60%.
3) Passing marks in internal assessment 60%.

Candidates has to pass all components in final examination

Note:

Candidates have to submit an academic writing/dissertation consisting of the 80-100 pages before completion of training or two articles to be published in a PMC recognized journal.

Log books should be completed and duly signed by supervisor (Please send the Name of your supervisor), and the institute to whom you are affiliated.

Section 2

Curriculum

I. First year curriculum

A. Basics of **Pain Medicine, Pharmacological and non-pharmacological management**

B. **Musculoskeletal and rheumatologic pain condition**

C. Basics of Pain Medicine, Pharmacological and non-pharmacological management

Learning Objectives

These are what the Trainee needs to learn. They are presented as:

• Knowledge

• Clinical management ("knows how") that applies knowledge and clinical skills to manage the patient

• Skills (clinical and technical)

• Attitudes and behaviors

Knowledge

This year builds on basics of Pain Medicine, Pharmacological and non-pharmacological management and different conditions. Trainee should have

a. knowledge of basics of pain medicine,
b. Know about and can apply physiological and anatomical aspects of pain management
c. Know about neuropathic pain and looks in detail and various common chronic pain conditions including PHN, PDPN, TGN and phantom limb pain.
d. Know about pharmacology of pain transmission and modulation, neuropathic pain medicines, including TCA, Duloxetine, and topical treatments.
e. Addresses pain management in patients suffering from cancer and in cancer survivors
f. Knowledge of pain linked to a number of specific conditions and pain in specific populations including:
    - pain in pregnancy
    - pain in sickle cell disease

- management of pain in individuals suffering from drug
- addiction and withdrawal
- paediatric pain
- pain in older people
- Addresses pain management in patients suffering from cancer and in cancer survivors

Neurobiology of Pain

Overview of “Pain Pathways” Multidimensional aspects of pain; role of physiological, psychological and environmental factors

Pharmacology of Analgesic Agents

This includes pharmacokinetic and pharmacodynamic principles, drug interactions, and side effects.

Knowledge of the pharmacology of:

Opioids

Paracetamol

Non-steroidal anti-inflammatory agents (NSAIDs)

Antidepressants (TCAs and SSRIs)

Anticonvulsants

Membrane-stabilizing agents

alpha-2 agonists

NMDA-receptor antagonists

Local anaesthetics

Anti-emetics

Agents used to treat hypotension associated with neuraxial blockade

Awareness of the role of the following in pain management

Anti-migraine agents

Steroidal anti-inflammatory agents

Topical agents (NSAIDS, Capsaicin)

Neurolytic agents

Experimental agents for analgesia

Knowledge of different routes of analgesic drug delivery, including factors governing choice of route, side effects relevant to particular route, principles of additive and synergistic effects when agents are combined

Oral

Intramuscular

Subcutaneous (including continuous infusion)

Intravenous (including continuous infusion)

Patient-controlled analgesia (PCA) via different routes (i.e. intravenous, subcutaneous, intranasal, epidural, intrathecal)

Neuraxial Other; topical, transdermal, rectal, transmucosal (intranasal, inhalational and sublingual /buccal), intra-cerebro-ventricular, intra-articular, incisional

Knowledge — *Principles of Pain Medicine*

History, Philosophy and Medico legal Aspects

Concepts of pain and suffering Relevance of the subjective nature of pain report to pain assessment

Relevant ethical principles including professional responsibility (professional power, vulnerable groups), autonomy and dignity, national and regional legislative and ethical issues regarding death, particularly with respect to euthanasia

National and regional issues relevant to the prescription of controlled substances including the Poisons Act and Regulations

Informed consent with focus on issues relevant to the patient with pain

Confidentiality principles, including relevant national and regional legislation

Principles of evidence-based medicine as they apply to the assessment of pain interventions

Epidemiological aspects of persistent pain, including social cost

Psychological and Sociocultural Issues

The importance of psychological (emotional and cognitive), social, and other factors in the presentation and management of pain with emphasis on:

