Curriculum for

Post-Doctoral Certificate Course

in

PAIN MANAGEMENT

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**SRI AUROBINDO UNIVERSITY**

SAIMS HOSPITAL CAMPUS, Indore Ujjain, State Highway, Bhawrasla, Indore, Madhya Pradesh 453555

**Curriculum**

1. **Syllabus – ‘One year Post Doctoral Certificate Course in Pain management’– Tenure of 1 years**
2. **Teaching and Training Activities**

The fundamental components of the teaching programme include:

1. Case presentations & discussion- once a week
2. Seminar — Once a week
3. Journal club- Once a month
4. Round Presentation
5. Faculty lecture teaching- Once a month
6. Clinical Audit-Once a Month
7. Present One Posters/ Papers during one years period at International/National conference (May be Case Series or Case Report)
8. Candidates will be posted in Pain Clinic OPD, Pain & Palliative Medicine ward and in Pain OT (procedure basis)
9. On call for Acute Pain Services
10. **Goals**
11. Understand Pain Physiology.
12. Perform a thorough assessment: History and Clinical Examination of the chronic pain patients; pain scoring, mapping and charting.
13. Evaluate and /or conduct relevant investigations
14. Choose appropriate treatment modality for patients with different types of pain syndromes and the skills for lifelong continuing education.
15. Administer interventional pain management blocks for a wide variety of chronic pain patients and develop interest in further Learning.
16. Have sound knowledge of imaging anatomy (Fluoroscope, USG, MRI, CT, X-ray and the like)
17. Have knowledge of side effects / adverse events/ complications of treatment modalities and competency to manage them.
18. Have knowledge of health hazards associated with the use of fluoroscopy and other equipment’s and take appropriate steps to prevent / minimize them.
19. Develop clinical, technical, teaching, training and research skills necessary for pain medicine.
20. Data Collection, Analysis and Interpretation.
21. Follow Ethical and Medicolegally safe practice of Pain Medicine.
22. **Teaching and Training Topics**

Prevalence, magnitude of Problem of chronic and cancer pain  
Brief History

1. **Anatomy and Physiology**

Peripheral Mechanism, Central Mechanism, Pain Modulation, Pain Measurement

1. **Pharmacology of pain transmission and modulation**

Peripheral Mechanism, Synaptic transmission in dorsal horn, Central sensitization, Neurotransmitters in pain modulation

1. **Psychosocial aspect of pain**

Definition and measurement of pain, Individual differences, Behavioral processes, Emotional problem and psychiatric disorders associated with pain

1. **General principles of pain evaluation**

Diagnosis; Clinical History Patient Examination,

Investigation: Interpretation in reference to various Pain Syndromes: PCR (Tuberculosis)/ Anti–ccp / HLA B-27

Radiological: X-Ray, MRI,CT, CT angio, Bone Scan, BMD/DEXA

Neurological: NCV/ H-Reflex

Plethysmography

1. **Drug treatment**  
   \*Analgesics\*

NSAID, Antidepressant, anticonvulsant and miscellaneous agents:

Narcotics Morphine, Oxycodone, Hydromorphone, buprenorphine, Methadone, Tramadol, Fentanyl

Adjuvants: TCA, SSRI , Dothiapine, Milcipram, Duloxitine, Gabapentine, pregabalin

Bisphonates, Calcitonin, Parath. Hormone

Neurotropic / Vitamin: Methocobalamine, Vit E, Vit D, Folic Acid

Musle relaxanats: Baclofen

Miscellaneous: L-Carnitine, Botulinum Toxin, Hylaronate, Synvis one

Anti rheumatoid (DMRD): Lefrunomide, Shalazopyrin, Methotrexate,

Biologicals, Steroid

Neurolytic Drugs: Alcohol, Phenol, Chlorocresol, Hypertonic Saline, anhydrous Glycerol, Ozone, RadioFrequency (Auto/ Pulse/Cooled), CryoLesion

Anti-Tubercular Drugs

1. **Aetiopathogenesis,**  
   clinical history, Examination, Diagnosis, D/D, Management , complications and Follow Up of following Pain Syndromes:

Headache/ Migraine/ Trigeminal Neuralgia

Discogenic Pain / IDD (Intradiscal Disc Disruption)

Lumbar Canal Stenosis (LCS)

Facet Joint Arthropathy, Kochs Spine, Discitis (tubercular/ Pyogenic))

Osteoarthritis, Osteoporosis, Ankylosing Spondylitis, Rheumatoid Arthritis

Sacroilitis, Coccidynia

Urogenital Pain Syndromes

Low backache

Neuropathic Pain

Complex Regional Pain Syndromes (CRPS)

Management of Cancer Pain: Magnitude of problem, Aetiopathogenesis, Clinical presentation, Diagnosis and Management of Cancer Pain

Medication: NSAID, Narcotics (Morphine, Codiene, Tramadol, Oxycodone, Hydrmorphone, Methadone, Fentanyl ( Patch/Nebulised)

