



## Program SPECIFICATION FOR Doctor Degree in Pain medicine

**Code:** 1716800

**University:** Alexandria

**Faculty:** Medical Research Institute

### Program Specification

#### A-

#### Basic information

1- Program title: Pain Medicine

2- Program type:    single        double        multiple   

3- Department(s) : Department of Anaesthesia and pain management.

4- Coordinator : Professor Dr. Ahmed Elmolla

5- External evaluator(s):

**-Salwa shaarawy , PROFESSOR IN ANAESTHESIA, Aex University**

6- Last date of program specification approval: **8/1/2017**

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#### B-

#### Professional Information

##### 1- Program aims:

Provide the students with knowledge, skills and critical awareness to make them significantly contributing to research and services provided by the department.

By the end of this program the student should know and recognize:

1. Transmission and processing of pain, ion channel modulators and facilitation/inhibition of nociception.
2. Modulation of pain perception, potentiation and transition from acute to chronic pain, placebo analgesia, chronic pain at cellular level and neuroendocrinal mechanism in pain.
3. Pharmacokinetic principles, Pharmacodynamics, and Issues relating to pharmacotherapeutics, local anaesthetics ,NSAIDS, opioids, anticoagulants, Antithrombotics, Fibrinolytic, Antiplatelet agents, anti-depressants, anti convulsants, neuroleptics, corticosteroids and herbal medicine .



4. Science of anesthesia for the Non-Anesthesiologist, assessment of acute pain in adult, assessment of acute pain in children and neonates, acute pain team, Quality assurance in acute pain, Mishaps in acute pain, Multimodal approach for pain management, trauma, acute abdomen. .
5. Addiction ,rheumatology, back and neck pain, complex regional pain syndrome (CRPS), fibromyalgia, headache, neuropathic pain, orofacial pain and pelvic pain
6. The control of the symptoms and psychosocial care of end stage patients ,ethics in dealing with end stage patients.
7. The communication skills and advanced practice in dealing with intractable pain
8. The neurological principles related to human health and diseases as well as mechanisms , emotion and cognition, stress, sickness and pain, psychiatric illness, depression, anxiety, and somatoform pain disorders, the psychology of addiction.
9. The health related acquired infection, and possible methods to decrease the incidence of infection, and improve the outcome.
10. New guidelines to control infection and to use proper antibiotic use to decrease the overwhelming problem of antibiotic resistance.

## 2- Intended learning outcomes ( ILOS )

### a- knowledge and understanding:

- a1-**Recall** the mechanism of developing, transmission ,modulation and perception of pain.
- a2- **Discuss** the effect of the opioid, non-opioid analgesics, the role sodium and calcium channel antagonists and local anesthetic drugs in prevention of pain
- a3- Outline service provided by acute pain team., different type of pain and Multimodal approach for its management
- a4- **Discuss** different pathophysiology for musculoskeletal, low back pain neuropathic pain, headache and cancer pain for better management
- a5- Outline pain management in end of life terminal patients and interventional techniques for intractable pain
- a6- Describe neurological principles emotion and behaviour changes to pain
- a7- Describe the health related acquired infection and infection control policy in operative theater., icu and wards
- a8-Describe the advanced radiodiagnostic parameters in pain medicine.

### b- Intellectual skills:

- b1-Categorize the modulation of pain and prevention of developing chronic pain



b2- Appraise the recent advances in the mechanism of action of analgesics, pharmacological principles and their application

b3-Appraise a safe and effective plan for the treatment of acute pain using multiple analgesics and coanalgesics

b4-Analyze problems related to cancer pain, neuropathic and musculoskeletal pain

b5-. Analyze the problems in communications with angry, dying patients and their families.

b6-Appraise the psychology of addiction

b7-Appraise the hand hygiene and professional responsibility for infection control

b8-Appraise advanced radiological guidance in pain intervention

**c- professional and practical skills:**

c1-Demonstrate the different types of pain and their modulation at different levels

c2-Illustrate the proper multimodal drug therapy in acute pain

c3-Use the intervention pain techniques for cancer patients and non cancer pain

c4-Use drugs for palliative pain therapy and understanding their interaction with other medications taken by the patient for other systemic disease, and dealing with the complications

c5 - Interpret the radiodiagnostic images for diagnosis of pain

**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.

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**3- Academic standards**



### 3a External references for standards (Benchmarks)

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

### 3b Comparison of provision to selected external references

<b>Generic Academic Standards of NAQAAE</b>	<b>ARS of doctor of pain medicine</b>
<b>A1-Basic facts , theories, of the specialty and related subjects/ fields</b>	<p>a1- Identify the mechanism of developing, transmission ,modulation and perception of pain.</p> <p>a2- Identify the effect of the opioid, non-opioid analgesics, the role sodium and calcium channel antagonists and local anesthetic drugs in prevention of pain</p> <p>a3- Outline service provided by acute pain team., different type of pain and Multimodal approach for its management</p> <p>a4- Identify different pathophysiology for musculoskeletal, low back pain neuropathic pain, headache and cancer pain for better management</p> <p>a5- Outline pain management in end of life terminal patients and interventional techniques for intractable pain</p> <p>a6- Describe neurological principles emotion and behaviour changes to pain</p> <p>a7- Describe the health related acquired infection and infection control policy in operative theater., icu and wards</p> <p>a8-Describe the advanced radiodiagnosticparameters in pain medicine.</p>



