

# **Advanced Clinical Fellowship in**

## **Pain Medicine Curriculum**

**Division of Pain Medicine and Regional Anaesthesia**  
**Department of Anaesthesia, Analgesia and Intensive**  
**Care Medicine**



**Bangladesh Medical University**  
**Shahbag, Dhaka**

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## **1. INTRODUCTION**

The Department of Anaesthesia, Analgesia, and Intensive Care Medicine at Bangladesh Medical University has been providing pain management services to a diverse range of patients since 1997 through its outpatient services. Later, the KOSAKA Pain Clinic was established, and twelve anaesthesiologists from Japan were trained under a bilateral agreement with the Department and the Bangladesh Society for the Study of Pain (BSSP). In 2017, the Department initiated a five-day Acute and Chronic Pain management course jointly with the Directorates of Health Services and BSSP.

The acute pain management service provides 24-hour coverage to all postoperative surgical patients. It utilises various modalities of pain control, including lumbar/thoracic epidural infusion, patient-controlled analgesia, intravenous infusion, and continuous neural block. The acute pain service also manages labour pain requested by the Obstetrics Team of BMU. The Department took the initiative to train and launch the Labour Analgesia Programme at the Government Hospital. A pilot project was initiated at the Mohammadpur Fertility Service and Training Centre, and one of the fellows will be assigned there for one month.

The chronic pain management services provide experience in the multidisciplinary management of chronic pain syndrome. There is a formal outpatient pain clinic (Pain Medicine OPD), and approximately 120-125 patients receive services daily. We see a variety of cases such as low back pain, cancer pain, complex regional pain syndrome (CRPS), neuropathic pain, myofascial pain, etc. The chronic pain management team offer complete evaluation and treatment. Our multidisciplinary team approach involves an anaesthesia pain specialist, receiving in-house consultation from neurosurgery, neurology, oncology, orthopaedic surgery and palliative care medicine. We offer a range of interventional pain management services, including cervical, thoracic, and lumbar epidurals, sympathetic blocks, facet joint and sacroiliac joint blocks, neurolytic blocks for cancer pain management, and platelet-rich plasma therapy for knee pain. In addition to our outpatient services, we also provide inpatient consultations for chronic pain, as requested by various departments.

One of the primary objectives of the Division of Pain Medicine and Regional Anaesthesia within the Department of Anaesthesia, Analgesia, and Intensive Care Medicine is to foster the education of physicians and enhance both academic and clinical training for postgraduate trainees. We provide teaching and training to post-graduate students from the Department of Obstetrics and Gynaecology, the Department of Palliative Medicine, and the Department of Physical Medicine and Rehabilitation as part of their academic training.

## **2. OBJECTIVES OF THE PAIN FELLOWSHIP PROGRAMME**

The purpose of the Pain Fellowship Programme is to provide 12 months of super-speciality-level experience in the management of acute and chronic pain.

At the end of fellowship training, the fellow:

1. should have acquired the knowledge, skills, experience, judgement and attitude necessary to provide optimal care to patients with acute and chronic pain.
2. should be able to interpret complex diagnostic tools and be familiar with the therapeutic challenges encountered during acute and chronic pain management.
3. should have acquired teaching, administrative and leadership skills necessary for proficiency in clinical pain management and establishment of pain centres.
4. should have underlying basic knowledge of research methodology and ethical concerns for pain research.

## **3. ELIGIBILITY AND NUMBER OF SEATS**

- a. MBBS and equivalent graduate degrees from any BMDC-recognised medical colleges
- b. Candidates must have completed his / her MD Anaesthesia / FCPS Anaesthesia degree. He or she must submit one research proposal with the application form for their research interest areas.
- c. The duration of the course is one year from July to June, divided into four rotations.
- d. A total of five candidates (two from the Government quota, one from the BMU and two from private candidates)

## **4. PROGRAMME CURRICULUM**

### **4.1 Core curriculum academics (knowledge)**

Knowledge will be assessed by SAQ / MCQ questions after completion of each clinical rotation and module

### **4.2 Clinical (skills)**

Clinical competencies will be assessed by Long Cases and Structured Oral Examination (SOE) evaluation after each rotation and at the end of the 12-month course. Day-to-day evaluation will be conducted through workplace-based assessments (WPBAs), e.g., mini CEX, DOPS, and CbD.

