**Paired curriculum EFIC and UB**

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

*This project has been funded with support from the European Commission.*

*This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which ma y be made of the information contained therein.*

Location, date Signature

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explanation:

 **GREEN - we have in the curriculum of the School of Medicine, University of Belgrade and not in the** **European curriculum (EFIC)**

RED - we do not have it and it has in the European curriculum (EFIC)

**BLACK - exist in the curriculum of the School of Medicine, University of Belgrade, and also in the European Curriculum (EFIC)**

(In addition to the lecture title in the curriculum of the Medical Faculty in Bg, the compulsory guidelines for each lecture have now been added, which define in more detail what needs to be done and what the students need to master within the given topic. This is probably the most significant difference of the EFIC program with new lectures to.)

**I Introductory lectures**

###

**Introductory lecture. General advices regarding final research paper in the field od supraspecialization in Pain Medicine**

1.1. **Background**:

1.1.1: Broadly discuss the importance of the CanMEDS roles in relation to the specialist

pain medicine physician comprising:

• Medical expert/clinician

• Professional

• Scholar

• Communicator

• Collaborator

• Health advocate

• Manager/leader

1.2 **Fundamental Concepts**:

1.2.1: 1.2.1 Discuss bioethical principles:

1. Justice

2. Autonomy

3. Beneficence

4. Non-maleficence

1.2.2: Critically discuss the International Association for the Study of Pain (IASP)’s definition

of pain

1.2.5: Discuss the evolution of different conceptual models in pain medicine, including the biopsychosocial model

**Promotion of the National clinical guideline of good clinical practice**

**for the diagnosis and treatment of chronic cancer pain**

**Terminology used in Pain Medicine**

1.3.1.Define common pain terms according to the International Association for the Study

of Pain (IASP):

• Analgesia

• Hyperalgesia

• Spontaneous pain

• Evoked pain

• Hypoalgesia

• Anaesthesia

• Hyperaesthesia

• Paraesthesia

• Dysaesthesia

• Hyperpathia

• Allodynia

• Anaesthesia dolorosa

• Radicular pain

• Radiculopathy

• Somatoform pain

• Sensitization – peripheral and central

1.3.2: Define terms used in pain oriented sensory testing (POST) including, but not limited to:-

• Sensory threshold/perception threshold

• Pain threshold

• Pain tolerance

• Punctate mechanical allodynia

• Dynamic and static mechanical allodynia

• Cold allodynia

• Warmth allodynia

**Bio-psychosocial Aspects of Pain**

1.6.1. With reference to the biopsychosocial model of pain, the specialist pain medicine

physician (SPMP) should:-

• Critically discuss the concept of assessment and management of patients with pain

• Demonstrate understanding of the integrated role of specialist disciplines in the biopsychosocial management of pain including clinical psychology, physiotherapy, occupational therapy, nursing, social work

1.6.2 The SPMP should be able to:-

Demonstrate the process of triaging patients with respect to their underlying diagnosis, natural history and prognosis, urgency, complexity and facilities required, and psychosocial risk factors for ongoing chronicity

1.6.3 Critically discuss situations when referral to specialist team members is appropriate

1.6.4 Discuss the application of the World Health Organisation (WHO) International Classification of Functioning, Disability and Health (ICF)

1.6.5 The SPMP should be able to:

Demonstrate understanding that pain in any one patient may attract different concurrent descriptors, and therefore, different inferred mechanisms

1.6.6 Demonstrate ability to infer mechanism(s) of production of pain on the basis of clinical examination, irrespective of pre-existing diagnostic label(s)

1.6.7 Discuss the process of integrating multiple sources of information towards a multiaxial formulation of diagnosis – physical, psychological and psychosocial context

1.6.8 Identify and explore patients’ issues, concerns, beliefs, goals and expectations with respect to their pain experience and pain treatment

1.6.9 The SPMP will describe how to carry out a focused biomedical assessment including but not limited to:

• Response to current and post treatments

• Nutritional status

• Sleep function

• Sexual function

• Pharmacological management

• General health indicators

1.6.10 Demonstrate skills to undertake a physical assessment including levels of activity

function, sleep

1.6.11 Identify all Red, Yellow, Blue, Black and Orange flags

1.6.12 Show understanding of the role of physiotherapy and when it is appropriate to refer

for further specialist assessment and treatment

1.6.13 Elicit and interpret a detailed history of the concerns and beliefs of the patient

regarding their pain: experience and consequences of the pain

1.6.14 Perform a focused assessment regarding but not limited to: home situation, eating,

support, family and roles, employment and occupational factors, financial status,

