

**Program SPECIFICATION FOR Master Degree in Pain medicine****Code: 1716700****University:** Alexandria**Faculty:** Medical Research Institute**Program Specification****A- Basic information****1- Program title: Pain Medicine****2- Program type:** single double multiple **3- Department: Department of Anaesthesia and pain management.****4- Coordinator : Professor Dr. Ahmed fawzy****5- External evaluator:****-Maher Fawzy Mahmoud, PROFESSOR IN ANAESTHESIA, Cairo University****6- Last date of program specification approval: 8/1/2017****B- Professional Information****1- Program aims:**

Provide the students with knowledge, skills and critical awareness to make significant contribution to services provided by the department. By the end of this program the student should:

- 1-To provide the students with detailed anatomy of pain including central, peripheral ,autonomic nervous and musculoskeletal systems to aid in the understanding of the pain conditions and provide a concrete background for the performance of different nerve blocks ,neuroaxial blocks and joint injection
- 2- To provide the means for Understanding the assessment, pathophysiology and management of acute pain and implementing acute pain service.
- 3- To know the setting principles in regional , peripheral and neuroaxial blocks .



4- To provide the students with basic concepts about the role of physiotherapy and psychotherapy in pain management .

5- To provide the students with knowledge on the assessment and management of cancer pain , and the new modalities in cancer pain management

6- To acquire clinical competencies and professional practice in pain management

7- To increase understanding of the neurological principles related to human health and diseases.

8- The course will spot the importance of the different antiseptic and disinfection procedures in decreasing the incidence of infection, and improving the outcome.

2- Intended learning outcomes (ILOS)

a- knowledge and understanding:

A1- Recall major landmarks of the central nervous system and correlate them with a known function.

A2-Recall different types of patients presenting with acute pain

A3 - Outline the steps of performing a neuroaxial analgesia and precautions of anticaagulations use with anticaogulants .

A4- Explain recent mechanisms of chronic pain.

A5- Describe comprehensive management of plexopath, breakthrough pain and pain at the end of life (palliative care)

A6-Describe the pharmacokinetic , pharmacodynamics and pharmacotherapeutic properties of different groups of drugs used in pain management.

A7- Discuss the general characteristics and components of the physiological pain control system.

A8- Describe bio psychosocial approach to pain, as well as psychological aspect interpretation of pain and its management.

A9- Define appropriate cleaning, disinfection, and sterilization processes of medical devices and equipment to prevent transmission of infection.



A10- Recall the fundamentals of ethical & legal practice and know the quality standards of the practice

b- Intellectual skills:

B1- categorize the relation between the basic anatomical knowledge and the painful conditions and pain syndromes.

B2- Categorize pain protocol in postoperative units, or medical emergencies.

B3- Analyze the complications that might occur during performing a block.

B4- Appraise a strategy to use opioid in non cancer pain

B5- Appraise a comprehensive pain management protocol in hospital.

B6- Appraise the adverse and toxic effects of commonly used drug in pain management (opioid and non-opioid analgesics, NMDA antagonists, anti convulsants, local anesthetic , anti-depressant and neuroleptic drugs)and give an account on limitations to the use of these drugs such as contraindications and drug interactions.

B7- Appraise the normal functions of different components of the central nervous system and the effect of their lesions .

B8-Analyze stress, depression, anxiety, addiction , suicidal attempts and pain

B9. Appraise the bundles of infection control including Ventilator associated pneumonia bundle

c- professional and practical skills:

c1 -Use the anatomical location of interventional pain management procedures based on evidence-based medicine.

c2- Use the technique of neuro-axial block

c3- Demonstrate appropriate plans in the management of acute pain and complications of blocks

C4- Illustrate the comprehensive pain programmes and practice the management of neuropathic pain

C5- Use the different pharmacological parameters in the treatment of pain, taking in consideration the most appropriate drug to be used in different pain syndromes.

d- General and transferable skills:

d1-Make scientific presentations

d2-Communicate effectively through group discussion

d3-Work in group.



d4-Use multimedia effectively and internet resources.