## **4.1 Core Curriculum Academics (knowledge part)**

### **Module – 1**

#### **Introduction and overview (multidimensional nature of pain)**

1. Epidemiology of pain
2. Barrier to effective pain management
3. Development of pain theory, Definition of pain/types of pain/pain measurement/ pain behaviour
4. General principles of pain evaluation, including neurological, musculoskeletal and psychological assessment, including history, physical examination and investigations
5. Neuroanatomy and neurophysiology of pain pathways
6. Pharmacology of pain medicine
7. Taxonomy of pain according to IASP
8. Non-pharmacological methods of pain management like TENS, Acupuncture, Magnetic fields, Cognitive behavioural therapy
9. Laboratory test
10. Radiological studies - X-ray, MRI, CT scan, Bone scans
11. Clinical neuro function tests
12. Use of POCUS
13. Use of C-arm

### **Module – 2**

#### **Acute Pain Management**

1. Acute pain management – pathophysiology, management strategies
2. Patient-controlled analgesia (PCA)/ epidural block
3. Neuro-anatomy of plexus block
4. Techniques of plexus block
5. Pain management in infants and children
6. Pain management in poly-trauma patients in the emergency department
7. Pain management in Pregnancy and childbirth
8. Acute pain management in neurosurgery/head injury

## **Module – 3**

### **Chronic Pain syndrome**

#### **Clinical sciences**

1. Pathophysiology of visceral, somatic and neuropathic pain
2. Complex regional pain syndrome
3. Low back pain/neck pain (spinal pain) with radiculopathies
4. Peripheral neuropathy / Acute shingles and post-herpetic neuralgia
5. Cancer pain syndromes
6. Chronic abdominal and pelvic pain
7. Headaches
8. Myofascial pain syndrome / fibromyalgia/sports injury

## **Module – 4**

### **Miscellaneous**

1. Sympathetic blocks, anatomy and techniques
2. Neurolytic blocks, alcohol and phenol neurolysis and techniques
3. Radiofrequency neuroablation
4. Intrathecal implants or drug delivery system
5. Setting up an acute pain service
6. Setting up a pain clinic
7. Pain research in humans and animals
8. Complementary medicine

## **4.2 Clinical rotation (skills)**

The Fellow will enter a fellowship in Pain Medicine with a range of different experiences. The clinical experience in Pain Medicine outlined below is divided into four clinical rotations, each lasting three months. During the clinical rotation, interventions are categorised into basic and advanced levels.

1. Acute Pain Rotation (Post-operative pain, Labour Analgesia, OPD rotation)
2. Chronic Pain and Regional Blocks (Ultrasound / Nerve Stimulator / C-arm guided regional blocks, Chronic Cancer Pain, OPD rotation)
3. Interventions for chronic pain (Basic Intervention and Elective one-month rotation at another pain clinic, preferably abroad, OPD rotation)
4. Intervention for chronic pain (Advanced Intervention like Radiofrequency Nerve Ablation, Percutaneous Vertebroplasty, OPD rotation)

### **4.2.1 Outpatient Pain Clinic**

In an Outpatient pain clinic, a fellow will work directly with the pain physician assigned to the service to provide care for patients visiting the pain clinic. The fellow will be responsible for participating in all aspects of patient care, including patient evaluation and development of treatment plans. The fellow is expected to attend to at least 100 different patients over one month in each block and document their activities in an electronic logbook.

### **4.2.2 Acute Pain Service / Pain Consults**

The pain fellow will be responsible for working directly with rotating anaesthesia residents to coordinate pain rounds on the assigned day and participate in the care of all patients on the anaesthesia pain service under the direction of the anaesthesia/pain consultant designated to the service according to the rotation.

During the morning rounds on assigned days, all new and follow-up inpatient and acute & chronic pain consultations will be addressed.

### **4.2.3 Chronic Pain and Regional Blocks**

To learn regional techniques for analgesia, fellows will be assigned to the main operating room for Orthopaedics, Urology, Obstetrics, and miscellaneous procedures. He/she will be responsible for obtaining consent and making preparations for all patients requiring anaesthesia/analgesia, as well as for patients undergoing regional anaesthesia. During these 12-week rotations, the fellow will be supervised by faculty members specialising in pain management. During this rotation, the fellow is expected to perform at least 100 regional techniques, including epidural and plexus blocks. He/she will be placed for cancer pain management and OPD sessions.

#### **4.2.4 Interventions for chronic pain (Basic and Advanced intervention-6months):**

This must be a supervised experience. The fellow will be responsible for making an operating list for all planned invasive procedures. The objectives of this include understanding the selection criteria for a broad range of interventions, understanding the risk and potential advantages of the procedure, and having exposure to the technical components involved in these procedures. The fellow must maintain a log of these procedures:

In the Pain Procedural Room, he/she will work under the direct supervision of a pain physician for all invasive procedures. Patients are admitted as daycare patients. Invasive procedures include:

- Caudal epidural block/ Lumber / Thoracic and cervical epidural block
- Lumbar sympathectomy
- Cervical epidural block
- Stellate ganglion block
- Paravertebral nerve block
- Celiac plexus block
- Hypo-gastro plexus block
- Radiofrequency lesioning procedures-
- Sacroiliac joint
- Knee Genicular Nerve
- Medial Branch
- Gasserian Ganglion
- Articular branch in the shoulder Joint
- Miscellaneous-
  - Inter-costal nerve block
  - Trigger points injection
  - Supra-scapular nerve block
  - Bier's Block
  - Trigeminal nerve blocks
  - Suprascapular Nerve Block
- Lignocaine/ ketamine infusion technique
- Percutaneous Vertebroplasty

#### **4.2.5 Elective Rotations:**

To provide broader exposure to national/international pain management techniques, the Department will organise a one-month elective rotation. The Pain Fellow will be sent to the organisation under the MoU of that organisation, in both national and international capacities, for the Basic Interventional rotation.