recreational activities, cultural beliefs, mobility

1.6.15 Demonstrate an understanding of the detailed specialist assessment a clinical

psychologist will undertake relating to:-

• History of physical, emotional and sexual abuse history

• Family medical and psychological history

• Personal psychological history

• Past and current lifetime events

• Personal psychological history

• Family medical and psychological history

• Identification of lifetime, current and daily stresses

• Current psychological symptoms

• Cognitive impairment

• Resources: coping strategies, self-efficacy, support/lack of support from family

and friends

• Beliefs and anxieties about pain and cause of pain

• Expected prognosis

• Interference with life

• Changes to lifestyle and identity

1.6.16 Demonstrate an understanding of the behavioural therapies available and delivered

by clinical psychologists including but not limited to:-

• Education

• Reduction of fear avoidance

• Hypnosis

• Relaxation/guided imagery

• Biofeedback

• Balancing/regulating rest and activities

• Behavioural analysis

• Operant aspects

• Solution focused brief therapy

• Mindfulness-based cognitive behavioural therapy

• Acceptance and commitment therapy

• Mindfulness-based stress reduction

1.6.18 Demonstrate an understanding of the role of work, occupational factors, career,

finances, housing, recreational and leisure activities

1.6.19 Demonstrate critical selection of appropriate physical and psychological assessment

and outcome measures across International Classification of Functioning, Disability,

and Health (ICF) domains (mood, quality of life, beliefs about pain, pain self-efficacy,

physical function, sleep, health literacy).

1.6.20 Demonstrate ability to assess psychosocial factors that elicit and maintain pain

disorders with somaic causes [Multiaxial Pain Classification – Psychosocial

Dimension (MASK-P)]

1.6.21 Show ability to choose appropriate and validated tools to assess and monitor

treatment in specific populations such as:-

• Older adults

• Patients from linguistically or culturally diverse backgrounds

• Patients who are cognitively impaired

• Patients with behavioural issues

1.6.22 Discuss the process of explaining the diagnostic formulation and the proposed

management plan to the patient, taking into account the patients’ health literacy level

1.6.23 Demonstrate the process of negotiating a therapeutic alliance with the patient

towards implementation of the management plan. Differentiate those patients who

require:-

• Multimodal approach from one practitioner

• Multidisciplinary approach from a team

• Referral to other medical specialists and/or allied healthcare professionals

**II Anatomy of pain**

**Neuroanatomy of nocioception**

**1.4 Neurobiology of Pain**

1.4.1 Outline the anatomy and physiology of ascending and descending pathways of

nociceptive modulation in the central nervous system

Refer to the:-

• The somatosensory system

• The autonomic nervous system

• Somatic and visceral peripheral nerves

• Spinal system

• Processing pathways in the brain:-

oo Midbrain and brainstem (including descending inhibition and facilitation)

oo Thalamus and cortex

oo Limbic system

1.4.2 Outline the neuroanatomical and neurophysiological bases for the cognitive and

affective dimensions of the pain experience

1.4.7 Compare and contrast the anatomical and physiological aspects somatic and

visceral pain

**Anatomy of Pain Pathways**

**III** The Physiology of Pain

**Theories of Pain and the Pathophysiology of Peripheral Nerve Damage**

**Pain and Neuroplasticity: The Role of Dorsal Roots**

1.4.5 Outline the concepts of peripheral and central sensitisation of nociception including

reference to:

• Synaptic plasticity

• N-methyl-D-aspartate (NMDA) receptors

• Long-term potentiation/depression

• Neuroimmune signalling, glial cells and sensitisation

• Brain processes involved in sensitisation

• Psychosocial factors contributing to central sensitisation

**Deep, visceral, inflammatory, neuropathic pain**

1.4.6 Outline the mechanisms of acute pain, inflammatory and neuropathic pain

3.8.5 Demonstrate an understanding of the following with respect to chronic visceral pain:

• Neurophysiology

oo Visceral Sensitization

oo Visceral nociceptors

oo Visceral pain & hyperalgesia

oo Visceral hypersensitivity

oo Neurophysiological basis of referred visceral pain

 oo The gut-brain-axis

**Neurophysilogy of acute and chronic pain**

1.2.3 Discuss the distinction between nociception and pain

1.2.4 Discuss the differences between acute and chronic pain

1.4.1 Outline the anatomy and physiology of ascending and descending pathways of

nociceptive modulation in the central nervous system

Refer to the:-

• The somatosensory system

• The autonomic nervous system

• Somatic and visceral peripheral nerves

• Spinal system

• Processing pathways in the brain:-

oo Midbrain and brainstem (including descending inhibition and facilitation)

oo Thalamus and cortex

oo Limbic system

1.4.2 Outline the neuroanatomical and neurophysiological bases for the cognitive and

affective dimensions of the pain experience

1.4.3 Describe mechanisms of transduction, transmission and modulation in nociceptive

pathways

Discuss current concepts of referred pain, including its neurophysiological basis

