الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

PAIN MEDICINE

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بسم الله الرحمن الرحيم

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V. INTRODUCTION

1. Context of Practice

Pain medicine has become more sophisticated in its understanding of the neurobiology of refractory pain disorders and in the diagnosis and treatment of such disorders. As a result, practitioners in other medical disciplines have recognized the value of consulting with pain medicine physicians and view it as a necessary venue for treating patients with pain that is more difficult. This deepening knowledge and higher level of integration into other disciplines raises the expectations and demands of physicians pursuing the field of pain medicine. Thus, it has become necessary for pain medicine fellowships to accept the challenges and responsibility of integrating complex components of a multitude of medical disciplines into their training programs.

Despite the increased demand for pain specialists, the number of practicing pain doctors in various regions of the Kingdom of Saudi Arabia is limited. Only 13 pain centers are available for patients with pain in this country, though the incidence of diabetes mellitus is around 30%[1] with a high chance of painful peripheral neuropathy[2]. Chronic pain prevalence in the Saudi adult population was found to be 46.4%, with a higher prevalence among women and the elderly[3]. Thus, well-trained and specialized pain management physicians are needed to manage these patients.

The pain medicine program comprises a continuum of education in pain medicine. Twenty-four months of training has been divided into acute and chronic pain management rotations. This document defines the educational goals, objectives, and curriculum of a fellow entering the program.

2. Goal and Responsibility of curriculum implementation

The ultimate goal of this curriculum is to guide trainees to become *competent* in their specialty. This goal will require a significant amount of effort and coordination from all stakeholders involved in postgraduate training. As *"adult-learners"* trainees have to demonstrate full engagement with *proactive* role by: careful understanding of learning objectives, self-directed learning, problem solving, openness and readiness to apply what they have learned by reflective practice from feedback and formative assessment, and self-wellbeing and seeking support when needed. Program directors play a vital role in making the implementation of this curriculum the most successful. Training committee members, particularly the program administrator and chief fellow, have a significant impact on program implementation. Trainees should be able to share responsibility in curriculum implementation. The Saudi Commission for Health Specialties (SCFHS) applies the best models of training governance to achieve the best quality of training. Academic affairs in training centers and regional supervisory training committees will play a major role in training supervision and implementation. The Pain Medicine Scientific Council will be responsible for ensuring that the content of this curriculum is constantly updated to match the best-known standards in postgraduate education of their respective specialty.

3. What is new in this edition?

The updated version of this curriculum will cover the following aspects:

- Transformation into a competency-based curriculum, with explicit representation of learning domains (knowledge, skills, and behavior)
- Graded responsibility for the trainee, with clearer demarcation of what should be achieved at each stage of training (milestone)
- Better supervisory frameworks which support independent learning within a formal structure, and enriched formative assessment

ABBREVIATIONS USED IN THIS DOCUMENT

Abbreviation	Description
SCFHS	Saudi Commission for Health Specialties
F(1)	(First) year of Fellowship
F(2)	(Second) year of Fellowship
PT	Progress test
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
Mini-CEX	Mini-Clinical Experience report
DOPS	Direct Observation of Procedural Skills report
CBD	Case-Based Discussion report
CBE	Competency-Based Education
ITER	In-Training Evaluation Report
COT	Consultation Observation Tool
FTC	Fellowship Training Committee
ACR	American College of Rheumatology

Abbreviation	Description
CPD	Continuous Professional Development
M & M	Morbidity and Mortality
ITER	In-Training Evaluation Report
ACR	American College of Rheumatology
CPA	Continuous professional activities

PROGRAM ENTRY REQUIREMENTS

Please refer to the updated executive policy of SCFHS on admission and registration.

Website: www.scfhs.org.sa

LEARNING AND COMPETENCIES

GENERAL OBJECTIVES

- At the end of the twenty-four-month training period, the fellow will be able to perform a comprehensive evaluation of the patient with pain, including a detailed history, focused neuro-diagnostic examination, various differential diagnoses of pain problems, interpretation of various diagnostic tests, and formulation of a pain management plan, with a multidisciplinary approach.
- The fellows from anesthesia and neurosurgery background will be proficient in various pain-relieving procedures, including nerve blocks, their indications, techniques, and complications. They will be exposed to advanced pain-relieving techniques, including spinal cord stimulation, sympathetic neurolytic blocks, insertion of permanently implanted infusion pumps, and radiofrequency ablation techniques. Those with neurology background training will be able to perform pain-relieving injections for the treatment of headache, trigger points, and small and large joint injections related to their future practice.
- The Fellow will be able to:
- Assess various pain related topics and researches in the medical literature
- Comprehend the quality improvement process as well as administrative issues in the pain clinics
- Undertake leadership, teaching and research roles in their medical communities

- Describe the organization of pain management services and administration skills at the local, national, and international levels.

Educational Objectives:

Medical Expert (become an expert in):

- Functioning as a consultant to provide patient-centered care
- Taking a comprehensive pain history and performing a biopsychosocial examination
- Prescribing and interpreting appropriate tests
- Recognizing common pain syndromes and assessing relevant co-morbidities
- Documenting findings and differential diagnoses
- Apply findings to develop treatment approaches
- Understanding indications for interventional pain management, the techniques involved, expected outcomes, and potential complications
- Performing common interventional pain management procedures
- Developing pharmacological approaches to pain management
- Integrating non-pharmacological approaches with therapeutic strategy for pain management
- Providing continuity of care through follow for inpatient and outpatient setting
- Identifying possible preventive interventions to reduce pain and improve function

Recognizing one's limits and seeking consultation from other health professionals when necessary

Communicator

- Develop a good rapport with patients

- Be able to elicit relevant information and perspectives from patients, families and colleagues
- Learn explaining information accurately to patients and families, colleagues, and other professionals as well educating the patient and family regarding the treatment plan.
- Be able to clearly convey oral and written information about medical encounters

Collaborator

- Integrate into the multidisciplinary team of the pain management unit
- Develop collaborative care plans in consultation with patients and other health care professionals

Manager (learn to):

- Manage self-practice and career effectively
- Allocate finite health care resources
- Serve administrative and leadership roles

Health Advocate

- Promote appropriate lifestyle changes that can help in prevention of primary and secondary pain.

Scholar

- Critically evaluate medical and scientific information
- Facilitate learning for patients, families, students, residents, other health professionals, and the general public.
- Contribute to the development, dissemination, and translation of new knowledge and practices
- Undertake translational and/or clinical pain research projects
- Efficiently present the scientific contents in local and/or international gatherings/conferences.

Professional

- Be a role model of ethical and compassionate care
- Treat patients and colleagues with respect
- Learn to accept responsibility for one's actions and for patient care
- Practice sustainably by maintaining a commitment to physician self-health

See Appendix A & B

Program Duration

- Two years.
- The 24-month program provides experience in multidisciplinary pain management with emphasis on pharmaceutical and interventional pain management approaches.

3. Program Rotations

Training Year	Mandatory core rotations*		Elective rotations**	
	Rotation name	Duration (in weeks)	Rotation name	Duration (in weeks)
F1	• Chronic Pain I * • Acute Pain I * • Annual leave	24 12 4	Psychology, Palliative Care, Regional Anesthesia, Neurology, Interventional Radiology, Psychiatry, Research, Rheumatology	maximum 12 weeks of elective rotation in at least two disciplines.
F2	• Chronic Pain II * • Acute Pain II * • Annual leave	24 12 4	Psychology, Palliative Care, Regional Anesthesia, Neurology, Interventional Radiology, Psychiatry, Research, Rheumatology	maximum 12 weeks of elective rotation in at least two disciplines.

(*Mandatory core rotation: Set of rotations that represent program core components and are mandatory.

**Elective rotation: Set of rotations that are related to the specialty, as determined by the scientific council, and the trainee is required to do at least two of them)

4 weeks annual holiday.

4. Mapping of learning objectives and competency roles to program rotations

Core Rotations

Rotation Name: Chronic Pain I

The goal of chronic pain rotation is to train fellows to be consultants in pain management who would be able to coordinate care in conjunction with a multidisciplinary team in both inpatient and outpatient settings. The fellows will be exposed to various chronic pain syndromes and diagnostic and therapeutic interventions during their rotations.

Rotation Setting: Inpatient, outpatient

Rotation Duration: 24 weeks

Training Year: 1 (F1)

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Assess the patient with pain and describe proper treatment modalities
- Select appropriate investigations
- Choose an appropriate intervention
- Perform epidural and subarachnoid injection or peripheral neurolysis.