3- Academic standards

3a External references for standards (Benchmarks)

Generic Academic Reference Standards if the National Authority for Quality Assurance and Accreditation of Education (NAQAAE)

3b Comparison of provision to selected external references

Comparison between Generic Academic Standards of NAQAAE and ARS of master of pain medicine

Generic Academic Standards of NAQAAE	ARS of master of pain medicine
A1-Basic facts , theories, of the specialty and related subjects/ fields	<p>a1- List the steps of performing a neuroaxial analgesia and precautions of anticaogulations use with anticaogulants .</p> <p>a2- Describe the different approaches of peripheral blocks including the upper and lower limb blocks ,paravertebral , ileoinguinal , ileohypogastric ,TAP and rectus sheath blocks and reported complications.</p> <p>A3-Describe the drugs, novel techniques and devices including PCA,continuous catheter techniques both stimulating and non stimulation catheters .</p> <p>A4- Describe and measure acute and chronic pain using different scales.</p> <p>A5- Describe acute neuropathic pain, opioid tolerant and more complex pain presentations</p> <p>A6- Identify major landmarks of the central nervous system and correlate them with a known function.</p> <p>A7-Outline the course of the peripheral nerves with emphasis on the nerves of the head and neck, trunk, upper and lower limbs.</p> <p>A8- Identify cognitive and behavior aspect of pain</p>



	A9- Describe opioid induced psychological changes and dealing with them
A2-Fundamentals of ethical & legal practice	A10- Recognize the fundamentals of ethical & legal practice and know the quality standards of the practice
A3 -Quality standards of the practice	A10- Recognize the fundamentals of ethical & legal practice and know the quality standards of the practice
A4- Effect of the specialty practice on the environment including rules for environmental conservation	A9- Define appropriate cleaning, disinfection, and sterilization processes of medical devices and equipment to prevent transmission of infection.
B1- Determine , analyze & prioritize problems	<p>B1-Appraise signal pain perception , transmission , transduction modulation and sensitization</p> <p>B4- Propose the appropriate investigations required and lines of treatment to acute medical conditions.</p> <p>B5-Assess anomalies in different imaging studies.</p> <p>B6-Appraise the standard and advanced responsibility for prevention of infection</p> <p>B7- Appraise the normal functions of different components of the central nervous system and the effect of their lesions .</p> <p>B8-Analyze stress, depression, anxiety, addiction , suicidal attempts and pain</p> <p>B9. Appraise the bundles of infection control including Ventilator associated pneumonia bundle</p>
B2- Solve common problems effectively	B2-Solve the complications of the nerve blocks in view of the relations to the adjacent structure
B3- Critically appraise researches and articles	b1- Develop skills in self appraisal, learning and seek continuous learning



<p>B4-Evaluate professional risks</p>	<p>B2.Analyze rational therapeutic strategies for both acute and chronic clinical pain pathological conditions and take into account the various variables that influence these strategies and choose the proper drugs for the proper clinical situation in the proper dosage</p>
<p>B5- Make decisions to solve professional problems according to available data</p>	<p>B3-Distinguish problems related to inadequate pain management</p>
<p>C1- Practice basic professional skills (clinical/practical & procedural skills) competently</p>	<p>C1.Illustrate the lines of the thoracic wall and the major thoracic surface landmarks and anatomical landmarks integral to the interventional pain practice C2.Practice history taking ,examining pain patients using different pain scales for assessing pain and monitoring treatment. C3.Apply management of acute pain and complications of medications and blocks C4.Use nerve stimulator and ultrasound in conduction of peripheral nerve blocks. C5.Practice neuroaxial blocks on simulators and perform supervised trial on patients.</p>
<p>C2- Write reports related to the profession (Patient records, self appraisal/ audit reports etc...)</p>	<p>C3- Develop skills in self appraisal, learning and seek continuous learning</p>
<p>D1- Communicate effectively using all methods</p>	<p>d4- Develop skills in communication using all methods. Manage time effectively.</p>
<p>D2- Use information technology to improve his/her professional practice</p>	<p>d3- Use information technology to improve professional practice and use different sources of information to obtain data.</p>
<p>D3- Practice self appraisal and determines his learning needs</p>	<p>d1- Develop skills in self appraisal, learning and seek continuous learning</p>
<p>D4- Use different sources of information to obtain data</p>	<p>d3- Use information technology to improve professional practice and use different sources of information to obtain data.</p>
<p>D5- Work in teams</p>	<p>d2-- Develop team work skills ,work as team leader as well as a member in larger teams.</p>