1.4.4 Understand the changes that occur in the brain during chronic pain and their impact

on pain, mood and cognition

1.4.7 Compare and contrast the anatomical and physiological aspects somatic and

visceral pain

**Neurobiology of Pain in Infants and Children, Development of Painful Pathways and Pain Mechanisms**

4.2.1 Demonstrate knowledge of developmental neurobiology of pain, including

mechanisms of nociception and hyperalgesia

4.2.2 Show understanding of the long term neurophysiological consequences of pain in

infancy and early childhood

# IV Assessment of Pain

**Assessment of Pain, Clinical Evaluation of Pain, Pain Questionnaires and Pain Scales**

**1.7 Assessment of Pain**

1.7.1 Broadly describe how the following factors may influence the patient’s experience

of illness and pain:-

• Social

• Cultural

• Psychological

• Physical

• Genetic

• Age

• Role of health literacy (patient’s ability to seek, understand and implement health

related information to manage their health)

• Religion

• Traditional medical practices

• Patients‘ and family’s wishes, motivations, goals and strengths

1.7.2 Broadly describe patient’s and family’s different responses to the experience of pain

and illness including affective, cognitive and behavioural responses

1.7.3 Outline the current Diagnostic and Statistical Manual of Mental Disorders (DSM) and

International Classification of Diseases (ICD) framework for classification of mental

disorders with particular reference to anxiety, substance misuse and depressive

disorders

1.7.4 Demonstrate understanding of the concept of coloured flags: red (biomedical), yellow

(psychosocial predictors), blue (social and economic factors) and black (occupational)

1.7.5 Perform a basic medical assessment of a patient including:-

• General history-taking

• General physical examination

• Quantitative Sensory Testing

• Psychological function /Mental state examination

1.7.6 Interpret the following basic investigations, including but not limited to:-

• Full blood count

• Biochemical screening including liver function tests and myeloma screening

• Arterial blood gases

• Thyroid function tests

• Electrocardiograms

• Plain radiographs

• MRI and fMRI

• CT

1.7.7 Interpret the following basic screening questionnaires for psychological and somatic

symptom burden, including but not limited to

• Patient Health Questionnaire 4

• Patient Health Questionnaire 9

• Hospital Anxiety and Depression Scale

1.7.8 Demonstrate basic problem-oriented synthesis of clinical information

**Pediatric and neonatal scales**

4.2.5 Discuss developmental, cognitive, contextual and practical considerations in acute,

procedural and chronic pain assessment in infants, children and adolescents

4.2.6 Demonstrate accurate assessment of acute and chronic pain in infants, children

and adolescents using validated pain measurement tools and diaries, including the

ability to apply to children who are:-

• Cognitively impaired

• From linguistically and culturally diverse backgrounds

4.2.7 Critically discuss the evidence-base on the relationship of mood disorders and early

adverse life events, including prolonged time in the neonatal intensive care unit or child abuse and pain

# V Pain managment

# A Pharmacotherapy of Pain

**Pharmacotherapy of Pain (Nociceptors, Dorsal Dolumns of the Spinal Cord and Descending Modulation)**

**Pharmacotherapy of Pain, Classes of Analgesics, Mechanisms of Action**

1.8.2 Broadly discuss the principles of pharmacokinetics and pharmacodynamics

**NSAIL and COX Inhibitors: Pharmacology, Classification, Mechanism of Action, Clinical Application**

1.8.4 Describe the:-

• Mechanism(s) of action

• Potential adverse effects (including toxicity)

• Indications, precautions, and contraindications for use

• Interactions with other drugs

• Site of action

1.8.6 Describe pharmacokinetic and pharmacodynamic differences between the different

systemic routes of administration of drugs (for example, onset/offset of action,

efficacy, adverse effects), including:-

• Oral

• Sublingual

• Buccal

• Rectal

• Transdermal

• Topical

• Inhaled

• Intranasal

• Subcutaneous

• Intramuscular

• Intravenous

• Intra-articular

• Spinal (epidural and intra-thecal)

**Classification and Mehanism of Action of Different Opiods, Pharmacology of Opiods**

1.8.4. Describe the:

• Mechanism(s) of action

• Potential adverse effects (including toxicity)