Factors involved in the wide variation in individual response to tissue injury

The relationship between depression and persistent pain

The role of anxiety and/or depression in acute pain

Differentiation of active and passive coping strategies

The role of illness behavior

The role of national and regional compensation and other third-party issues in the presentation of pain and response to treatment

The influence of the health care provider on the response to pain treatment

The importance of an interdisciplinary approach to pain assessment and treatment including the potential role of other members of the pain team (particularly psychiatrist, clinical psychologist, physiotherapist, nursing staff, occupational therapist, social worker)

The placebo effect and its implications for treatment of pain

Substance Abuse

Concepts of tolerance, physical dependence, addiction and

Pseudo-addiction

Iatrogenicity in tolerance and dependence

Common licit and illicit drugs of abuse

The importance of a multidisciplinary approach to pain management in patients with a history of substance abuse (including monitoring, drug therapy, rehabilitation)

Principles of detection, initial intervention and ongoing treatment of substance abuse in doctors (including awareness of services available for treatment of the impaired doctor)

Clinical Management

Professional Practice

Comply with relevant policies, recommendations, and guidelines for practice of pain by IASP

Understand the organization of a Multidisciplinary Pain Clinic and an Acute Pain Service, including the role of such services in education (of patients and staff), collaboration, documentation and administration, and the role of protocols and audit

Pain Assessment and Measurement

Assess pain and outcome of pain treatment using history, clinical examination and pain measurement tools

Recognize the limitations of pain measurement techniques, particularly in some patient groups (e.g., persistent pain, children, those with cognitive impairment)

Acute Pain

Have an understanding of:

Neuroendocrine and metabolic responses to surgery and other acute stressors and impact of analgesic techniques

Consequences of poorly controlled pain

Current evidence for and against pre-emptive analgesia and clinical implications

Current evidence for the effect of analgesic technique on morbidity and mortality

Importance of aggressive multimodal postoperative rehabilitation

Relationship between acute and persistent pain including factors involved in progression from one to the other, and potential interventions to prevent such progression

Choose the most appropriate technique of acute pain management:

Pharmacological techniques (opioid and non-opioid) via a variety of routes

Regional techniques including central neuraxial, plexus and peripheral nerve blockade

Non-pharmacological techniques

Formulate a pain management plan based upon:

Patient preference, physical and mental status, and available expertise and technology

Special requirements in specific patient groups (e.g., the elderly, children, pregnant and postpartum patients; obstructive sleep apnoea, concurrent hepatic or renal disease; non-English speaking, cognitive impairment)

Special requirements in patients with opioid-tolerance and/or a substance abuse disorder including an understanding of guidelines and regimens for analgesic drug use (equi-analgesic dosing for opioids; tolerance and dependence)

Special requirements under specific clinical situations (e.g., spinal injuries, burns, acute back pain, musculoskeletal pain, acute medical pain, acute cancer pain and patients in Intensive Care and the Emergency Department)

Include in a pain management plan:

Appropriate evaluation of the patient's pain

Informed consent, including disclosure of risk and appropriate documentation

Patient education about the selected technique and alternatives

Recognize common presentations of acute musculoskeletal pain (e.g., rib fracture, acute back pain) and other non-surgical acute pain syndromes (migraine, renal colic) including in the Emergency Department and Intensive Care Unit

Identify when to seek advice from, or refer to, a Pain Medicine Specialist

Cancer Pain

Undertake assessment of pain in patients with cancer based upon:

Understanding of the multiple potential etiologies of pain associated with cancer Differentiation between somatic, visceral, and neuropathic pain

Evaluation of psychological, social, cultural and spiritual issues

Undertake treatment of cancer related pain syndromes based on therapies available (including chemotherapy, radiotherapy, surgery, invasive and non-invasive analgesic techniques, and psychological approaches)

Understand guidelines and regimens for analgesic drug use including equianalgesic dosing for opioids; tolerance and dependence and their management in the patient with cancer

Identify when to seek advice from, or refer to, a Pain Medicine Specialist

Neuropathic Pain

Understand diagnostic criteria, clinical features and management of specific neuropathic pain syndromes including:

Central pain (pain after stroke, thalamic pain, spinal cord injury pain, deafferentation pain, phantom limb pain)

Neuralgias (trigeminal neuralgia, postherpetic neuralgia, occipital neuralgia)

Painful peripheral neuropathy (e.g., metabolic, toxic, ischemic)

Pain after nerve injury (e.g., neuroma)

Post-surgical pain syndromes (e.g., post-thoracotomy, post-CABG pain, post-mastectomy, post amputation)

Complex regional pain syndrome types I and 2 (including the differentiation of sympathetically maintained from sympathetically independent pain)

Identify when to seek advice from, or refer to, a Pain Medicine Specialist

Pain in Children

Recognize and understand the ways in which acute and persistent pain in children differ from pain in adults,

including:

The effect of developmental stage on assessment and management of pain in children

The selection of pain assessment tools for children of different

developmental stages− Principles of managing acute, procedural and persistent pain in children

Pain in the Elderly

Understand pain management in the elderly, taking into account:

The epidemiology of pain syndromes in the elderly

Physiological changes associated with ageing and effects of these

On pain and pain management (including changes in pharmacokinetics, pharmacodynamics, and pain biology)

Effects of concurrent disease, and psychological, social and cognitive changes on assessment and management of pain

Risks associated with poly pharmacy in the elderly

Skills — *Clinical Skills*

In this Module, Trainees will provide, or assist with, appropriate pain management in both inpatient and outpatient settings.

Clinical Evaluation

Trainees will demonstrate skills in the clinical evaluation of patients with acute and persistent pain by:

Obtaining a specific pain history− Onset, location, nature, duration, intensity, aggravating and relieving factors

Physical, psychological and social consequences of the patient's pain

Current and past pain treatments and outcome

Other relevant history (past patterns of drug use or misuse, family history, medical and surgical history)

Pain beliefs

Treatment expectations

Interpreting relevant investigations

Formulating a management plan and evaluating outcome

Communication Skills

Demonstrate communication skills in dealing with patients in pain, including:

Dealing with issues of grief and loss

Undertaking conflict management (e.g., in dealing with angry patients, in dealing with other staff)

Appropriate use of (non-medical) language in communicating with Patients and their families, including with specific patient groups such as children

Demonstrate communication skills with other health professionals by presenting results of patient assessment at multidisciplinary meetings where appropriate

Undertaking consultation (verbal and/or written) with other medical and paramedical specialists, as indicated by the clinical situation

Module 2: Musculoskeletal and Rheumatological Pain Condition

After completing this course of modules, you should be able to:

- Feel confident in managing a number of common musculoskeletal disorders such as acute and chronic back pain
- Manage patients with osteoporosis, and reduce their risk of sustaining a fracture
- Manage patients with a number of focal joint disorders, including frozen shoulder, posterior shoulder pain and tennis elbow
- Avoid missing a diagnosis of polymyalgia rheumatica
- Feel confident in managing patients with chronic pain.

Osteoarthritis: a guide to management in adults - in association with NICE guidelines

- Know the clinical features of osteoarthritis in adults

- Know how to diagnose a patient with osteoarthritis
- Know how to manage a patient with osteoarthritis.

Acute back pain

- The common causes of acute back pain
- How to assess patients who present with acute back pain and when to refer them
- The red flags in patients with back pain
- The psychosocial factors associated with slow recovery from back pain
- Conservative management and when to refer for surgery
- Knowledge of different interventional procedures, their indication, complication and contraindication.