<b>A2-Fundamentals of ethical &amp; legal practice</b>	a7-Describe the health related acquired infection and infection control policy in operative theater., icu and wards
<b>A3 -Quality standards of the practice</b>	a3- Outline service provided by acute pain team., different type of pain and Multimodal approach for its management a5-Outline pain management in end of life terminal patients and interventional techniques for intractable pain
<b>A4- Effect of the specialty practice on the environment including rules for environmental conservation</b>	A7-Define hand hygiene and professional responsibility for infection control
<b>B1- Determine , analyze &amp; prioritize problems</b>	b1- Categorize the modulation of pain and prevention of developing chronic pain  b2- Appraise the mechanism of action of analgesics, pharmacological principles and their application  b3- Appraise the safe and effective plan for the treatment of acute pain using multiple analgesics and coanalgesics  b4-.Analyze the problems related to cancer pain , neuropathic and musculoskeletal pain  b5-. Analyze the problems in communications with angry, dying patients and their families.  b6- Appraise the psychology of addiction  b7- Appraise hand hygiene and professional



	<p>responsibility for infection control</p> <p>b8- Appraise advanced radiological guidance in pain intervention</p>
<b>B2- Solve common problems effectively</b>	<p>b 4-analyze problems related to cancer pain , neuropathic and musculoskeletal pain</p> <p>b5-. Analyze the problems in communications with angry, dying patients and their families.</p>
<b>B3- Critically appraise researches and articles</b>	<p>b4- Analyze problems related to cancer pain , neuropathic and musculoskeletal pain</p>
<b>B4-Evaluate professional risks</b>	<p>b 6-Analyze the problems of addiction</p>
<b>B5- Make decisions to solve professional problems according to available data</b>	<p>c4- Demonstrate palliative pain therapy and understanding their interaction with other medications taken by the patient for other systemic disease, and dealing with the complications</p>
<b>C1- Practice basic professional skills ( clinical/practical &amp; procedural skills) competently</b>	<p>c1- Illustrate different types of pain and their modulation at different levels</p> <p>c2 Use the proper multimodal drug therapy in acute pain</p> <p>c3- Use the intervention pain techniques for</p>



	<p>cancer patients and non cancer pain</p> <p>c4- Use drugs for palliative pain therapy and understanding their interaction with other medications taken by the patient for other systemic disease, and dealing with the complications</p> <p>c5 - Interpret radiodiagnostic images for diagnosis of pain</p>
<b>C2- Write reports related to the profession (Patient records, self appraisal/ audit reports etc...)</b>	c3- Use the intervention pain techniques for cancer patients and non cancer pain
<b>D1- Communicate effectively using all methods</b>	d4- Develop skills in communication using all multimedia effectively and internet resources.
<b>D2- Use information technology to improve his/her professional practice</b>	d3- Use information technology to improve professional practice and use different sources of information to obtain data.
D3- Practice self appraisal and determines his learning needs	<p>c1- Illustrate the different types of pain and their modulation at different levels</p> <p>c3- Use the intervention pain techniques for cancer patients and non cancer pain</p>
<b>D4- Use different sources of information to obtain data</b>	d3- Use information technology to improve professional practice and use different sources of information to obtain data.
<b>D5- Work in teams</b> <b>D6- Manage time effectively</b>	D2 Work in group.



<b>D7-Work as team leader in situations comparable to his work level</b>	<b>d2--</b> Develop team work skills ,work as team leader as well as a member in larger teams.
<b>D8-Learn independently and seek continuous learning</b>	<b>d1-</b> Make scientific presentations



**4- curriculum structure and contents****4. a- programme duration (years): 2 years****4.bprogramme structure :4 semesters**

Semester	Number of hours
6 Cr	( basic studies physiology and pharmacology),
8Cr	(acute pain, and elective courses),
5Cr	( chronic pain and radio diagnostic approaches)
5Cr	(radio diagnostic approaches and palliative care)

**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+ before submitting a thesis proposal.

**5- Program Courses****5.1- Compulsory (20 CHs)**



Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	clinical
1716802	Physiology of pain	4	2	4
1716803	Pharmacology of pain	2	2	
1718822	Radiodiagnosis	1	1	
718823	Radiodiagnosis	2	1	2
1716807	Acute pain	4	1	6
1716808	Chronic pain	4	2	4
1716809	Palliative care	3	1	4

### 5.2- Elective I (4 CHs)

Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	Clinical
1721820	Medical Statistics	3	2	
1708820	Immunology	3	2	
1716820	Infection Control	1	1	
1722621	Molecular Biology Of Pain	1	1	
1716870	Psychological and Neurological Principles of pain	1	1	



**5.3- Elective II**

NA

**5.4- Optional**

NA

**6- Program admission requirements**

Graduate students with Master degree in pain medicine, anaesthesia or any equivalent degrees

**7- Regulations for progression and program completion**

For the progression and completion of the program to obtain the degree of Doctor Degree in pain medicine, the student must complete 24 credit hours with CGPA of at least C+ and submit a thesis validity report.