- Perform peripheral nerve blocks
- Perform joint and bursal sac injections
- Place and troubleshoot implanted epidural or intrathecal catheters and infusion pumps
- Perform electrical stimulation techniques
- Use behavioral modification techniques
- Perform sympathectomy, radio frequency ablation and neuro ablative techniques
- Perform central neuroaugmentative procedures
- Utilize modalities of therapy such as physical, occupational, and other alternative therapies and complementary systems of medicine
- Appreciate the psychological impact of pain and address it appropriately

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Understand the mechanism of pain in chronic patients, side effects of medications, and complications
- Discuss the anatomy and physiology of the pain pathways
- Discuss the epidemiology and sociology of pain
- Discuss the pharmacology of non-steroidal anti-inflammatory agents, opioids, and non-opiate analgesics
- Discuss the pharmacology of anticonvulsants, antipsychotics, and muscle relaxants used in pain management
- Discuss the various pain and disability scores
- Discuss the principles underlying radiologic and other diagnostic testing
- Discuss the role of nerve blocks and neuroablative procedures in the management of pain
- Understand the principles of neuromodulation
- Describe the role of behavioral, psychotherapeutic and other supportive treatment including rehabilitation

- Understand the principles and techniques of cancer pain management
- Discuss ethical issues of death and dying
- Understand the principles of physical therapy, occupational therapy, and rehabilitation for chronic pain
- Discuss pain management in children
- Discuss ethical issues involved in pain research in humans and animals
- Understand all organizational aspects of a pain management center
- Discuss continuing improvements in quality, utilization review and program evaluation
- Understand assessment of disability and procedures for rehabilitation

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate effectively in a multidisciplinary team
- Apply empathy to patients and their families

Professionalism:

After completion of the rotation, the fellow will be able to:

- Exhibit appropriate professional behaviors in practice
- Demonstrate commitment to delivering the highest quality care and maintenance of competence
- Recognize and appropriately respond to ethical issues encountered in practice and manage real or perceived conflicts of interest
- Maintain patient confidentiality and appropriate boundaries with patients

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Demonstrate the ability to effectively utilize systematic methodology to assess practice experience and perform practice-based improvement activities

- Locate, appraise, and assimilate evidence from scientific studies related to patients' pain problems
- Demonstrate the ability to obtain and utilize patient information to enhance patient care
- Demonstrate the ability to utilize knowledge of study designs and statistical methods to recognize strengths and weaknesses in clinical studies and other information related to diagnostic and therapeutic effectiveness
- Facilitate the education of residents, and other healthcare professionals

Systems-Based Practice:

- Demonstrate awareness of and responsiveness to the larger context and system of health care and the ability to call on system resources effectively to provide care that is of optimal value4
- Demonstrate an awareness of, and responsiveness to the larger context of system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
- Work effectively in various healthcare delivery settings and systems relevant to pain specialties
- Coordinate patient care within the healthcare system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential systems solutions4

Rotation Name: Chronic Pain II

The goal of chronic pain rotation is to train fellows to be consultants in pain management who are able to coordinate care in conjunction with a multidisciplinary team in both inpatient and outpatient settings. The fellows will be exposed to various chronic pain syndromes and diagnostic and therapeutic interventions during their rotations.

Rotation Setting: Inpatient, outpatient

Rotation Duration: 24 weeks

Training Year: 2 (F2)

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Assess the patient with pain and suggest appropriate treatment modalities
- Advice appropriate investigations
- Choose the appropriate intervention needed
- Perform epidural and subarachnoid injection or peripheral neurolysis
- Perform peripheral nerve blocks
- Perform point and bursal sac injections
- Place and troubleshoot implanted epidural or intrathecal catheters and infusion pumps
- Perform electrical stimulation techniques
- Use behavioral modification techniques
- Perform sympathectomy, radio frequency ablation and neuro ablative techniques
- Perform central neuroaugmentative procedures

- Utilize modalities of therapy such as physical, occupational, and other alternative therapies and complementary systems of medicine
- Appreciate the psychological impact of pain and address it appropriately
- Independently perform adequate intervention to relieve pain

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Understand the mechanism of pain in chronic patients, side effects of medications, complications
- Discuss the anatomy and physiology of the pain pathways
- Discuss the epidemiology and sociology of pain
- Discuss the pharmacology of non-steroidal anti-inflammatory agents, opioids, and non-opiate analgesics
- Discuss the pharmacology of anticonvulsants, antipsychotics, and muscle relaxants used in pain management
- Discuss the various pain and disability scores
- Discuss the principles underlying radiologic and other diagnostic testing
- Discuss the role of nerve blocks and neuroablative procedures in the management of pain.
- Understand the principles of neuromodulation
- Describe the role of behavioral, psychotherapeutic and other supportive treatment including rehabilitation
- Understand the principles and techniques of cancer pain management
- Discuss ethical issues of death and dying
- Understand the principles of physical therapy, occupational therapy, and rehabilitation for chronic pain
- Discuss pain management in children
- Discuss ethical issues involved in pain research in humans and animals
- Understand all organizational aspects of a pain management center

- Discuss continuing improvements in quality, utilization review and program evaluation
- Understand assessment of disability and procedures for rehabilitation

Interpersonal Skills and Communication:

At the completion of the rotation, the fellow will be able to:

- Communicate effectively in a multidisciplinary team
- Apply empathy to patients and their families

Professionalism:

After completion of the rotation, the fellow will be able to:

- Exhibit appropriate professional behaviors in clinical practice
- Demonstrate commitment to delivering the highest quality care and maintenance of competence
- Recognize and appropriately respond to ethical issues encountered in practice and manage real or perceived conflicts of interest
- Maintain patient confidentiality and appropriate boundaries with patients

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Demonstrate the ability to effectively utilize systematic methodology to assess practice experience and perform practice-based improvement activities
- Locate, appraise, and assimilate evidence from scientific studies related to patients' pain problems
- Demonstrate the ability to obtain and utilize patient information to enhance patient care
- Demonstrate the ability to utilize knowledge of study designs and statistical methods to recognize strengths and weaknesses in clinical

studies and other information on diagnostic and therapeutic effectiveness.

- Facilitate the education of residents, and other healthcare professionals

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate an awareness of, and responsiveness to the larger context of system of health care and the ability to call on system resources effectively to provide care that is of optimal value[4]
- Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
- Work effectively in various healthcare delivery settings and systems relevant to pain specialties
- Coordinate patient care within the healthcare system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential systems solutions[4]

Rotation Name: Acute Pain I

The goal of acute pain rotation is to train fellows to be consultants in acute pain management, to be able to coordinate care in conjunction with a multidisciplinary team in both the inpatient and outpatient settings, and to be exposed to various acute pain causes, their diagnostic and therapeutic interventions

Rotation Setting: Inpatient, outpatient

Rotation Duration: 12 weeks

Training Year: 1 (F1)

Objectives:

To be able to diagnose the various causes of acute pain, postoperative pain, trauma pain, labor pain, or other medical conditions

To be able to utilize the proper tools to assess pain severity and characteristics

To be able to manage the acute pain appropriately by utilizing pharmacological and nonpharmacological therapeutic modalities

To be able to educate other health specialists as well as common people about acute pain

Patient care:

After completion of the rotation, the fellow will be able to:

- Diagnose various causes of acute pain, including postoperative pain, trauma pain, labor pain, and other medical conditions
- Utilize the proper tools to assess the pain severity and characteristics
- Manage the acute pain properly by utilizing pharmacological and nonpharmacological therapeutic modalities
- Educate other health specialists as well as the common people about acute pain

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

Identify the various causes of acute pain

Assess the severity of acute pain utilizing various assessment tools

Manage the acute pain appropriately using pharmacological and non-pharmacological modalities

Perform different central and peripheral nerve blocks to control the acute pain

Educate other health specialists, nurses, and patient regarding acute pain management

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate effectively in a multidisciplinary team
- Apply empathy to patients and their families

Professionalism:

After completion of the rotation, the fellow will be able to:

- Exhibit appropriate professional behaviors in acute pain management
- Demonstrate a commitment to delivering the highest quality care and maintenance of competence
- Recognize and appropriately respond to ethical issues encountered in practice and manage real or perceived conflicts of interest.
- Maintain patient confidentiality and appropriate boundaries with patients

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Demonstrate the ability to effectively utilize systematic methodology to assess practice experience and perform practice-based improvement activities
- Locate, appraise, and assimilate evidence from scientific studies related to patients' pain problems
- Demonstrate the ability to obtain and utilize patient information to enhance patient care

- Demonstrate the ability to utilize knowledge of study designs and statistical methods to recognize strengths and weaknesses in clinical studies and other information on diagnostic and therapeutic effectiveness
- Facilitate the education of residents, and other healthcare professionals

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to call on system resources effectively to provide care that is of optimal value[4]
- Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
- Work effectively in various healthcare delivery settings and systems relevant to pain specialties
- Coordinate patient care within the health care system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential systems solutions[4]

Rotation Name: Acute Pain II

The goal of acute pain rotation is to train fellows to be consultants in acute pain management, to be able to coordinate care in conjunction with a multidisciplinary team in both the inpatient and outpatient settings, and to be exposed to various acute pain causes, their diagnostic and therapeutic interventions during their rotations.

Rotation Setting: Inpatient, outpatient

Rotation Duration: 12 weeks

Training Year: 2 (F2)

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Assess the patient with acute pain situation (either postoperative, trauma, burn, labor pain, or other) and describe the proper treatment modalities
- Perform the adequate intervention to relieve pain under supervision or independently

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

Identify the various causes of acute pain

Assess the severity of acute pain utilizing various assessment tools

Manage the acute pain appropriately using pharmacological and non-pharmacological modalities

Perform different central and peripheral nerve blocks to control the acute pain

Educate other health specialists, nurses, and patient regarding acute pain management

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate effectively in a multidisciplinary team
- Apply empathy to patients and their families

Professionalism:

After completion of the rotation, the fellow will be able to:

- Exhibit appropriate professional behaviors in acute pain management
- Demonstrate commitment to delivering the highest quality care and maintenance of competence
- Recognize and appropriately respond to ethical issues encountered in practice and manage real or perceived conflicts of interest.
- Maintain patient confidentiality and appropriate boundaries with patients

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Demonstrate the ability to effectively utilize systematic methodology to assess practice experience and perform practice-based improvement activities
- Locate, appraise, and assimilate evidence from scientific studies related to patients' pain problems
- Demonstrate the ability to obtain and utilize patient information to enhance patient care
- Demonstrate the ability to utilize knowledge of study designs and statistical methods to recognize strengths and weaknesses in clinical studies and other information on diagnostic and therapeutic effectiveness
- Facilitate the education of residents, and other healthcare professionals

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to call on system resources effectively to provide care that is of optimal value[4]

- Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
- Work effectively in various healthcare delivery settings and systems relevant to pain specialties
- Coordinate patient care within the health care system relevant to their clinical specialty
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential systems solutions[4]

Elective Rotations

Rotation Name: Psychiatry/Psychology:

The goal of psychiatry/psychology rotation is to introduce pain management fellows to the psychological and psychiatric co-morbidities of patients with chronic pain, referred to as a tertiary multidisciplinary pain center.