Chronic back pain: Diagnosis and Treatment

- Learn about diagnostic tests for people with chronic back pain
- Recognise which treatments work and which do not
- Identify which treatments to avoid.
- Understand the significance of psychosocial and occupational factors associated with complaints of low back pain and its chronicity
- Be aware of the evidence concerning the rationale and efficacy of intradiscal therapies for low back pain

- Understand the utility and limitations of multidisciplinary therapy for chronic low back pain

Osteoporosis: fracture prevention and treatment

- How to best approach this condition, identification of high-risk condition
- How to prevent fractures in at risk groups
- What treatments are available and how to follow up with patients**.**

Frozen shoulder (adhesive capsulitis)

- How to diagnose frozen shoulder
- Who is most at risk of frozen shoulder?
- What the evidence says about treatment.

Tennis elbow: diagnosis and treatment

- Diagnose tennis elbow following a focused joint examination
- Describe the management options available and the evidence base for each of these
- Be aware of when to consider referral to secondary care.

Polymyalgia rheumatica: diagnosis and management in primary care

- the prevalence of polymyalgia rheumatica (PMR)
- The etiology of the condition
- Presenting symptoms and the differential diagnosis

- Which investigations to request
- The complications associated with PMR
- How to treat the condition
- When to refer to a specialist.

Musculoskeletal pain

- Know anatomy, physiology, neurophysiology band biomechanics of musculoskeletal system.
- Know basic facts about mediators of inflammation, tissue destruction and repair.
- Know about psychological aspects of musculoskeletal pain /disability
- Will be able to classify musculoskeletal diseases according to clinical characteristics
- Will be able to do assessment of rheumatic disease activity and severity
- Will be able to treat and rehabilitate musculoskeletal pain/disability

Rheumatologic diseases

- know describe anatomy, natural history and pathophysiology of rheumatic diseases
- know how to perform and interpret full history and clinical examination
- Will be able to order and interpret relevant investigations used in rheumatology

Back Pain – Injections

Intra Articular Injections

Fluoroscopy and Peripheral Nerve

Pharmacology of Local Anesthetics

Complications of Peripheral Regional Anesthesia

Fundamentals of Electrical Nerve Stimulation

Nerve Blocking Techniques

Peripheral Nerve Block, Chronic Pain

Brachial Plexus: Anatomy

Sciatic Nerve Block (Posterior Approach)

Sciatic Nerve Block (Anterior Approach)

Sciatic Nerve Block (Lateral Approach)

Sciatic Nerve Block (Inferior Approach)

Femoral Nerve Block

Lateral Cutaneous Nerve of Thigh Block

Knee/Popliteal Block (Lateral Approach)

Knee/Popliteal Block (Prone Posterior Approach)

Knee/Popliteal Block (Supine posterior Approach)

Intra – articular Knee Block

Saphenous Nerve Block

Ankle and Foot Block

Mid Tarsal Block

Second Year Curriculum

Nerve blocks and neuro-ablative procedures

1. know the anatomy of critical peripheral and central nervous regions as it relates to analgesics nerve blocks

A) spine

B) peripheral nervous system

C) Autonomic nervous system

2. Be familiar with the general principles of the pharmacology and use of drugs used for nerve blocks.

3. Know the pharmacology of opioids as they relate to regional analgesia

4. know commonly used neurolytic agents

5. know about the use of locally injected corticosteroids

6 .know how nerve blocks are used foe diagnostic purpose and pain control

7. Know how to recognize and treat the side effects and complications of nerve blocks

8. know the indications of various blocks and can describe and perform the following blocks

- Sphenopalatine ganglion block
- Stellate ganglion block
- Trigeminal ganglion block
- Midline interlaminar cervical epidural block
- Cervical facet block
- Brachial plexus block
- T2,3 sympathetic block
- Splanchnic nerve block
- Thoracic spinal cord lead placement
- Thoracic facet block/ RFTC
- Thoracic epidural block
- DCS placement
- Thoracic sleeve root RF / PRF DRG blocks
- Suprascapular nerve blocks
- Intercostal nerve block
- Lumbar sympathetic block
- Celiac ganglion block
- Lumbar sleeve root RF-DRG
- Lumbar sympathetic neurolytic lesioning
- Lumbar selective nerve root block

- Lumbar discography procedure
- Lumbar facet block
- Lumbar communicating ramus
- Lumbar epidural block
- Intradiscal electro thermo-coagulation vertebroplasty
- Hypogastric plexus block
- Caudal neuroplasty
- Sacral nerve root block
- Sacral sleeve root injection RF-DRG
- Sacroiliac joint injection
- Ganglion of Impar block
- RF-sacroiliac joint
- Sciatic nerve blocks piriformis muscle injection
- Occipital stimulation
- Cervical stimulation
- Thoraco-abdominal stimulation
- Sacral stimulation
- Intrathecal implantation
- Nerve Blocking Technique
- Peripheral Nerve Block, Chronic Pain
- Brachial Plexus: Anatomy
- Superficial Cervical Plexus Block
- Deep Cervical Plexus Block
- Interscalene Block (Winnie’s Approach)

- Interscalene Block (Meier's Approach)
- Subclavian Perivascular Block (SPV)
- Vertical Infraclavicular Block (VIB)
- Sub-coracoid Infraclavicular Block
- Suprascapular Nerve Block
- Axillary Block
- Mid humeral Block
- Elbow Block
- Wrist Block
- Thoracic Paravertebral Block
- Intercostal Nerve Block
- Ilioinguinal /Ilio-hypogastric Nerve Block

Caudal Epidural –Children

Lumbar Plexus Block

Discography

Intradiscal Electrothermal Annuloplasty

Nucleoplasty

Epidural Steroid Injection

Facet Block

Sacroiliac Joint injection

Radiofrequency (RF) Ablation

Peripheral Nerve Stimulation (PNS)

Technical Skills

Trainees are required to obtain competency in:

- Central neuraxial blocks
- Regional techniques (including knowledge of anatomy, technique, indications, contraindications, complications and their management)

− Peripheral and plexus blocks of the

upper and lower limb

− Head and neck blocks

− Truncal blocks including intercostal

and paravertebral block

Trainees need to understand the anatomy, technique, indications, contraindications, complications and management of (but not necessarily be able to perform):

- Stellate ganglion blockade
- Coeliac plexus blockade
- Lumbar sympathetic blockade
- Intrathecal drug delivery for cancer and persistent pain

Section 3:

Research & Article writing

- The active research component program must ensure meaningful, supervised research experience with appropriate protected time for each resident while maintaining the essential clinical experience.

Clinical Research

Each resident will participate in at least one clinical research study to become familiar with:

1. Research design

2. Research involving human subjects including informed consent and operations of the Institutional Review Board and ethics of human experimentation

3. Data collection and data analysis

4. Research ethics and honesty

5. Peer review process

OR

The candidate needs to get his 2 articles published in HEC recognized journals, 1 in each year of training

Section 4:

Evaluation & Assessment Strategies

The purpose of the Assessment system:

The purpose of the assessment system is to:

- enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, measure their own performance and identify areas for development;

- drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience;

- provide robust, summative evidence that trainees are meeting the curriculum standards during the training program;

- ensure trainees are acquiring competencies within the domains of Good Medical Practice*;*
- assess trainees' actual performance in the workplace;

- ensure that trainees possess the essential underlying knowledge required for their specialty;