D6- Manage time effectively	d4- Develop skills in communication using all methods. Manage time effectively
D7- Work as team leader in situations comparable to his work level	d2-- Develop team work skills ,work as team leader as well as a member in larger teams.
D8- Learn independently and seek continuous learning	d1- Develop skills in self appraisal, learning and seek continuous learning

4- Curriculum structure and contents

4.a program duration: 1.5 years

4.b program structure : 3 semesters

4.b.i- No. of hours per week in each year/semester:

Semester	Number of hours
6Cr	basic studies anatomy, physiology and pharmacology)
17Cr	acute pain(a),acute pain (b), internal medicine and some elective courses),
11 Cr	chronic pain (a),chronic pain (b) and radio diagnostic approaches).

4.b.ii- No. of credit hours Lectures Clinical Total

 Compulsory Elective Optional

4.b.iii- No. of credit hours of basic science courses No. %

4.b.iv- No. of credit hours of courses of social sciences and humanities. No. %

4.b.v- No. of credit hours of specialized courses No. %



4.b.vi- No. of credit hours of other courses No. %

4.b.vii- Practical/Field Training Yes No

4.b.viii- Program levels (in credit-hours system)

Student is required to pass at least 12 credit hours with CGPA not less than C to start the thesis.

5- Program Courses

5.1- Compulsory

Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	Clinical
1716601	Anatomy	2	1	2
1716602 a	Acute pain I	3	1	4
1716602 b	Acute pain II	4	1	6
1716603 a	Chronic pain I	4	2	4
1716603 b	Chronic painII	4	2	4
171604	Pharmacology	2	2	
1718620	Radiodiagnosis	3	2	2
1716605	Internal medicine	2	1	2
1716606	Physiology	2		2

5.2- Elective I

Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	Clinical
1708620	Immunology	2	1	2
1713620	Genetics	2	1	2
1716620	Infection Control	2	2	
1721720	Medical statistics	2	1	2
1721721	Computer	2	1	2



1716770	Psychological and neurological principles	2	2	
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5.3- Elective II

NA

5.4- Optional

NA

6- Program admission requirements

Graduate students with a M.B.Ch.B. of Medicine.

7- Regulations for progression and program completion

For the progression and completion of the program to obtain the degree of Diploma in pain medicine, the student must complete 30 credit hours with CGPA of at least C+ with submitting a thesis.

8- Evaluation of program intended learning outcomes

Evaluator	tool	Sample
1- Senior students	NA	NA
2- Alumni	NA	
3- Stakeholders (Employers)		
4- External Evaluator(S) External Examiner (s)	Review	Review of course specification
5- Other	NA	

Program coordinator :

Name: ...Prof/Ahmed Fawzy..... Signature

Date ...6\9\2017.....



Program Aims	ILOS
1-Know the basic anatomy of the human body which is the fundamental science to learn and understand in order to adequately assess and manage pain.	A1- Identify major landmarks of the central nervous system and correlate