**8- Evaluation of program intended learning outcomes**

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

**Program coordinator :**

Name: Ahmed el molla Signature ..... Date .....6\9\2017.....



*\*Program courses vs ILOs matrix*

Course Title	A1	A2	A3	A4	5A	A6	A7	A8	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	C4	C5	D1	D2	D3	D4	E4
Physiology 1716802									•													•	•	•	•	•
Pharmacology 1716803		•								•												•	•	•	•	
Acute Pain 1716807			•								•							•				•	•	•	•	•
Chronic pain 1716808				•								•							•			•	•	•	•	•
Palliative care 1716809					•								•							•		•	•	•	•	•
Radio								•								•						•	•	•	•	•



diagnosis 1716822																								
Radio diagnosis 1716823							•							•					•	•	•	•	•	•
Elective						•	•						•	•						•	•	•	•	

***Program Aims vs program ILO's matrix***

Programme Aims	ILOS
1. Transmission and processing of pain, ion channel modulators and facilitation/inhibition of nociception.	a1- Identify the mechanism of developing, transmission, modulation and perception of pain.  d1-Make scientific presentations d2-Communicate effectively through group discussion
2. Modulation of pain perception, potentiation and transition from acute to chronic pain, placebo analgesia, chronic pain at	b1-Categorize the modulation of pain and prevention of developing chronic pain  c1- Demonstrate the different types of pain and their



<p>cellular level and neuroendocrinal mechanism in pain.</p>	<p>modulation at different levels d3-Work in group. d4-Use multimedia effectively and internet resources.</p>
<p>3. Pharmacokinetic principles, Pharmacodynamics, and Issues relating to pharmacotherapeutics, local anaesthetics ,NSAIDS, opioids, anticoagulants, Antithrombotic s, Fibrinolytic, Antiplatelet agents, anti-depressants, anti convulsants, neuroleptics, corticosteroids and herbal medicine .</p>	<p>a2- Identify the effect of the opioid, non-opioid analgesics, the role sodium and calcium channel antagonists and local anesthetic drugs in prevention of pain b2- Appraise the recent advances in the mechanism of action of analgesics, pharmacological principles and their application d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.</p>
<p>4. Science of anesthesia for the Non-Anesthesiologist, assessment of acute pain in adult, assessment of acute pain in children and neonates, acute pain team, Quality assurance in acute pain, Mishaps in acute pain, Multimodal approach for pain management, trauma, acute</p>	<p>a3- Outline service provided by acute pain team., different type of pain and Multimodal approach for its management b3- Appraise the safe and effective plan for the treatment of acute pain using multiple analgesics and coanalgesics c2 Develop skills for proper multimodal drug therapy in</p>



abdomen.	acute pain d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.
5. Addiction ,rheumatology, back and neck pain, complex regional pain syndrome (CRPS), fibromyalgia, headache, neuropathic pain, orofacial pain and pelvic pain	a4- Identify different pathophysiology for musculoskeletal, low back pain neuropathic pain, headache and cancer pain for better management b4-.Analyze the problems related to cancer pain , neuropathic and musculoskeletal pain c3- Use intervention pain techniques for cancer patients and non cancer pain d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.
6. The control of the symptoms and psychosocial care of end stage patients ,ethics in dealing with end stage patients.	a5- Outline pain management in end of life terminal patients and interventional techniques for intractable pain B 5- Analyze the problems in communications with angry, dying patients and their families.



	<p>c4- Use drugs for palliative pain therapy and understanding their interaction with other medications taken by the patient for other systemic disease, and dealing with the complications</p> <p>d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.</p>
<p>7. The communication skills and advanced practice in dealing with intractable pain</p>	<p>c4- Use drugs for palliative pain therapy and understanding their interaction with other medications taken by the patient for other systemic disease, and dealing with the complications</p>
<p>8. The neurological principles related to human health and diseases as well as mechanisms, emotion and cognition, stress, sickness and pain, psychiatric illness, depression, anxiety, and somatoform pain disorders, the psychology of addiction.</p>	<p>a6- Describe neurological principles emotion and behaviour changes to pain</p> <p>b6- Appraise the psychology of addiction</p> <p>d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.</p>
<p>9. The health related acquired infection, and</p>	<p>a7- Describe the health related acquired infection and infection control policy in operative theater., icu and</p>





<p>possible methods to decrease the incidence of infection, and improve the outcome.</p>	<p>wards b7- Appraise hand hygiene and professional responsibility for infection control</p>
<p>10. New guidelines to control infection and to use proper antibiotic use to decrease the overwhelming problem of antibiotic resistance.</p>	<p>a8-Describe the advanced radiodiagnostic parameters in pain medicine. d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group. d4-Use multimedia effectively and internet resources.</p>