Adjuvants

WHO Analgesic Ladder / WHO Cancer Pain relief Programme

Neuroablative Procedures

Vertebroplasty, Kyphoplasty

Percutaneous Chordotomy

Intrathecal/ Epidural Infusion Device

1. **Non-surgical neuroaugmentative technique**

Stimulation techniques; TENS, Acupuncture, Vibration, Nerve blocks, Surgical approaches

Physical medicine and rehabilitation, Psychiatric and Psychological treatments, Multidisciplinary management, Spinal Cord Stimulation

1. **Interventional pain management**

Radiofrequency (RF) Ablation technique

Gasserian Ganglion RF Lesion

Balloon Compression of Trigeminal Ganglion

Cervical Discectomy (Ozone/ RF)/ MBB RF lesion

Stellate Ganglion RF lesion

Celiac Plexus Block (Trans Discal/ Trans Aortic)

Splanchnic Nerve RF lesion

Supra scapular RF lesion

RF Discectomy/ Nucleotomy (APLD)

Medial branch RF lesion

Sacroiliac Inj., Ganglion impar RF lesion

Superior Hypo gastric Plexus Block (Trans Discal)

Post-operative pain – PCA/PCEA

Endoscopic Pain Management

Pain in children

Obstetric analgesia

Physiotherapy

Psychotherapy, Counselling

Hypnotherapy, Yoga

Stem Cell Therapy/ Genetic Basis of Pain

Ethical aspect of pain management

Euthanasia

Research (Pain management)

Palliative Care: Cancer/ AIDS/ Motor Neurone Disease

Cancer Pain: Prevalence, magnitude of problem, current status, WHO cancer Pain Relief Programme, Definition, essentials of Palliative Care, Physical aspect, Disease process

Symptom control: Pain, Anxiety, depression, anorexia, asthenia, Lymphoedema, ascites Pharmacological management of cancer pain

Management of terminally ill patients- last 24 hours

Family and social background

Communication skills, Bereavement

Religious and cultural aspects

Ethical aspect, Team work

Organizational aspect: Home, Hospice and Hospital based Palliative care, Research in Palliative care

**D. Rotatory Posting in Concerned Departments\***

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| **S. No.** | **Department** | **Days** | **Learning Objective** |
| 1. | Orthopedics OT | 30 | Perioperative nerve blocks |
| 2. | Neurology | 15 | Facial pain and headache |
| 3. | Palliative Medicine | 60 | Cancer Pain and Palliative care |
| 4. | Physiotherapy | 30 | Exercises |
| 5. | Radiology | 15 | USG, CT, MRI |
| 6. | Pain Clinic and OT | 215 | Pain OPD, Intervention and Acute Pain service |
|  | Total days | 365 |  |

\*Rotation to be decided by Anaesthesia Department

1. **Log Book**

A candidate shall maintain a log book of procedures (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

This log book shall be made available to the examiners for their perusal at the time of the final examination.

The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s) The candidate will maintain the record of all academic activities undertaken by him/her in log book.

Details to be entered:

1. Personal profile of the candidate
2. Educational qualification/ Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations

Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.

1. **List of Books Recommended**
2. Pain Medicine & Regional Anesthesia- Benzon
3. Chronic Pain- Mareus
4. Pain Medicine- Requisite in Anesthesiology; Stephen E Abram
5. Bonica Management of Pain; Third Edition; Lippincotts, William & Wilkins
6. The Management of Chronic Pain; A W Diamond; IInd Edition; Oxford University Press
7. Image Guided Pain Management; Sebastian Thomas; Lippincott-Raven
8. The Treatment of Chronic Pain; F Dudley Hart
9. Waldman’s Atlas of Uncommon Pain Syndrome; Saunders
10. Pain Procedures of Clinical Practice; Luinardd; IInd Edition
11. Principals & Practice of Regional Anesthesia; IIIrd Edition; J A W Wild smith; Churchill Livingstone
12. Regional Anesthesia- An Illustrated Procedural Guide; IIIrd Edition; Michael F Mulray; Lippincotts, William & Wilkins
13. Textbook of Pain; IVth Edition; Wall & Melzack; Churchill Livingstone
14. Textbook of Pain; IIIrd Edition; Wall & Melzack; Churchill Livingstone
15. The Pain System; Wiliams & Willis; Karger
16. Prithviraj Practical management of Pain; P Prithviraj; IIIrd Edition;
17. Chronic Pain; Benzamin L Crue; S P Medical & Scientific Books
18. Advances in Pain Research & Therapy; Vol.-1; John J Bonika; Raven Presss
19. The Physiology of Pain; Richard A Steinbach; Raven Press
20. Interventional Pain Management; Steven D Waldman
21. OXFORD Textbook of Palliative Medicine; by Derek Doyle; Oxford Medical Publication
22. Textbook of Pain Management; IInd Edition; by Murlidhar Joshi; Joshi Institute of Pain
23. Radiographic Imaging for Regional Anesthesia and Pain Management; by P Prithviraj; Churchill Livingstone
24. **Journals**
25. Pain-Official Journal of International Association for Study of Pain
26. Anaesthesia & Analgesia
27. Korean Journal of Pain
28. Regional Anesthesia and Pain Medicine
29. Pain Medicine
30. Pain Physician
31. European Journal of Pain
32. Indian Journal of Pain
33. Indian Journal of Palliative Care