<p>This includes anatomy of the central and autonomic nervous systems. Also the anatomy of the head ,neck and peripheral nervous system including upper and lower limbs plexuses which form the basis of the common practice of the nerve blocks and the cornerstone of their performance.</p>	<p>them with a known function.</p> <p>B1- Predict the relation between the basic anatomical knowledge and the painful conditions and pain syndromes.</p> <p>c1 -Use the anatomical location of interventional pain management procedures based on evidence-based medicine.</p>
<p>2-Recognize the basis for assessment , pathophysiology and management of acute pain and acute pain service. Clinical course: Training in acute pain service in the hospital, Candidates should attend round table discussion once a week during the course.</p>	<p>A2-Identify different types of patients presenting with acute pain</p> <p>B2- categorize pain protocol in postoperative units, or medical emergencies.</p> <p>c3- Use appropriate plans in the management of acute pain and complications of blocks</p> <p>d1-Make scientific presentations d2-Communicate effectively through group discussion</p>
<p>3-Discuss the principles of regional and neuroaxial blocks ,obstetric analgesia, acute neuropathy, non surgical pan and complex patients. Clinical coarse: Make 5 successful attempts of neuroaxial on simulators then give a chance to make a trial on patients under supervision. Learn how to perform a successful thoracic epidural, paravertebral block, different peripheral nerve blocks using nerve stimulation and ultrasound guided techniques. Candidates should provide at least 2 presentations during the coarse and should attend round table discussion once a week during the course</p>	<p>A3 - Use neuroaxial analgesia and precautions of anticaogulations use with anticaogulants</p> <p>B3- Analyze the complications that might occur during performing a block.</p> <p>c2- Use neuro-axial block</p> <p>d1-Make scientific presentations d2-Communicate effectively through group discussion</p>
<p>4-Acquire basic knowledge about chronic pain including the basiccognitive and psychologic aspects of pain, basic principles in neuropathic pain assessment, basic principles in</p>	<p>A4- Identify recent mechanisms of chronic pain.</p>



<p>physiotherapy and in psychotherapy in pain management . Clinically the candidate should attend ,5 neuropathic pain clinic, , one comprehensive pain programme, 5 intervention pain techniques.</p>	<p>B4- Categorize opioid in non cancer pain C4- Use comprehensive pain programmes and practice the management of neuropathic pain</p>
<p>5- know how to assess and manage cancer pain, describe the pharmacological and non pharmacological therapy for cancer pain.,neurolytic therapy, implant device injection, palliative care basic principles in musculo-skeletal and soft tissue pain, basic studying in low back pain, pain in :eldery , ICU, heamatology. children and at the end of life, basic principle in radiotherapy and chemotherapy management of pain as well as management of patients with headache.</p>	<p>A5- Describe comprehensive management of plexopath, breakthrough pain and pain at the end of life (palliative care)</p> <p>B5- Design a comprehensive pain management protocol in hospital. C5- Use the different pharmacological armamentum in the treatment of pain, taking in consideration the most appropriate drug to be used in different pain syndromes.</p> <p>d4-Use multimedia effectively and internet resources.</p>
<p>6-Know the recent advances in mechanism of action of analgesics,pharmacokinetics and pharmacodynamics, drug interaction ofanalgesics, , local anaesthetics ,NSAIDS, opioids, NMDA antagonists, antidepressants, anti convulsants, neuroleptics, corticosteroids and herbal medicine .</p>	<p>A6-Describe the pharmacokinetic , pharmacodynamics and pharmacotherapeutic properties of different groups of drugs used in pain management.</p> <p>B6- Appraise the adverse and toxic effects of commonly used drug in pain management (opioid and non-opioid analgesics, NMDA antagonists, anti convulsants, local anesthetic , anti-depressant and neuroleptic drugs)and give an account on limitations to the use of these drugs such as contraindications and drug interactions.</p>
<p>7-Definie pain, Membrane potentials and synapses, nociceptors, Neural pathway:fast and</p>	<p>A7- Identify the general characteristics and components of the physiological</p>



<p>slow fibers, Neurotransmitters:excitatory and inhibitory, Pain processing and transmission in spinal cord, Modulation(descending inhibition) and Peripheral sensitization, Central sensitization.</p>	<p>pain control system. B7- Assess the normal functions of different components of the central nervous system and the effect of their lesions .</p>
<p>8-Acquire essential information about the nosocomial infection, and the importance of the different antiseptic and disinfection procedures in decreasing the incidence of infection, and improving the outcome. The course will also provide information about the proper antibiotic use to decrease the overwhelming problem of antibiotic resistance.</p>	<p>A9- Define appropriate cleaning, disinfection, and sterilization processes of medical devices and equipment to prevent transmission of infection.</p> <p>B9. Appraise the bundles of infection control including Ventilator associated pneumonia bundle</p> <p>d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group.</p>