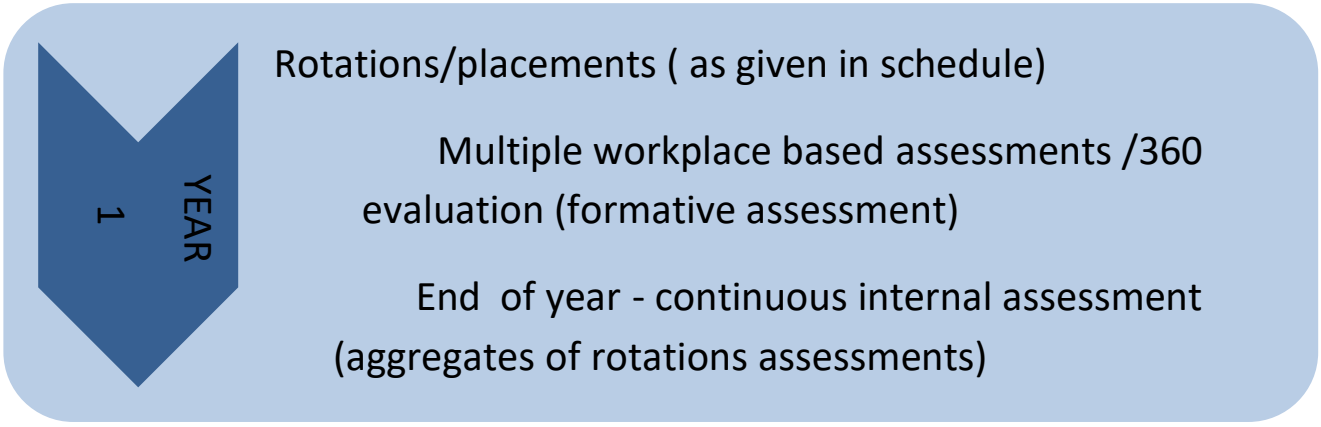
- inform the Annual Review of Competence Progression (ARCP), identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training program;

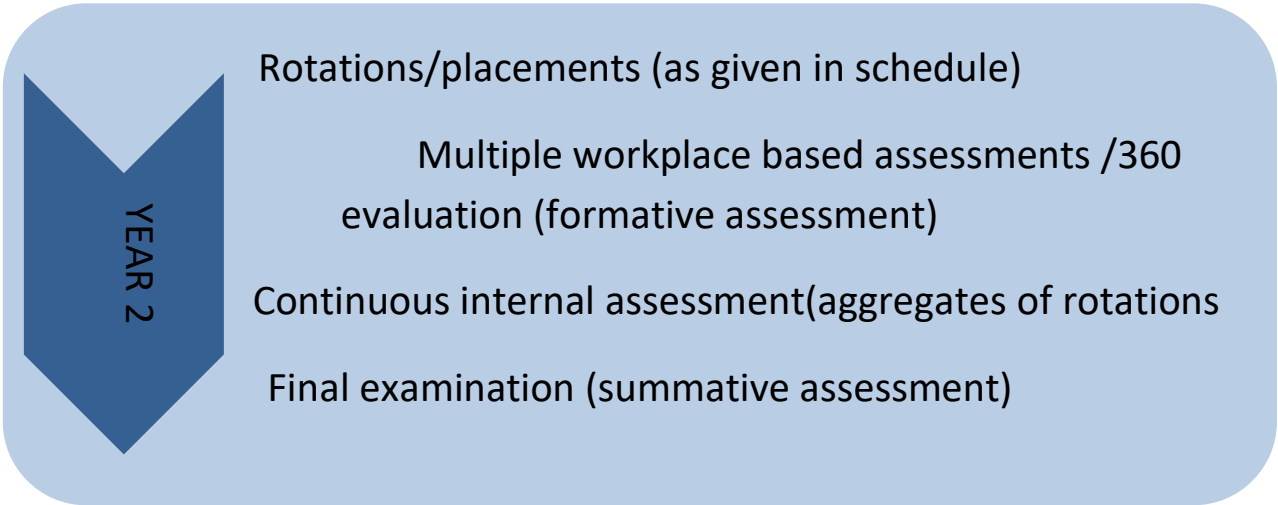
- Identify trainees who should be advised to consider changes of career direction.