### **5. TEACHING AND OTHER SCHOLARLY ACTIVITIES:**

#### **5.1 Weekly Teaching Programme:**

- Lectures will be held once a week.
- In addition, a journal club and case presentation will be held once a week. The fellow will be responsible for presenting cases and the Journal Club and will be required to attend all teaching activities.
- The fellow is expected to take an active part in teaching residents / trainees and nurses rotating in the pain service.
- The pain fellow will be encouraged to participate in other relevant conferences held at the national and international level

#### **5.2 Research and Scholarly Training**

Research is encouraged for this fellowship. The fellow may select an area of interest and design a research project in the area of pain management. The project should be discussed with the pain faculty members. The fellow is required to participate in ongoing pain audits and research projects, and to start and complete at least one audit during their fellowship training period.

We also expect the fellow to attend and present a paper in national symposiums and conferences. Before appearing at the final exit examination, fellows shall submit their research paper, which has been accepted by the board consisting of one basic science teacher, one pain physician from home / abroad, and their supervisor. After the research paper is approved, it will be submitted to a reputable journal for publication. The Director of the Programme, Division of Pain Management and Regional Anaesthesia, Department of Anaesthesia, Analgesia and Intensive Care Medicine, BMU, will act as corresponding author, and the fellow will be the first author. Other authorship will be as guided by the International Committee of Medical Journal Editors (ICMJE).

<https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

## **6. EVALUATION OF PERFORMANCE**

To facilitate learning, the fellow will be evaluated regularly-

1. Continuous assessment for daily performance during rounds/outpatient clinic/ and in the operating room for procedures will be done by all teaching faculty. A structure Performance will be available for faculty at the end of the 3-month rotation. There will be at least 4 DOPS, 4 P-CEX, and 4 CbD in each rotation.
2. At the end of the three-monthly module / clinical rotation, the Rotation End Examination will take place. SAQ / MCQ questions / two long cases / structured oral examination will include all the topics in that corresponding module and clinical rotation covered in the past three months.
3. A logbook shall be kept for documentation of training by fellow. The logbook has to be endorsed by the supervisor of pain management. The fellow is expected to see 100 new patients with chronic pain and 200 new patients with acute pain within 3 months. Records of invasive nerve blocks performed in the operating room will also be kept.
4. The continued assessment performance and 3 monthly written and oral assessments will be kept confidential and will be used to provide feedback to fellow by the programme co-ordinator every 3 months.
5. Programme and faculty evaluation of the fellow will also be done at the end of each rotation. The performance of the faculty must be evaluated by the programme no less frequently than at the end of each rotation.
6. At the end of twelve months, final evaluation by a formal written examination of 100 marks, one case for acute pain, one chronic cancer pain and two cases of chronic non-cancer pain patients comprises 100 marks, and a structured oral examination of 100 marks. A score of 60% or higher in each category is regarded as passed.

### **Mark's distributions: End Rotation Examination**

Written	Long case	Structured Oral	Pass mark
100	50x2	100	60%

### **Mark's distributions at the end of twelve months**

Written	Long case	Structured Oral	Pass mark
100	25x4	100	60%

The fellow must have achieved a satisfactory clinical competence evaluation before being awarded the certificate for successfully completing the pain fellowship from the University Authority.

## THREE-MONTHLY PROGRESS REPORT

### Advanced Clinical Fellowship Programme in Pain Medicine

#### Division of Pain Medicine and Regional Anaesthesia

#### Department of Anaesthesia, Analgesia and Intensive Care Medicine

#### Bangladesh Medical University

Name of Fellow: \_\_\_\_\_; Date of Birth: / /

Name of Supervisor: \_\_\_\_\_

Quarter	
3 mth	<input type="checkbox"/>
6 mth	<input type="checkbox"/>
9 mth	<input type="checkbox"/>
12mth	<input type="checkbox"/>

#### Progress since last assessment:

#### Clinical Progress & Logbook:

- Is able to assess a wide variety of patients with pain
- Is aware of the treatment options available to manage patients with acute, chronic and cancer pain effectively

#### Progress with WPBAs (quantify):

- Demonstrates proficiency in a range of procedures for Pain Medicine

Mini CEX

CbD

DOPS

**Teamwork:**

- Demonstrates empathy when caring for patients with pain
- Displays communication and organisational skills to be an effective member of the pain team

**Involvement with Teaching & Education:**

- Acts as an effective teacher of Pain Medicine topics

**Involvement with Admin & Management:**

- Has a comprehensive knowledge of Pain Medicine service delivery
- Provides clinical leadership in the development of comprehensive pain medicine services.

**Involvement with Audit & Research:**

- Is able to assess evidence from research related to Pain Medicine

**Trainee comments:**

**Agreed areas for development:**

**Signed Trainee**

**Signed Supervisor**

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Name:

Name:

Date:

Date:

**Signed Co-ordinator, Pain Medicine Fellowship Programme**

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Name:

Date: