Program SPECIFICATION FOR Diploma Degree in Pain medicine

Code: 1716600

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 Fawzy Elmolla

5- External evaluator(s):
-Salwa shaarawy, professor in anaesthesia, Alex 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-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. 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.

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.

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

4-Acquire basic knowledge about chronic pain including the basiccognitive and psychologic aspects of pain, basic principles in neuropathic pain assessment, basic principles in physiotherapy and in psychotherapy in pain management . Clinically the candidate should attend ,5 neuropathic pain clinic, , one comprehensive pain programme, 5 intervention pain techniques.

5- know how to assess and manage cancer pain, descrie the pharmacological and non pharmacological therapy for cancer pain.,neurolytic therapy, implant device injection, palliative care basic principles in musclo-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.

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 .

7-Definie pain, Membrane potentials and synapses, nociceptors, Neural pathway:fast and slow fibers, Neurotransmitters:excitatory and inhibitory, Pain processing and transmission in spinal cord, Modulation(descending inhibition) and Peripheral sensitization, Central sensitization.

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.

2- Intended learning outcomes (ILOS)

a- knowledge and understanding:

A1- Recall basic anatomical landmarks of the back and segmental cutaneous innervation (dermatomes).

A2- Discuss the effect of pain on different body systems with special emphasis on the neurological and psychological aspects.

A3 - Describe the importance of radio-diagnosis concerning pain medicine.
A4- Describe the different groups of antimicrobial agents and discuss the mechanisms of bacterial resistance.
A5- Define sterilization and disinfection and familiarize the students with different antiseptics ,disinfectants and personal protective barriers used in hospitals and emphasis the role of hand hygiene in decreasing the incidence of infection.
A6- Recall basics of pain physiology and define nociceptors and reflex arc.

A7- Decribe types of chronic pain and outline their management , with special consideration to pain in : elderly, ICU, hematology(sickle cell anemia- Lymphoma-leukemia), children and at the end of life (palliative care) and headache.

A8- Define acute pain service and recall the role of the staff and different protocols used and list the different modes of controlling pains in postoperative period and during labor pain.

A9- Describe the steps to perform neuroaxial blocks and truncal blocks ,and describe the different approaches of both upper and lower limb blocks brachial plexus block, lower limb blocks.

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

b- Intellectual skills:

b1- -Categorize the components of the central nervous system (CNS) and peripheral nervous system (PNS); explain the structural and functional divisions of each.

b2 Appraise pain management protocol in postoperative units, medical emergencies and trauma in both pediatrics and adults

b3 Appraise the importance of technology and the updates in analgesic drugs and techniques

b4- Appraise the strategy to use opioid in non cancer pain

b5- categorize tolerance and addiction in patients receiving opioids for chronic pain and able to dealing with and manage those patients with addiction.

B6- Analyze the Types Of Pain And appraise the concepts of Molecular Pathophysiology Of Pain Development, Peripheral And Central Sensitization And Pain Processing

B7- Analyze problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia.

B8- Analyze the hazards of exposure to ionizing radiation.

B9.Analyze problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia.

c- professional and practical skills:

c1 Demonstrate the lines of the thoracic wall and the major surface landmarks (jugular notch, sternal angle, infrasternalangle,midclavicular, anterior axillary and midaxillary ,posterior axillary line and midinguinal , ect)

c2- Illustrate the different pain scales for assessing pain using variety of pain scales, and monitoring treatment.

c3- Demonstrate different types of pain including pediatric, trauma postoperative pain, neuropathic and breakthrough pain according to protocols..

C4- -Demonstrate neurological and psychological conditions.

C5- Use radiological anatomy, and diagnose different lesions in Xray films.

C6- Use intervention pain techniques including fluoroscopy guided interventions

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

Generic Academic Standards of NAQAAE	ARS of diploma of pain medicine
A1-Basic facts , theories, of the specialty and related subjects/ fields	A1.Describe the three layers of spinal meninges, boundaries of the spinal cord and identify spinal nerves, basic anatomical landmarks of the back and segmental cutaneous innervation (dermatomes).. A2.Identify different types of pain and how to evaluate a pain patient , assess and measure pain using different pain score. A3.Define acute pain service and identify the role of the staff and different protocols used. A4.Identify chronic pain types and outline their management. A5.Identify the basic pharmacological principles of the different analgesicsand coanalgesics and the possible interaction between them. A6.Identify basics of pain physiology. A8.Describe the importance of radiodiagnosis concerning pain medicine. A9.Discuss the effect of pain on different body systems.
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	A7-Define sterilization and disinfection and familiarize the students with different antiseptics ,disinfectants and personal protective barriers used in hospitals
B1- **Determine , analyze & prioritize problems**	**b1-** -Categorize the components of the central nervous system (CNS) and peripheral nervous system (PNS); explain the structural and functional divisions of each. **b2** Appraise pain management protocol in postoperative units, medical emergencies and trauma in both pediatrics and adults **b3** Appraise the importance of technology and the updates in analgesic drugs and techniques **b4-** Appraise the strategy to use opioid in non cancer pain **B7**- Analyze problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia. **B8**- Analyze the hazards of exposure to ionizing radiation. **B9**.Analyze problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia.
B2- **Solve common problems effectively**	**b5-** categorize tolerance and addiction in patients receiving opioids for chronic pain and able to dealing with and manage those patients with addiction. B9.Solve problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia.