Rotation Setting: inpatient and outpatient

Rotation Duration: 4-8 weeks

Training Year: F 2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Evaluate the problem (medical and psychiatric aspects)
- Identify DSM IV-R disorders in patients with chronic pain

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Understand the psychosocial aspects of chronic pain
- Distinguish the multifactorial etiology of chronic pain
- Distinguish the variability of pain experience
- Identify widespread impact of chronic pain on all aspects of life
- Perceive expectations of patients with chronic pain of the Pain Management Unit
- Appraise special problems of caring for patients with chronic pain
- Recognize the limits of pain medicine
- Compare the main medications used in the treatment of psychiatric problems
- Discuss possible problems of chronic drug use
- the effects of emotional distress, cognitive dysfunction, and malingering on the presentation and success of pain therapy
- the importance of physicians' reactions to patients with chronic pain (i.e., counter transference) in the doctor-patient relationship
- Distinguish between pre-morbid and secondary psychological/psychiatric disturbance
- Appraise the reciprocal relationship between pain and psychological/ psychiatric problems
- Recognize the obstacles to successful treatment of pain
- Recall psychotherapy methods for treating patients with pain

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate effectively in a multidisciplinary team
- Apply empathy to patients and their families

Professionalism:

After completion of the rotation, the fellow will be able to:

- Exhibit appropriate professional behaviors in dealing with pain and psychiatric patients
- Demonstrate commitment to delivering the highest quality care and maintenance of competence
- Recognize and appropriately respond to ethical issues encountered in practice and manage real or perceived conflicts of interest
- Maintain patient confidentiality and appropriate boundaries with patients

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Demonstrate the ability to effectively utilize systematic methodology to assess practice experience and perform practice-based improvement activities
- Locate, appraise, and assimilate evidence from scientific studies related to patients' pain problems
- Demonstrate the ability to obtain and utilize patient information to enhance patient care
- Demonstrate the ability to utilize knowledge of study designs and statistical methods to recognize strengths and weaknesses in clinical studies and other information on diagnostic and therapeutic effectiveness
- Facilitate the education of residents, and other healthcare professionals

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to call on system resources effectively to provide care that is of optimal value[4]

- Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
- Work effectively in various healthcare delivery settings and systems relevant to pain specialties
- Coordinate patient care within the healthcare system relevant to their clinical specialty.
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential systems solutions[4]

Rotation Name: Palliative Care

The goal of palliative care rotation is to introduce pain management fellows to the palliative care of terminally ill patients with chronic pain, referred to as a tertiary multidisciplinary pain center.

Rotation Setting: Inpatient

Rotation Duration: 4-8 weeks

Training Year: Either in F1 or F2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Take a complete medical history and perform a careful and accurate physical examination

- Write concise, accurate and informative histories, physical examinations and progress notes
- Define and prioritize patients' medical problems and generate appropriate differential diagnoses
- Develop rational, evidence-based management strategies

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- List indications and eligibility guidelines for palliative care
- Recognize and understand the process of dying as needed to assist patients with movement through the steps involved.
- Describe most common distressing (to the patient or family) symptoms of advanced disease pain, dyspnea, itching, nausea, vomiting, constipation, diarrhea, delirium, anorexia, multifocal myoclonus, and suggest treatments for each.
- List the indications, limitations, side effects, and technical aspects of pharmacologic pain management
    - NSAIDS and steroids
    - Opioids, including dosage titration and conversion as well as management of side effects.
    - Adjuvant Drugs: Anticonvulsants, Antidepressants, Antineoplastic Therapies
- Utilize appropriate nonpharmacologic pain treatment modalities
    - Physical: cutaneous stimulation, massage, counter stimulation, TENS, acupuncture, therapeutic oils
    - Psychosocial: Relaxation and imagery, distraction and re-framing, patient education, psychotherapy and structured support, hypnosis, peer support groups, pastoral counseling

- Explain psychiatric problems associated with advanced disease: Depression, anxiety, delirium, dementia
- Prescribe the proper treatment for palliative care patients

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate effectively with patients and families
- Communicate effectively with all non-physician members of the health care team to ensure comprehensive and timely care of patients in both outpatient and inpatient settings
- Present information concisely and clearly both verbally and in writing to patients
- Communicate effectively with colleagues when signing out patients or turning over care to another service
- Increase self-awareness in identifying methods toward managing personal and professional sources of stress and burnout
- Establish rapport with dying patients and their families
- Perform a patient-centered medical interview
- Engage patients in shared decision-making and participate in family discussions in setting of end-of-life decisions
- Communicate effectively and considerately with palliative care staff team for effective care coordination

Professionalism:

After completion of the rotation, the fellow will be able to:

- Interact professionally with patients, families, colleagues, and members of the healthcare team
- Accept professional responsibility as primary care physician for patients under their care.
- Appreciate the social context of illness

- Appraise when and how to request ethics consultation and how best to utilize the advice provided
- Value ethical concepts of confidentiality, consent autonomy and justice
- Explain professionalism concepts of integrity, altruism and conflicts of interest
- Demonstrate self-awareness to identify methods for managing personal and professional sources of stress and burnout
- Demonstrate knowledge and awareness of personal risks concerning drug/alcohol abuse for self and colleagues, including referral, treatment, and follow-up

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Identify and acknowledge gaps in personal knowledge and skills in the care of clinics and hospitalized patients
- Develop and implement strategies for filling gaps in knowledge and skills
- Commit to professional scholarship, including systematic and critical perusal of relevant print and electronic literature, with emphasis on integration of basic science with clinical medicine, and evaluation of information in light of the principles of evidence-based medicine.

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Understand and utilize the multidisciplinary resources necessary for optimally care of hospitalized patients
- Use evidence-based, cost-conscious strategies in the care of hospitalized patients
- Understand when to seek assistance and advice from senior residents and attending physicians

- Participate in taking ward rounds, participating in conferences, and other educational/academic activities
- Effective collaborate with other members of the healthcare team, including residents at all levels, attending physicians, clinical pharmacists, occupational therapists, physical therapists, nutrition specialists, patient educators, speech pathologists, respiratory therapists, social workers, case managers, discharge planners, and providers of home health services. Understanding when and how to request medical subspecialist consultation and how best to utilize the advice provided
- Interpret cost-effectiveness of diagnostic and treatment strategies

Rotation Name: Regional Anesthesia:

The goal of the on rotation is to be able to select the proper nerve blocking technique to achieve better control of pain, to discuss the various regional anesthesia techniques with the patients and family, and to explain the risks and benefits for each procedure.

Rotation Setting: Inpatient and outpatient

Rotation Duration: 4-8 weeks

Training Year: Either in F1 or F2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Review the surgical schedule on the previous day to determine which cases were suitable for blocks.
- Consult with the Block Faculty about such cases

- Conduct a thorough preoperative evaluation, such as pertinent laboratory values for each patient. This should also include the purpose and procedure of the block.
- Provide adequate information about the risks and benefits of various peripheral nerve blocks to all patients prior to performing the block and document that on the form.
- Recognize contraindications for the block
- Determine appropriate sedation for patients receiving the block
- Determine the appropriate block for the surgical procedure
- Ensure patient safety, including time out, site and side verification, and check duly filled and signed consent form for the surgical procedure
- Prepare and ensure the availability of appropriate monitoring, resuscitative equipment and medications.
- Recall various gauges, lengths and echogenicity of the block needles available
- Name the stimulator use for the nerve stimulation techniques
- Demonstrate respectful and attentive patient care
- Demonstrate bedside manners that can improve patient confidence and reduce anxiety prior to performing a block
- Perform various peripheral nerve blocks and document its details on medical record
- Supplement and manage any case of inadequate anesthesia or analgesia
- Assure safe transfer of care to the primary anesthesia team
- Gain knowledge about -ultrasound technique and its application to regional anesthesia
- Explain sonoanatomy to junior doctors and others
- Perform peripheral nerve blocks using ultrasound guidance
- Appropriately place perineural catheters for postoperative pain control
- Manage the perinerual catheters and place appropriate orders for their management in the wards

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Explain the anatomy of brachial plexus and innervations of the upper extremity
- Explain the anatomy of lumbo-sacral plexus and innervations of the lower extremity
- Explain the anatomy of the paravertebral space
- List indications, contraindications, various approaches and complications associated with peripheral nerve block procedure
- Explain pharmacology of local anesthetic agents and additives used for the block
- Recall the onset, and duration of the local anesthetic agents
- Prevent, recognize and treat local anesthetic related toxicities
- Compare various peripheral nerve stimulators and their applications
- List the various insulated needles for the block and stimulating catheters
- Outline the principles of ultrasound and its applications
- Explain the management of intravenous patient controlled pumps (IV PCA's) and the different medications used

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Communicate with the perioperative care team, including the holding area nurses, anesthesia care and the surgical team to ensure patient safety
- Discuss the potential of performing blocks for patients assigned to their rooms
- Demonstrate respectful behavior and establish a sound rapport with the patient and the family
- Reduce patient anxiety

- Explain the benefits, risks, and the choice of a particular block in a language the patient can understand
- Answer all questions truthfully
- Communicate effectively with the perioperative team
- Provide clear, concise, and legible record of the block performed in untoward events and/or complications
- Keep the team informed about any changes in the patient's status

Professionalism:

After completion of the rotation, the fellow will be able to:

- Consistently demonstrate compassion for patients and patient's family
- Place patient's interest above self
- Consistently demonstrate respect for the medical profession through his or her behavior characterized by dependability, respect for colleagues, and dignity
- Attend promptly to any identified problems
- Be accessible, available and truthful
- Acknowledge and learn self-errors
- Accept criticisms in a constructive manner
- Demonstrate punctuality and preparedness
- Demonstrate accountability for actions to the patient, profession and society
- Demonstrate commitment to ethical principles and patient confidentiality

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

Demonstrate critical thinking skills

Illustrate the ability to learn from experiences

Recall the information and be able to assimilate it

Update their education to improve patient care

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate knowledge of how their actions could impact future care to a given patient
- Demonstrate knowledge and concern for cost-effective care
- Demonstrate awareness and responsiveness to the larger context of healthcare
- Extensively use systemic approach to reduce errors
- Consult the faculty or other services when need arises

Rotation Name: Neurology:

The goal of the Rotation is to be able to take full neurological history and perform proper physical examination for neurology patients and to manage such patients with acute or chronic pain.