The Integrated Assessment System

The integrated assessment system comprises a mixture of workplace-based assessments and knowledge-based assessments. Individual assessment methods are described in more detail below. The assessments will be supported by structured feedback for trainees within the training program of General Internal Medicine. Assessment tools will be both formative and summative and will be selected on the basis of their fitness for purpose. Workplace-based assessments will take place throughout the training program to allow trainees to continually gather evidence of learning and to provide formative feedback. They are not individually summative but overall outcomes from a number of such assessments provide evidence for summative decision making. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

Scheme of Assessment





Assessment Methodology

The following methods are used in the integrated assessment system:

- Final Examination (at the end of second year)

Exam consists of 100 MCQS and two hours duration

Part 1- Theory Examination Content Outline

Knowledge of the organization of a pain polyclinic, knowledge of pain classification and data management, knowledge of the ethical and legal aspects of pain therapy, knowledge of patient safety during the procedures and knowledge of the relevant anatomy, physiology and pharmacology.

- Excellent knowledge of the different pain syndromes due to cancer:
  Excellent knowledge of the guidelines for the treatment of cancer pain
  Practical knowledge of taking history and doing physical examination of cancer patient
  Competence in clinical reasoning and making a differential diagnosis and a treatment plan
  Excellent theoretical and practical knowledge of the pharmacological and interventional therapeutic pain modalities
  Knowledge of palliative care
  Knowledge of cancer palliative care at home

- Excellent knowledge of the different chronic pain syndromes
  Excellent knowledge of the guidelines for the treatment of chronic pain
  Practical knowledge of taking history and doing physical examination of patient with chronic pain
  Competence in clinical reasoning and making a differential diagnosis and a treatment plan
  Excellent theoretical and practical knowledge of the pharmacological and interventional therapeutic pain modalities
  Knowledge of alternative treatment modalities (rehabilitation, neurosurgery, neurology, psychological interventions and physical therapy)
  Knowledge about the organization of a multidisciplinary pain treatment

- Trigeminal ganglion block and neurolysis
- Cervical (C3-7) facet block
- Cervical PRF-DRG
- sphenopalatine ganglion block and neurolysis
- stellate ganglion block
- cervical epidural block
- brachial plexus block
- DCS placement T2,3 sympathetic block
- Splanchnic nerve block
- Thoracic spinal cord lead placement
- Thoracic facet block/ RFTC

- Thoracic epidural block
- DCS placement
- Thoracic sleeve root RF / PRF DRG blocks
- Suprascapular nerve blocks
- Intercostal nerve block
- Lumbar sympathetic block
- Celiac ganglion block
- Lumbar sleeve root RF-DRG
- Lumbar sympathetic neurolytic lesioning
- Lumbar selective nerve root block
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- Caudal neuroplasty
- Sacral nerve root block
- Sacral sleeve root injection RF-DRG
- Sacroiliac joint injection
- Ganglion of Impar block
- RF-sacroiliac joint
- Sciatic nerve blocks piriformis muscle injection
- Occipital stimulation

- Cervical stimulation
- Thoraco-abdominal stimulation
- Sacral stimulation
- Intrathecal implantation

Part 2A- Practical Assessment Outline

Consists of 200 Marks

Each examinee is required to perform four procedures on a cadaver in one hour in the presence of two examiners.
The candidate will have fifteen minutes in which to perform each procedure, with the assistance of a C-Arm, for a total of one hour.
Examinees are assigned one procedure from each region for a total of four procedures.

Part 2B- Viva-Voce

In Part 2B, each examinee is individually questioned by two (2) examiners on two separate cases (medical vignettes to assess clinical reasoning). The examinees spend up to fifteen (15) minutes on each of the two cases for a total of thirty (30) minutes. For each of the cases, the examinee has a maximum of five (5) minutes to review a short case history. One of the examiners asks the examinee for a diagnosis and the interventional procedure that should be performed. The examiner also asks a series of up to ten (10) questions that relate to the care and treatment of the patient. This portion to the examination lasts for up to fifteen (15) minutes. The second examiner follows the same procedure with the second case. This portion of the examination also lasts for up to fifteen (15) minutes. Both examiners award a score for each case based on the examinee's diagnosis, suggested interventional procedure and answers to the questions posed.