B3- **Critically appraise researches and articles**	**b2** Appraise pain management protocol in postoperative units, medical emergencies and trauma in both pediatrics and adults
B4-**Evaluate professional risks**	**B6**- Analyze the Types Of Pain And Identify the concepts of Molecular Pathophysiology Of Pain Development, Peripheral And Central Sensitization And Pain Processing
B5- **Make decisions to solve professional problems according to available data**	**b5**- categorize tolerance and addiction in patients receiving opioids for chronic pain and able to dealing with and manage those patients with addiction.
C1- Practice basic professional skills (clinical/practical & procedural skills) competently	C1.Illustrate the lines of the thoracic wall and the major thoracic surface landmarks and anatomical landmarks integral to the interventional pain practice C2. Use different pain scales for assessing pain and monitoring treatment. C3.Use management of acute pain and complications of medications and blocks C4.Use nerve stimulator and ultrasound in conduction of peripheral nerve blocks. C5.Use neuroaxial blocks on simulators and perform supervised trial on patients. C6.Interpret the technique of fluoroscopy guided interventions in pain management. C7.Demonstrate lesions in X ray films. C8.Interpret radiological anatomy. C9.Practice correct and full medical , neurological and psychological examination.
C2- Write reports related to the profession (Patient records, self appraisal/ audit reports etc...)	C2-Use different pain scales for assessing pain and monitoring treatment.
D1- Communicate effectively using all methods	d4- Develop skills in communication using all methods. Manage time effectively.
D2- Use information technology to improve his/her professional practice	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	d1- Make scientific presentation
D4- Use different sources of information to obtain data	d3- Use information technology to improve professional practice and use different sources of information to obtain data.
D5- Work in teams **D6- Manage time effectively**	d2-- Develop team work skills ,work as team leader as well as a member in larger teams. 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),
9Cr	(acute pain(a),acute pain (b), internal medicine),
11 Cr	(chronic pain (a),chronic pain (b) and radio diagnostic approaches).

4.b.ii- No. of credit hours	**Lectures**	**14**	**Clinical**	**24**	**Total**	**26**	
	Compulsory	**26**	**Elective**	**4**	**Optional**		

4.b.iii- No. of credit hours of basic science courses	**No.**	**26**	**%**	**%100**
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.**	**22**	**%**	**80**
4.b.vi- No. of credit hours of other courses	**No.**	**4**	**%**	**20**
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.

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	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	3	2	2

1713620	Genetics	**3**	**2**	**2**
1716620	Infection Control	**1**		**1**
1721720	Medical statistics	**1**		**1**
1721721	Computer	**1**		**1**

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+ .

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: …prf ahmed fawzy el molla…….. Signature …….
Date 6\9\2017……

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4
Anatomy	X									x	X								X						X	X	X	X
Acute painI								X		x			X				x				X				X	X	X	X
Acute pain II			X						X					X						X				x	X	X	X	X
Chronic pain I							X			x						X	x							X	X	X	X	X
Chronic pain iII							X			x						X								X	X	X	X	X
Pharmacology pain					X									X											x	x		x
Radiodiagnosis			X							x							x	X				x			X	X	X	X

Internal medicine		X										X													X	X	X	X
Physiology						X				x						X									x	x		x

	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	C 1	C 2	C 3	C 4	C 5	C 6	D 1	D 2	D 3	D 4
Elective course																							x					
Immunology										x									x		x							
Genetics										x								x					x	x				
Infection Control					X												X					x			X	X	X	X
Medical statistics										x												x						

Computer	x		x			x						x								x	x		x	x		x		x

Program Aims	**ILOS**
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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.	**a2-** Discuss the effect of pain on different body systems with special emphasis on the neurological and psychological aspects. **b2** Categorize pain management protocol in postoperative units, medical emergencies and trauma in both pediatrics and adults **c3-** Appraise types of pain including pediatric, trauma postoperative pain, neuropathic and breakthrough pain according to protocols.. d1-Make scientific presentations d2-Communicate effectively through group

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5- know how to assess and manage cancer pain, descrie the pharmacological and non pharmacological therapy for cancer pain.,neurolytic therapy, implant device injection, palliative care basic principles in musclo-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.	**a3 -** Describe the importance of radio-diagnosis concerning pain medicine. **B8**-Analyze the hazards of exposure to ionizing radiation. C5- Use radiological anatomy, and diagnose different lesions in Xray films. d4-Use multimedia effectively and internet resources.
6-Know the recent advances in mechanism of action of analgesics,pharmacokinetics	**A4-** Describe the different groups of antimicrobial agents and identify the

and pharmacodynamics, drug interaction ofanalgesics, , local anaesthetics ,NSAIDS, opioids, NMDA antagonists, antidepressants, anti convulsants, neuroleptics, corticosteroids and herbal medicine .	mechanisms of bacterial resistance. **b4-** Use opioid in non cancer pain
7-Definie pain, Membrane potentials and synapses, nociceptors, Neural pathway:fast and slow fibers, Neurotransmitters:excitatory and inhibitory, Pain processing and transmission in spinal cord, Modulation(descending inhibition) and Peripheral sensitization, Central sensitization.	**a2-** Discuss the effect of pain on different body systems with special emphasis on the neurological and psychological aspects. **B6**- Categorize the Types Of Pain And Identify the concepts of Molecular Pathophysiology Of Pain Development, Peripheral And Central Sensitization And Pain Processing **C4-** -Illustrate neurological and psychological conditions.
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.	**A5-** Define sterilization and disinfection and familiarize the students with different antiseptics ,disinfectants and personal protective barriers used in hospitals and emphasis the role of hand hygiene in decreasing the incidence of infection. **B7**- Analyze problems related to inadequate infection control including surgical site infection , catheter related infection and ventilator associated pneumonia. d1-Make scientific presentations d2-Communicate effectively through group discussion d3-Work in group.