Rotation Setting: Inpatient and outpatient

Rotation Duration: 4-8 weeks

Training Year: Either F1 or F2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Demonstrate competency in neurological history taking and examination
- Develop a succinct assessment approach and plan accordingly
- Obtain a complete and reliable patient history which includes an intact or altered level of consciousness or mental status
- Recognize symptoms that indicate neurologic disease

- Perform both a complete and a problem-focused neurological examination as appropriate
- Distinguish normal from abnormal findings following neurological examination
- Provide a clear, concise, and thorough oral and written presentation leading to anatomical localization and differential diagnosis

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Demonstrate an ability to review and interpret medical literature
- Demonstrate awareness of principles underlying a systematic approach toward management of common neurological diseases
- Demonstrate awareness of the appropriate use and interpretation of common tests used in diagnosing neurological diseases
- Recognize situations which may become neurologic emergencies
- Explain the importance of pertinent history from family, caregivers, witnesses, etc., such as in patients with impaired sensorium, cognition, speech, or history of seizures.

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Relate the importance of honest and compassionate communication with the patient and/or family in different situations, including end-of-life care discussions

Professionalism:

At the completion of the rotation, the fellow will be able to:

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

Demonstrate critical thinking skills

Illustrate the ability to learn from experiences

Recall the information and be able to assimilate it

Update their education to improve the patient care

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Identify the role of multidisciplinary management of neurological disorders
- Interact and communicate with other members of the patient care team, as well as with family members

Rotation Name: Interventional Radiology:

Interventional rotation will comprise assessment and evaluation of patients, radiological studies, and patient workup. MRIs of the spine, joints, and brain reviewed. Attempts will be made to review the workup of current patients, but sessions will not be limited to patients with pain or current clinic patients. Other related radiological results will also be reviewed and correlated.

Rotation Setting: Inpatient and outpatient

Rotation Duration: 4-8 weeks

Training Year: Either F1 or F2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Interpret MRI, CT and other radiologic studies with the supervising faculty
- Explain the information on patients previously evaluated in the outpatient Pain Clinic or inpatient consultation service for radiologic review

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Explain the indications for radiologic studies
- Explain the indications for the use of contrast agents, their complications, and the management of contrast reactions
- Explain the role of radiologic studies in the diagnostic workup of a patient complaining of pain
- Recognize the indications and contraindications to MRI and other radiological procedures
- Demonstrate basic proficiency in interpreting MRI's
- Correlate physical and/or clinical observations with radiological findings
- Recognize the different types of MRI studies
- Demonstrate an understanding of the use of contrast agents with indications and potential side effects

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Effectively communicate with the supervising faculty and the pain team
- Function efficiently as a member of the neuroradiology team

Professionalism:

At the completion of the rotation, the fellow will be able to:

- Respect patient confidentiality
- Maintain proper decorum

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

- Critically evaluate his/her diagnostic skills in an objective manner
- Modify clinical practice based on experience
- Justify clinical choices scientifically

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Demonstrate knowledge and concern for cost-effective patient care
- Use a systematic approach to reduce errors effectively

Rotation Name: Research:

The objective of rotation is to give the fellow the chance to develop or continue working on an existing research project. The fellow will meet his research director regularly (biweekly) to set goals and evaluate milestones. The fellow is also encouraged to take one or more research courses available through the Saudi Commission or any of the training centers he/she desires.

By the end of the rotation, the participant must demonstrate progress in the research project.

Rotation Setting: Inpatient, outpatient, and common population

Rotation Duration: Research will run concurrently and parallel to other rotations for the entire duration of the pain fellowship.

Training Year: Beginning of F1 till the end of F2

Objectives:

Recognize patient care issues in research, including the responsible conduct of research, ethical issues, informed consent, confidentiality, and the need for referral to treatment resources outside the research study, as indicated.

Compare study designs and research methodology in areas of epidemiology, clinical research, and health services, as applicable to the research project as well as knowledge of biostatistics and/or qualitative methods relevant to the research project.

Appraise scientific literature to identify gaps in the literature relevant to the research study

Demonstrate the ability to synthesize information and place research findings in the context of the existing literature

Create and sustain effective relationships with research participants, patients, and their families

Develop skills in communicating research findings, and demonstrate competency in writing through manuscripts, IRB applications, oral/poster presentations, and/or grant funding proposals

Demonstrate integrity, accountability, responsible and ethical behavior

Rotation Name: Rheumatology:

Various musculoskeletal and rheumatological disorders evaluated during this rotation from subtle onset to severe involvement and disability. Though the majority of consultations are outpatients, occasionally inpatient are also encountered. Fellows are supervised at all times by on-site faculty rheumatologists toward acquisition of knowledge about such disorders and develop skills to manage pain in these patients.

Rotation Setting: Inpatient and outpatient

Rotation Duration: 4-8 weeks

Training Year: During F1 or F2

Objectives:

Patient care:

After completion of the rotation, the fellow will be able to:

- Identify the basic components of history and perform a physical examination of the musculoskeletal system

Medical Knowledge:

After completion of the rotation, the fellow will be able to:

- Distinguish the major rheumatic syndromes by signs, symptoms, in accordance to American College of Rheumatology (ACR) criteria
- Recall the uses, specificity, and sensitivity of the serological and diagnostic tests used in rheumatology
- The basics of diagnosis and treatment of a wide range of rheumatic disorders including metabolic bone disease, rheumatoid arthritis, osteoarthritis, crystalline-induced arthritis, connective tissue diseases, vasculitis, spondyloarthropathies, and soft tissue rheumatism

Interpersonal Skills and Communication:

After completion of the rotation, the fellow will be able to:

- Consistently demonstrate compassion for patients and their families
- Place patient's interest above self
- Consistently demonstrate respect for the medical profession through his or her behavior characterized by dependability, respect for colleagues, and dignity
- Attend promptly to any identified problems
- Practice being accessible, available and truthful
- Acknowledge and learn from self-errors
- Accept criticisms in a constructive manner
- Demonstrate punctuality and preparedness
- Demonstrate accountability for their actions to the patient, profession and society at large
- Demonstrate commitment to ethical principles and patient confidentiality

Professionalism:

At the completion of the rotation, the fellow will be able to:

- Demonstrate respect for patient confidentiality
- Maintain proper decorum

Practice-Based Learning and Improvement:

After completion of the rotation, the fellow will be able to:

Demonstrate critical thinking skills

Illustrate the ability to learn from experiences

Recall information and be able to assimilate it

Update their education to improve patient care

Systems-based Practice:

After completion of the rotation, the fellow will be able to:

- Explain the role of multidisciplinary management of rheumatology disorders
- Interact and communicate with other members of the patient care team, as well as with family members

X. TEACHING METHODS

The teaching process in Pain Medicine Fellowship training programs is based mainly on the principles of adult learning theory. The trainees should appreciate the importance of knowledge and play active roles in the content and process of their own learning. The training pogroms implement the adult learning concept on each feature of the activities where the fellows are responsible for their own learning requirements. Formal training time includes the following three teaching activities:

- Program specific learning activities
- Universal topics
- General learning opportunities

1.1. Program Specific learning activities:

Program-specific activities are educational activities specifically designed and intended for trainees' teaching. The trainees need to attend these activities, and non-compliance can lead to disciplinary actions against them. Program administration should support these activities by allotting specific timings to enable trainees to attend these activities and actively contribute to Journal club, clinical/practical teaching, scientific meetings, conferences, and others.

No	Activity	Frequency	Attendance
1	Academic half day	Weekly	Mandatory
2	Journal club	Every 3 months	Optional
3	Clinical Workshop: Basic	Once during the training	Mandatory
4	Clinical Workshop: Advance	Once during the training	Mandatory
5	Scientific Conference	Once during the training	Optional

Example of Academic Half day time table: No	Date	Topics	Lecturer
1		Physical examination of patient with pain	
2		Pediatric pain management	
3		Fibromyalgia	
4		Complex regional pain syndrome	
5		Cancer pain management	
6		Headache	
7		Neuropathic pain management	

A) Clinical/practical teaching:

This includes courses and workshops (basic and advanced interventional pain workshops) that provide the trainee with hands on the capability to perform the procedures on cadavers or using a simulation facility or standard patients.