Viva-Voce Content Outline

The Viva cases will be drawn from among the following topics:

- Trigeminal Neuralgia
- Cluster headache
- Persistent idiopathic facial pain
- Cervical radicular pain
- Cervical facet pain
- Cervicogenic headache
- WAD
- Occipital neuralgia
- Shoulder pain
- Thoracic pain
- Lumbosacral radicular pain
- Lumbar facet pain
- Sacroiliac joint pain
- Coccygodynia
- Discogenic pain
- CRPS
- Herpes zoster and post-herpetic neuralgia
- Diabetic polyneuropathy
- Carpal tunnel syndrome
- Meralgia paresthetica

- Phantom pain
- Traumatic plexus lesion
- Pain in patients with cancer
- Chronic refractory angina pectoris
- Ischemic pain in the extremities and Raynaud's phenomenon
- Pain in chronic pancreatitis

b. **Workplace-Based Assessments**

- mini-Clinical Evaluation Exercise (mini-CEX)
- Direct Observation of Procedural Skills (DOPS)
- Multi-Source Feedback (MSF)
- Case-Based Discussions (CbD)
- Patient Survey (PS)
- Acute Care Assessment Tool (ACAT)
- Audit Assessment (AA)
- Teaching Observation (TO)
- Many others as described earlier in the section of modern assessment tools

Section 6

Multi-Source Feedback: 360º Internal Assessment

Behaviour and attitudes evidenced by behaviour	**Areas of concern**			**Comments** • If you cannot give an opinion due to lack of knowledge of the trainee, say so here. • Comment on anything especially good. • **You must specifically comment on any concern about attitudes and/or behaviour**, and this should reflect the trainee's behaviour over time - not usually just a single incident.
	None	**Some**	**Major**	
○ Maintaining trust / professional relationships with patients ○ Listens. ○ Is polite and caring. ○ Shows respect for patients' opinions, dignity and confidentiality. ○ Is unprejudiced and dresses appropriately.				
○ Verbal communication skills ○ Gives understandable information. ○ Speaks good English, at the appropriate level for patients.				
○ Team-working/working with colleagues ○ Respects others' roles and works constructively in the team. ○ Hands over effectively and communicates well. Is unprejudiced, supportive and fair.				
○ Accessibility ○ Is accessible. ○ Takes proper responsibility. ○ Only delegates appropriately. ○ Does not shirk duty. ○ Responds when called. ○ Arranges cover for absence.				

Annexure ‘A’

ASSESSOR DETAILS (please indicate)

Workplace: Emergency ☐ ICU ☐ Theatre ☐ Other ☐

Assessor’s Sign:

Anaesthetic-Clinical Evaluation Exercise (anaes-CEX)

Please complete the questions using a cross: [X] Please use CAPITAL LETTERS

Clinical setting: Theatre ☐ ICU ☐ Emergency ☐ Delivery suite ☐ Pain Clinic ☐ Other ☐

Case Category: Elective ☐ Scheduled ☐ Urgent ☐ Emergency ☐ Other ☐ ASA Class: 1 2 3 4 5 ☐☐☐☐☐

Case:

Focus of clinical encounter: History ☐ Diagnosis ☐ Management ☐ Explanation ☐

Assessor's Position: Professor ☐ Associate Professor ☐ Assistant Professor ☐ Senior Registrar ☐ Other ☐

Number of previous anaes-CEX observed by assessor with any trainee: 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5-9 ☐ >9 ☐

	Please grade the following areas using the scale below:	Below Expectations		Borderline	Meets Expectations	Above Expectations	
		1	**2**	**3**	**4**	**5**	**6**
1	Pre-operative assessment						
2	Patient safety						
3	Professionalism						
4	Clinical judgement						
5	Communication and generic skills						
6	Organisation and efficiency						
7	Overall clinical care						

Evidence of good practice?	**Suggestions for development**
Agreed action:	

Trainee satisfaction with aCEX 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ **1** = Not at all, **10** = Highly

Assessor satisfaction with aCEX 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ **1** = Not at all, **10** = Highly

Assessor's signature:

Time taken for observation (min) ☐☐

Time taken for feedback (min) ☐☐

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