B) Practice-based learning:

Training exposures during bedside pain care, procedures or operating rooms, and other work-related activities represent excellent targets for learning. Trainees are expected to build their capacity based on self-directed learning. On the other hand, practice-based learning allows the educator to supervise trainees to become competent in the required program practical skills that ensure fulfilling knowledge, psychomotor, and/or attitude learning domains. Each trainee needs to maintain a logbook documenting the procedures observed, performed under supervision, and performed independently. It would be prudent to complete the minimum number of required procedures to be performed before the completion of training.

1.2. General Learning Opportunities:

A formal training time should be supplemented by other practice-based learning (PBL), such as:

- Involvement in quality improvement committees and meeting
- Continuous professional activities (CPD) relevant to pain medicine
- Morbidity and Mortality (M&M)

The M&M conference offers trainees an opportunity to discuss cases where adverse events have occurred through errors or complications related to pain management. The goal of this resource is to refocus on the content of M&M and transform it into a platform for teaching patient safety principles and emphasizing error reduction strategies.

1.3. Universal Topics

Universal topics are educational activities developed by SCFHS intended for all specialties. Priority is given to topics as listed in Appendix A:

Training Year	Modules		Topics name	
	Number	Name	Number	Name
F1	5	Acute care	23 24	Acute pain management chronic pain management
F1	7	Ethics and Health Care	33	Patient advocacy
F2	1	Introduction	1	Safe drug prescribing
F2	7	Ethics and Health Care	36	Role of doctors in death and dying

XI. ASSESSMENT AND EVALUATION

1. Purpose of Assessment

Assessment plays a vital role in the success of postgraduate training. Assessment will guide trainees and trainers to achieve defined standards, learning outcomes, and competencies. On the other hand, the assessment will provide feedback to learners and faculty regarding curriculum development, teaching methods, and quality of the learning environment. A reliable and valid assessment is an excellent tool for assessing curriculum alignments between objectives, learning methods, and assessment methods. Finally, assessment assures patients and the public that they are in safe hands and that the health professionals are competent to practice.

Assessment can serve the following purposes:

a. Assessment for learning: As trainers use information from trainees' performance to improve their learning, it enables educators to use information about trainees' knowledge, understanding, and skills to provide them feedback about learning and how to improve.
b. Assessment as learning This involves trainees in the learning process, which enables them to monitor their own progress. The trainees use self-assessment and educators' feedback to reflect on their progression. It develops and supports trainees' metacognitive skills. Assessment as learning is crucial in helping residents/fellows become lifelong learners.

c. Assessment of learning: This is used to demonstrate the achievement of self-learning. This is a graded assessment and is usually considered the trainee's end-of-training degree.
d. Feedback and evaluation: Assessment outcomes represent quality metrics that improve learning experience.

Miller's Pyramid of Assessment provides a framework for assessing the trainees' clinical competences which acts a road map for the trainers to select the assessment methods to target different clinical competencies including "knows," "knows how," "shows how," and "does" (Appendix F).

Assessments will be further classified into two main categories: Formative and Summative.

2. Formative Assessment

2.1 General Principles

Trainees, as adult learners, should strive for feedback throughout their journey of competency from "novice" to "mastery" levels. Formative assessment (also referred to as continuous assessment) is that component of assessment distributed throughout the academic year aiming primarily to provide trainees with effective feedback. Every four weeks, at least 1 h should be assigned by trainees to meet their mentors, in order to review performance reports (e.g., ITER, e-portfolio, etc.). Inputs from the overall formative assessment tools will be utilized at the end of the year for deciding to promote individual trainees from the current-to-subsequent training level. Formative assessment will be defined based on scientific council recommendations. According to the executive policy on continuous assessment (available online: www.scfhs.org), formative assessment will have the following features that will be used based on Miller's pyramid:

a. Multisource: minimum four tools
b. Comprehensive: covering all learning domains (knowledge, skills, and attitude)
c. Relevant: focusing on workplace-based observations
d. Competency-milestone oriented: reflecting the trainee's expected competencies that match the trainee's developmental level

Trainees should play an active role in seeking feedback during training. However, trainers are expected to deliver timely and formative assessments. The SCFHS will provide an e-portfolio system to enhance communication and analysis of data arising from formative assessments.

Trainers and trainees are directed to follow the recommendations of the scientific council regarding the updated forms, frequency, distribution, and deadlines related to the implementation of evaluation forms.

2.2 Formative Assessment Tools

Learning Domain	Formative Assessment Tools	Important details (e.g., frequency, specifications related to the tool)
Knowledge	- Annual Written Progress Test (Local) - Case Based Discussion (CBD)	Annual Written progress Test (F1) 5 CBD throughout the training
Skills	- Log Book - Direct Observation for Procedural Skills (DOPS) - Research Activities	Need to be completed each year (F1 and F2)See log book table) Needed throughout the training (5 DOP in each training year) Need to be completed prior to the final examination (publication in not mandatory)
Attitude	In-Training Evaluation Report (ITER)	At the end of each rotation To be completed prior to final clinical examination

Skills and Techniques (Fellows with Anesthesia or Neurosurgery Background)	Under Supervision	Independent
Trigger points injection	5	20
Intravenous regional analgesia	5	15
Epidural steroid injection	25	50
Peripheral nerve Blockade	5	10
Facet joint injection (cervical, thoracic, lumbar & sacral)	20	40
Sacroiliac joint injection	15	30
Stellate ganglion block	5	10
Sympathetic plexus blockade	3	5
Coeliac ganglion block	3	5
Superior Hypogastric block	3	5
Neurolytic chemical blockade	3	5
Radiofrequency lesioning techniques	10	20
Spinal Cord Stimulation techniques	3	1-3
Implantable intrathecal pump insertion technique	3	1-3
Trigeminal ganglion blockade	3	3
Percutaneous Discectomy	3	3
Others		

Skills and Techniques (Fellows with Neurology Background)	Under Supervision	Independent
Trigger points injection	10	40
Intravenous regional analgesia	5	10
Pain relieving injection (Botulinum toxin)	5	10
Small joints injection	5	10
Large joints injection (Knee and Shoulder)	5	10

Evaluation of each component will be based on the following criteria:

Percentage	< 50%	50-59.4%	60-69.4%	>70%
Description	Clear fail	Borderline fail	Borderline pass	Clear pass

To achieve unconditioned promotion, the candidate must score a minimum of "borderline pass" in all components.

The program director can still recommend the promotion of candidates if the above is not met in some situations such as:

- If the candidate scores "borderline failure" in only one or two components not belonging to the same area of assessment (for example, both borderline failures should not belong to two skills).
- The candidate must have passed all the other components and scored a minimum of clear pass in at least two components.

3. Summative Assessment

3.1 General Principles

Summative assessment is a that component of assessment that aims primarily to make informed decisions on trainees' competency. In comparison to formative assessment, summative assessment does not aim

to provide constructive feedback. For further details on this section, please refer to the general bylaws and executive policy of assessment (available online: www.scfhs.org). To be eligible for the final exams, a trainee should be granted "Certification of Training-Completion".

3.2. Final In-training Evaluation Report (FITER)

In addition to the approval of the completion of clinical requirements (fellow's logbook) by the supervising committee, FITER is also prepared by program directors for each fellow at the end of his or her final year of training. This report shall be the basis for obtaining the certificate of training program completion and the qualification to set for the final specialty examinations.

3.3 Certification of Training-Completion

To be eligible for the final specialty examinations, each trainee is required to obtain "Certification of Training-Completion". Based on the training bylaws and executive policy (please refer to www.scfhs.org) trainees will be granted "Certification of Training-Completion" once the following criteria are fulfilled:

a. Successful completion of all training rotations.
b. Completion of all training requirements (e.g., logbook, research, others) as outlined in FITER, approved by the scientific council of the specialty.
c. Clearance from SCFHS training affairs ensures compliance with tuition payments and the completion of universal topics.

"Certification of Training-Completion" will be issued and approved by the supervisory committee or its equivalent according to SCFHS policies.

3.5 Final Specialty Examinations

The final specialty examination is the summative assessment component that grants trainees the specialty's certification. It has two elements:

a) Final written exam: In order to be eligible for this exam, trainees are required to have "Certification of Training-Completion".

b) Final clinical/practical exam: The trainees will be required to pass the final written exam in order to be eligible for the final clinical/practical exam.

The blueprints of the final written and clinical/practical exams are shown in the following Table:

Pain Medicine Final Clinical Exam Blue Print

		DIMENSIONS OF CARE				
		Health Promotion & Illness Prevention 1±1 Station(s)	Acute 5±1 Station(s)	Chronic 5±1 Station(s)	Psychosocial Aspects 1±1 Station(s)	# Stations
DOMAINS FOR INTEGRATED CLINICAL ENCOUNTER	Patient Care 8±1 Station(s)	1	1	3		5
	Patient Safety & Procedural Skills 1±1 Station(s)		1			1
	Communication & Interpersonal Skills 2±1 Station(s)				1	1
	Professional Behaviors 1±1 Station(s)			1		1
	Total Stations	1	2	4	1	8

VI. Definitions

Dimensions of Care	Focus of care for the patient, family, community, and/or population
Health Promotion & Illness Prevention	The process of enabling people to increase control over their health & its determinants, & thereby improving their health. Illness prevention covers measures not only to prevent the occurrence of illness such as risk factor reduction but also arrest its progress & reduce its consequences once established. This includes but is not limited to screening, periodic health exam, health maintenance, patient education & advocacy, & community & population health.
Acute	Brief episode of illness, within the time span defined by initial presentation through to the transition of care. This dimension includes but is not limited to urgent, emergent, & life-threatening conditions, new conditions, acute post-operative pain situations & exacerbation of underlying conditions (acute over chronic).
Chronic	Illness of long duration that includes but is not limited to illnesses with slow progression.
Psychosocial Aspects	Presentations rooted in the social & psychological determinants of health that include but are not limited to life challenges, income, culture, & the impact of the patient`s social & physical environment.

Domains	Reflects the scope of practice & behaviors of a practicing clinician
Patient Care	Exploration of illness & disease through gathering, interpreting & synthesizing relevant information that includes but is not limited to history taking, physical examination & investigation. Management is a process that includes but is not limited to generating, planning, organizing care in collaboration with patients, families, communities, populations, & health care professionals (e.g. finding common ground, agreeing on problems & goals of care, time & resource management, roles to arrive at mutual decisions for treatment).

Domains	Reflects the scope of practice & behaviors of a practicing clinician
Patient Safety & Procedural Skills	Patient safety emphasizes the reporting, analysis, and prevention of medical error that often leads to adverse healthcare events. Procedural skills encompass the areas of clinical care that require physical and practical skills of the clinician integrated with other clinical competencies in order to accomplish a specific and well characterized technical task or procedure.
Communication & Interpersonal Skills	Interactions with patients, families, caregivers, other professionals, communities, & populations. Elements include but are not limited to active listening, relationship development, education, verbal, non-verbal & written communication (e.g. patient centered interview, disclosure of error, informed consent).
Professional Behaviors	Attitudes, knowledge, and skills based on clinical &/or medical administrative competence, ethics, societal, & legal duties resulting in the wise application of behaviors that demonstrate a commitment to excellence, respect, integrity, accountability & altruism (e.g. self-awareness, reflection, life-long learning, scholarly habits, & physician health for sustainable practice).

VII Passing Score

a. The pass/fail cut-off for each OSCE/SOE station is determined by the exam committee prior to conducting the exam using a minimum performance level (MPL) scoring system.
b. Each station assigns an MPL based on the expected performance of a minimally competent candidate. The specialty exam committee shall approve station MPLs.
c. At least one examiner marks each OSCE station, and two examiners independently mark each part of the SOE.
d. To pass the examination, a candidate must attain a score > MPL in at least 70% of the number of stations.

VIII Score Report

a. All score reports shall be issued by the SCFHS after approval of the Specialty Examination Committee.

IX Exemptions

a. SCFHS at present has no reciprocal arrangement with respect to this examination or qualification by any other college or board, in any specialty.

Learning Domain	Summative Assessment Tools	Passing Score
Knowledge	- Final Written Examination	At least borderline pass in each tool in accordance with the standard setting method used by the executive administration of assessment
Skills	- Objective Structured Clinical Examinations (OSCE) - Structured Oral Examinations (SOE)	At least borderline pass in each tool in accordance with the standard setting method used by the executive administration of assessment
Attitude	FITER: Final In-Training Evaluation Report	Successfully pass FITER

Blueprint Outlines

No	Topics	Percentage %
1	Anatomy and Physiology of Pain	14
2	Pharmacology	14
3	Pain Assessment	13
4	Diagnostic & Investigational Tests	10
5	Types of Pain	14
6	Interventional techniques for Pain	15
7	Psychology/ Behavioral Aspect of Pain	10
8	Research, Ethics, Professionalism and Patient Safety	10

XII. PROGRAM AND COURSES EVALUATION

SCFHS applies variable measures to evaluate the implementation of this curriculum. The training outcomes of this program will undergo the quality assurance framework endorsed by the Central Training Committee at the SCFHS. The results of trainees' assessment (both formative and summative) will be analyzed and mapped to curriculum content. Other indicators that will be incorporated are as follows.

- Report of the annual trainees' satisfaction survey
- Reports from trainees' evaluation of faculty members
- Reports from trainees' evaluation of rotations
- Reports from the annual survey of program directors

Goal-based Evaluation: The intended achievement of milestones will be evaluated at the end of each stage to assess the progress of the curriculum delivery, and any deficiency will be addressed in the following stage utilizing the time devoted to trainee-selected topics and professional sessions.

In addition to subject-matter opinion and best practices from benchmarked international programs, SCFHS will apply a robust method to ensure that this curriculum will utilize all the data that will be available during the revision of this curriculum in the future.

Policies and Procedures

This curriculum represents the means and materials outlining learning objectives with which trainees and trainers will interact to achieve the

identified educational outcomes. Saudi Commission for Health Specialties (SCFHS) has a full set of "General Bylaws" and "Executive Policies" (available on the official SCFHS website) that regulate all processes related to training. General bylaws of training, assessment, and accreditation as well as executive policies on admission, registration, continuous assessment and promotion, examination, trainees' representation and support, duty hours, and leaves are examples of regulations that need to be applied. Trainees, trainers, and supervisors need to apply this curriculum in compliance with the most updated bylaws and policies that can be accessed online (via the official SCFHS website).

Appendices

A. Universal Topics Modules
B. Examples of Formative Assessment Tools
C. Glossary
D. References

Appendix A

Universal Topics

Intent:

These are high-value interdisciplinary topics of utmost importance to the trainee. The reason for delivering the topics centrally is to ensure that every trainee receives high-quality teaching and develops essential core knowledge. These topics are common to all specialties.

The topics include one or more of the following criteria:

- Impactful: common or life-threatening
- Interdisciplinary: difficult to teach by a single discipline
- Orphan: poorly represented in the undergraduate curriculum

- Practical: trainees will encounter in hospital practice

Development and Delivery:

Core topics for the PG curriculum will be developed and delivered centrally by the Commission through an e-learning platform. A set of preliminary learning outcomes for each topic developed. Content experts, in collaboration with the central team, may modify the learning outcomes.

These topics will be didactic in nature, with a focus on practical aspects of care. These topics will have more heavy content than workshops and other face-to-face interactive sessions.

The suggested duration of each topic is 1.5 h.

Assessment:

The topics will be delivered in a modular fashion. At the end of each learning unit, there will be an online formative assessment. After completion of all topics, there will be a combined summative assessment in the form of context-rich Multiple Choices Question (MCQ). All trainees must attain minimum competency in the summative assessment. Alternatively, these topics can be assessed in a summative manner, along with a specialty examination.

Some ideas may include case studies, high-quality images, worked examples of prescribing drugs in disease states, and internet resources.

Module 1: Introduction

Safe drug prescription:

At the end of the learning unit, trainee should be able to

a) Recognize importance of prescribing safe drug
b) Describe and understand various adverse drug reactions with examples of commonly prescribed drugs that can cause such reactions

c) Apply principles of drug-drug interactions, drug-disease interactions, and drug-food interactions in common situations
d) Apply principles of prescribing drugs in medical conditions such as renal or liver failure
e) Apply principles of prescribing drugs in elderly, pediatric age group, and in pregnancy and lactation
f) Promote evidence-based cost-effective prescribing
g) Discuss and adhere to ethical and legal framework governing safe-drug prescribing in Saudi Arabia

Antibiotic Stewardship:

At the end of the learning unit, trainee should be able to:

a) Recognize antibiotic resistance as one of the most pressing public health threats globally
b) Describe the mechanism of antibiotic resistance
c) Distinguish and determine the appropriate and inappropriate use of antibiotics
d) Develop a plan for safe and proper antibiotic usage plan including right indications, duration, types of antibiotics, and discontinuation
e) Appraise the local guidelines in the prevention of antibiotic resistance

Module 5: Acute Care

1. Pre-operative assessment
2. Post-operative care
3. Acute pain management
4. Chronic pain management
5. Management of fluids in hospitalized patients
6. Management of electrolyte imbalances

Pre-operative assessment:

At the end of the learning unit, trainee should be able to

a) Describe the basic principles of pre-operative assessment
b) Preform pre-operative assessment in uncomplicated patients with special emphasis on
    i. General health assessment
    ii. Cardiorespiratory assessment
    iii. Medications and medical device assessment
    iv. Drug allergy
    v. Pain relief needs
c) Categorize patients as per risks involved

Post-operative care:

At the end of the learning unit, trainee should be able to:

a) Devise a postoperative care plan including monitoring of vitals, pain management, fluid management, medications, and laboratory investigations
b) Hand-over patients appropriately to proper facilities
c) Describe the process of post-operative recovery to a patient
d) Identify common post-operative complications
e) Monitor patients for possible post-operative complications
f) Institute immediate management for post-operative complications

Acute Pain Management:

At the end of the learning unit, trainee should be able to:

a) Review the physiological basis of pain perception
b) Proactively identify patients who might be in acute pain
c) Assess a patient with acute pain
d) Apply various pharmacological and non-pharmacological modalities available for acute pain management
e) Provide adequate pain relief for uncomplicated patients with acute pain

f) Identify and refer patients with acute pain who can benefit from specialized pain services

Chronic Pain Management:

At the end of the learning unit, trainee should be able to:

a) Review bio-psychosocial and physiological basis of chronic pain perception
b) Discuss various pharmacological and non-pharmacological options available for chronic pain management
c) Provide adequate pain relief for uncomplicated patients with chronic pain
d) Identify and refer patients with chronic pain who can benefit from specialized pain services

Module 7: Ethics and Healthcare

7. Occupational hazards of health care worker (HCW)
8. Evidence based approach to smoking cessation
9. Patient advocacy
10. Ethical issues: transplantation/organ harvesting; withdrawal of care
11. Ethical issues: treatment refusal; patient autonomy
12. Role of doctors in death and dying

Occupation hazards of HCW:

At the end of the learning unit, trainee should be able to:

a) Recognize common sources and risk factors of occupational hazards among the HCW
b) Describe common occupational hazards in the workplace
c) Develop familiarity with legal and regulatory frameworks governing occupational hazards among the HCW
d) Develop a proactive attitude to promote workplace safety

e) Protect self and colleagues against potential occupational hazards in the workplace

Patient Advocacy:

At the end of the learning unit, trainee should be able to

a) Define patient advocacy
b) Recognize patient advocacy as a core value governing medical practice
c) Describe the role of patient advocacy in the care of the patients
d) Develop a positive attitude towards patient advocacy
e) Be a patient advocate in conflicting situations
f) Be familiar with local and national patient advocacy groups

Ethical issues: treatment refusal; patient autonomy:

At the end of the learning unit, trainee should be able to:

a) Predict situations where a patient or family is likely to decline prescribed treatment
b) Describe the concept of 'rational adults' in the context of patient autonomy and treatment refusal
c) Analyze the key ethical, moral, and regulatory dilemmas in treatment refusal
d) Recognize the importance of patient autonomy in the decision-making process
e) Counsel patients and families declining medical treatment in the light of best interest of patients

Role of Doctors in Death and Dying:

At the end of the learning unit, trainee should be able to:

a) Recognize the important role a doctor can play during a dying process
b) Provide emotional as well as physical care to a dying patient and family
c) Plan appropriate pain management in a dying patient

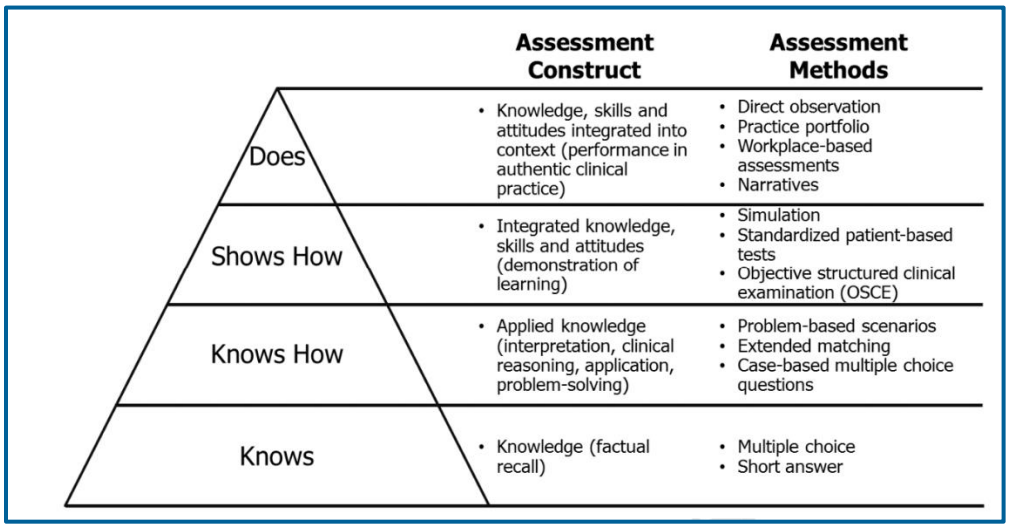
d) Identify suitable patients and refer them to palliative care services

Appendix-B

List of Formative Assessment Tools

(according to executive policy on continuous assessment, minimum of 4 tools are needed, should cover the three domains, trainee should show competency in each assessment tool in order to be promoted to the subsequent training level; for further details please refer to the policy on www.scfhs.org

Miller's Pyramid of Assessment provides a framework for assessing the trainees' clinical competences which acts a road map for the trainers to select the assessment methods to target different clinical competencies including "knows," "knows how," "shows how," and "does" (2).



(Figure 1: Miller Pyramid)

Adapted from

1- Walsh CM. In-training gastrointestinal endoscopy competency assessment tools: Types of tools, validation, and impact. Best Practice and Research Clinical Gastroenterology. 2016;30(3):357-74.

2- Miller GE. The assessment of clinical skills/competence/performance. Acad Med. 1990;65(9 Suppl): S63–7.

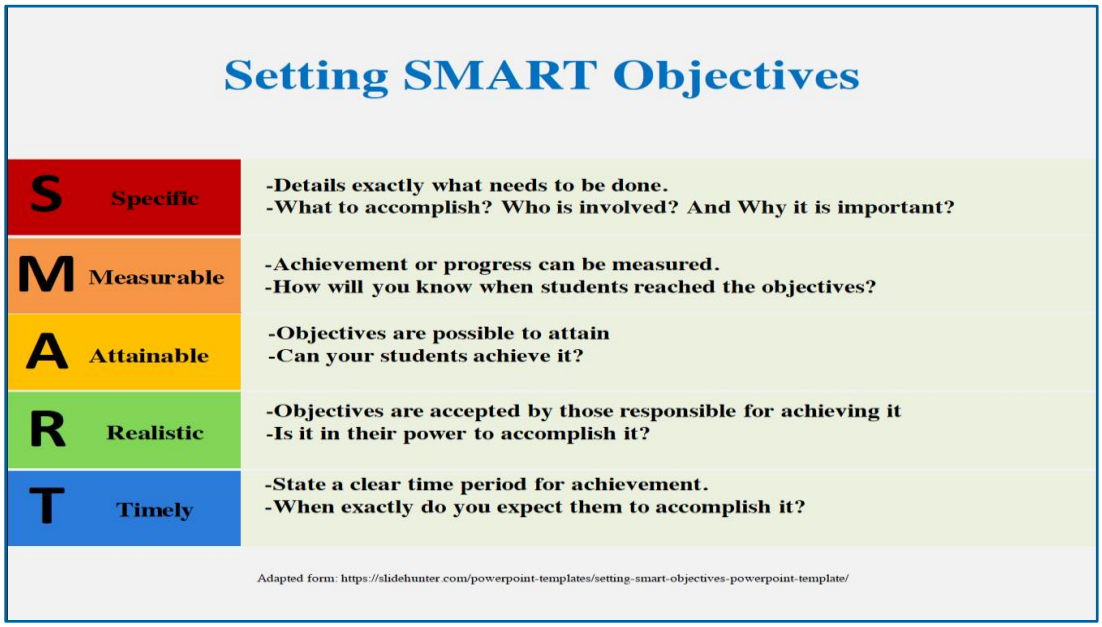
Appendix-C

Glossary

Glossary	
Blueprint	Description correlating educational objectives with assessment contents. For example, test blueprint defines the proportion of test questions allocated to each learning domain and/or content.
Competency	Capability to function within a defined professional role that implies entrustment of a trainee by graduation of the program with the required knowledge, skills, and attitude needed to practice unsupervised.
Specialty Core Content (skills, knowledge, and professional attitude)	A specific knowledge or skill or professional attitude that is specific and integral to the given specialty.
Formative assessment	An assessment that is used to inform the trainer and learner of what has been taught and learned, respectively, for the purpose of improving learning. Typically, the results of formative assessment are communicated through feedback to the learner. Formative assessments are not intended primarily to make judgments or decisions (though it can be as a secondary gain).

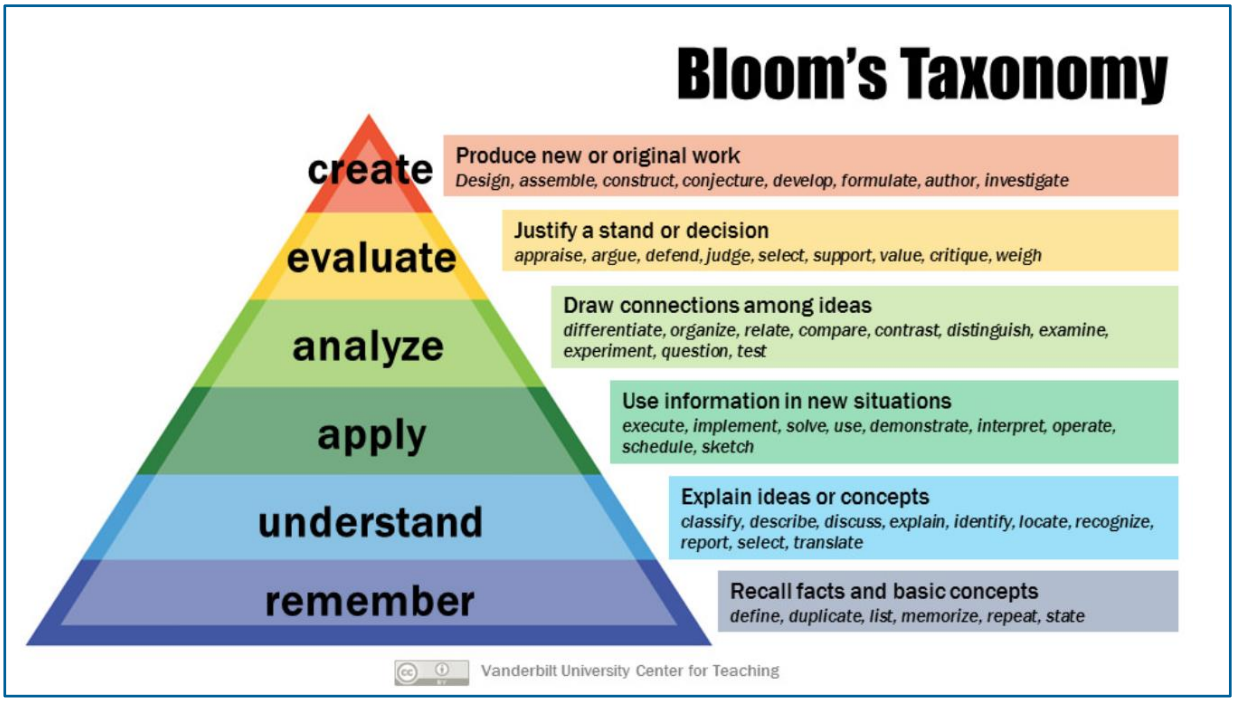
Glossary	
Mastery	Exceeding the minimum level of competency to the proficient level of performance indicating rich experience with possession of great knowledge, skills, and attitude.
Portfolio	A collection of evidence of progression towards competency. It may include both constructed components (defined by mandatory continuous assessment tools in curriculum) and unconstructed components (selected by the learner).
Summative assessment	An assessment that describes the composite performance of the development of a learner at a particular point in time and is used to inform judgment and make decisions about the level of learning and certification.
Universal Topic	A knowledge, skills, or professional behavior that is not specific to the given specialty but universal for the general practice of a given healthcare profession.

Extra Tables:

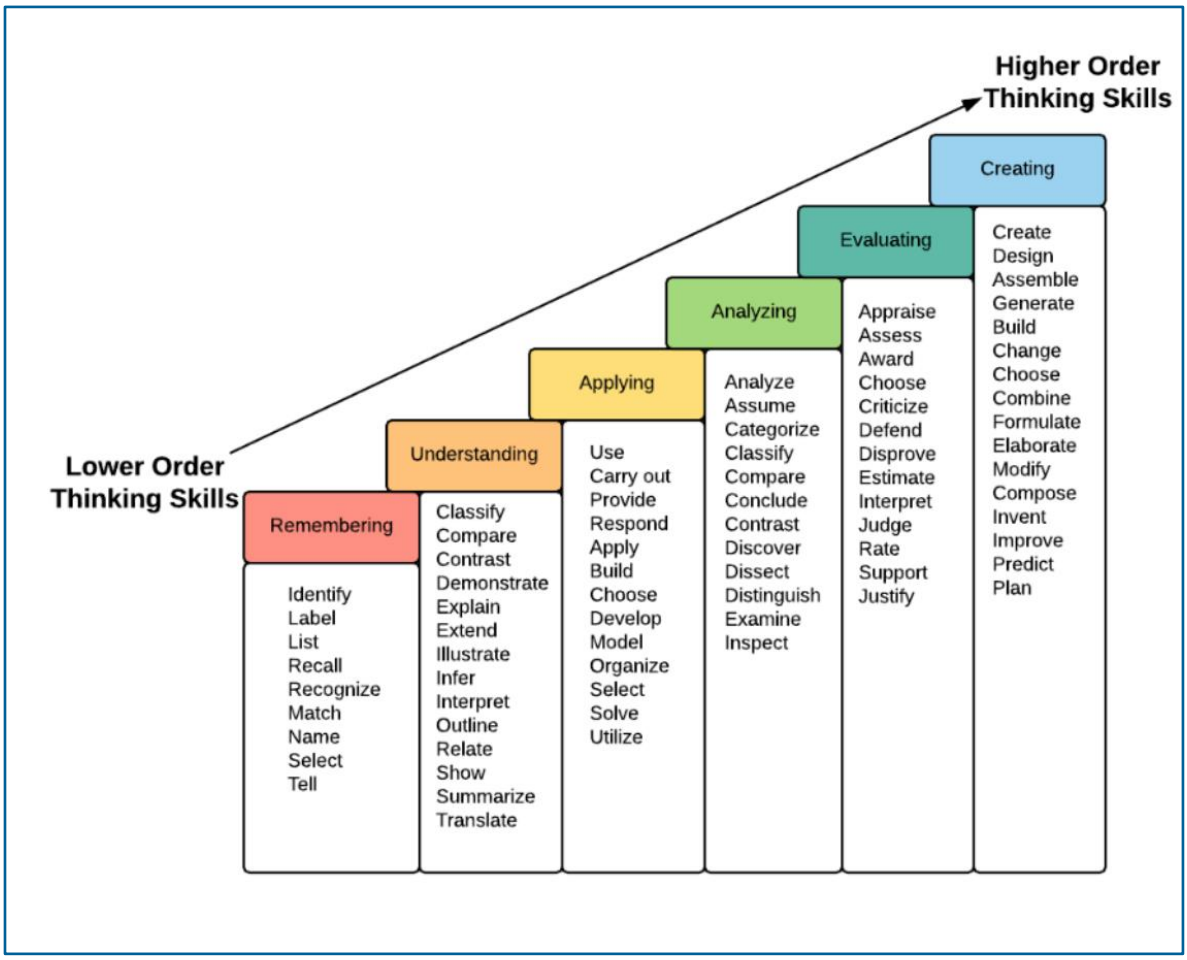


Bloom's Taxonomy Action Verbs

Level	Definition	Sample verbs					Sample behaviors
KNOWLEDGE	Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.	arrange define describe duplicate	identify label list match	memorize name order outline	recognize relate recall repeat	reproduce select state	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
COMPREHENSION	Student translates, comprehends, or interprets information based on prior learning.	explain summarize paraphrase describe illustrate classify	convert defend describe discuss distinguish	estimate explain express extend generalized give example(s)	identify indicate infer locate paraphrase predict	recognize rewrite review select summarize translate	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
APPLICATION	Student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction.	use compute solve demonstrate apply construct	apply change choose compute demonstrate discover dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will write an instructional objective for each level of Bloom's taxonomy.
ANALYSIS	Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement	analyze categorize compare contrast separate apply	change discover choose compute demonstrate dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will compare and contrast the cognitive and affective domains.
SYNTHESIS	Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.	create design hypothesize invent develop arrange assemble	categorize collect combine comply compose construct create	design develop devise explain formulate generate plan	prepare rearrange reconstruct relate reorganize revise	rewrite set up summarize synthesize tell write	The student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.
EVALUATION	Student appraises, assesses, or critiques on a basis of specific standards and criteria.	Judge Recommend Critique Justify Appraise Argue	Assess Attach Choose Compare Conclude Contrast	Defend Describe Discriminate Estimate Evaluate	Explain Judge Justify Interpret Relate	Predict Rate Select Summarize Support Value	The student will judge the effectiveness of writing objectives using Bloom's taxonomy.



Examples of Verbs to use in writing objectives



2.2.6 RESEARCH ROTATION

Number of rotation months	First year	Second year	Total
	1	0	1

The research project will begin in the first year and finish prior to the final written examination

MEDICAL EXPERT

Goals:

- To demonstrate an understanding of the basic principles of research design, methodology, data analysis, and clinical epidemiology. In addition, they have advantages and disadvantages from the perspective of pain medicine.
- To familiarize themselves with the ethical requirements of research and demonstrate an understanding of the responsible use of informed consent.
- To understand and practice appropriate methods for writing a research manuscript, data collection, results analysis, and discussion.
- To demonstrate an awareness of the current research topics in pain medicine using available medical informatics systems.
- To acquire the skills for scientific presentations and public discussions.

Training Methods

- A dedicated 1-month, full-time rotation in research
- It is expected that the project will span over a month. Therefore, the completion of the work should be parallel to the other subsequent rotations.
- The fellow must choose a supervisor to help him/her in accessing the essential resources that will allow an appropriate understanding of research skills, and periodically discuss the progress.
- Attendance at dedicated courses or workshops that enhance research skills may be required by the program.
- The fellow must finish the research proposal by the end of the first six months and should be accepted by the Pain Medicine Research Committee.

- The oral abstract of the study results should be presented in the second year of the Fellows Pain Medicine Research Day.
- The research paper should be sent for review at least two weeks before the Pain Medicine Research Day.
- It is highly desirable for fellows to work on presenting the research results at national and/or international meetings and strive toward publishing their work in indexed journals.

Evaluation

- Attendance at designated courses/lectures monitored and incorporated into the annual evaluation score.
- Panel scoring of the research abstract presentation will be conducted at the end of the 2nd year, on the Pain Medicine Research Day. This will count as the rotation score for that month(Appendix 9).

COMMUNICATOR

- Demonstrate skills in conveying and discussing scientific research to scientific communities through posters, abstracts, teaching slides manuscripts, or other scientific communications
- Communicate and collaborate effectively with research supervisor to conduct the research[5]

COLLABORATOR

- Identify, consult and collaborate with appropriate experts to conduct the research [5]

LEADER

- Demonstrate the ability to identify an area of research interest and a research supervisor in order to engage in the scholarship of scientific inquiry and dissemination

- Demonstrate ability to utilize available resources and regularly meet an identified research mentor
- Demonstrate the ability to set realistic priorities and use time effectively to optimize professional performance
- Demonstrate an understanding of the cost-effective use of health care resources[5]

HEALTH ADVOCATE

- Recognize the contributions of scientific research in improving the health of patients and communities[5]

SCHOLAR

- Demonstrate the ability to pose an appropriate research question, recognize and identify gaps in knowledge and expertise around this question, and formulate an appropriate study design to answer it
- Demonstrate ability to carry out the research outlined in the proposal
- Demonstrate the ability for data collection, data analysis, and preparation of an abstract and manuscript
- Demonstrate ability to identify areas for further research[5]

PROFESSIONAL

- Ethical and professional research expectations are consistent with institutional review board guidelines, including the maintenance of meticulous data and conduct of ethical research.
- Demonstrate personal responsibility for setting research goals and working with supervisors to set and achieve research timeline objectives
- Publish accurate and reliable research results, with attention to appropriate authorship attribution criteria.

- Disclose potential financial conflicts of interest (including speaker fees and consultative relationships) as appropriate when engaging in and disseminating research results. [5]

Appendix-D

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