• Indications, precautions, and contraindications for use

• Interactions with other drugs

• Site of action of Opioid agonists, partial agonists, agonist-antagonists and antagonists, Methadone, Tramadol and tapentadol

1.8.6 Describe pharmacokinetic and pharmacodynamic differences between the different

systemic routes of administration of drugs (for example, onset/offset of action,

efficacy, adverse effects), including:-

• Oral

• Sublingual

• Buccal

• Rectal

• Transdermal

• Topical

• Inhaled

• Intranasal

• Subcutaneous

• Intramuscular

• Intravenous

• Intra-articular

• Spinal (epidural and intra-thecal)

2.1.21 With respect to opioids:-

• Compare and contrast rational of use in acute, chronic non-cancer and cancerassociated

pain

• Critically discuss the evidence base for their efficacy in non-cancer pain

• Critically discuss commonly used dose equivalents for oral, parenteral,

transdermal and neuraxial (epidural, intraspinal) routes of opioid administration

• Describe the pharmacokinetic and pharmacodynamic differences between

immediate-release and slow-release oral opioid formulations

• Discuss the rationale for opioid rotation

• Describe the use and idiosyncrasies of methadone and buprenorphine

• Critically discuss opioid-induced hyperalgesia

• Discuss the assessment, prevention and symptomatic relief of adverse effects of

opioids with particular reference to:-

oo Constipation

oo Nausea and vomiting

oo Sedation

oo Confusion or delirium

oo Pruritus

• Discuss the long-term effects of the use of opioids including, but not limited to

their immuno-modulatory, endocrine and psycho-cognitive effects

• Detail the factors that need to be considered if patients are discharged

from hospital with opioids for ongoing management of acute pain including

dispensation and disposal of unused drugs

• Negotiate a plan for withdrawal from opioids, where appropriate

• Know the different metabolic pathways of opioids, including when used in

patients with liver or kidney function impairment

• Know and know how to discuss with the patient issues related to opioids such as:- length of treatment, dependency, loss of efficacy with time, impact on driving, general function

**Clinical Use of Opiods**

1.8.5 Discuss the principles of analgeisc and opioid equivalence, including but not limited to:-

• Buprenorphine

• Codeine, dihydrocodeine

• Fentanyl

• Hydromorphone

• Methadone, Levomethadone

• Morphine

• Oxycodone

• Tapentadol

• Tramadol

**Dependence and Opiophobia**

1.4.8 Discuss the physiology of and differences between tolerance, dependence and

addiction with respect to pharmacological agents

4.3.1 Define the following concepts:-

• Tolerance

• Physical dependence

• Psychological dependence

• Classification of clinical states following psychoactive substance use

• Dual diagnosis (Substance Misuse Co- Morbidity with Physical and Mental

Health Problems)

4.3.2 Critically discuss the differences in understanding and use of the terms above

between the disciplines of pain medicine and addiction medicine

4.3.3 Distinguish between inappropriate prescription (inappropriate prescriber behaviour)

and unsanctioned use (unsanctioned user behaviour) of drugs

4.3.4 Describe the impact of the following non-prescription substances on health and pain

experience:-

• Caffeine

• Street Heroin

• Nicotine

• Alcohol

• Cannabis

• Methamphetamine and other stimulants

4.3.5 Describe in detail regulations regarding the prescription, restrictions and monitoring

of controlled substances in your relevant healthcare system

*See also Section 2.2.20 – 2.2.22 Professional*

4.3.6 Discuss the current DSM 5 or ICD10 criteria for diagnosis of mental and behavioural

problems due to psychoactive substance use, in particular Opioid Use Disorder;

discuss the appropriateness of ICD 10 criteria of substance abuse and dependence

for patients receiving opioid therapy

4.3.7 Discuss in detail the role of tranquilisers in acute pain and chronic non-cancer pain

4.3.8 Describe your understanding of Neonatal Abstinence Syndrome (NAS) – Describe

the relationship between NAS and prescribed opioid analgesia

4.3.9 Recognize the different forms of substance abuse that may be co-morbid with the

experience of chronic pain across all ages

4.3.10 Compare and contrast intoxication and withdrawal syndromes from:-

• Opioids

• Alcohol

• Benzodiazepines

• Amphetamines

• Cannabis

4.3.11 Identify and stratify patients into risk categories when considering opioid prescription

for pain

4.3.12 Critically appraise the tools available to assist clinical assessment of suitability for,

and monitoring of, prescription of opioids for chronic non-cancer pain

4.3.13 Discuss the uses and limitations of urine drug testing and hair analysis

4.3.14 Quantify medication use by persons with chronic pain, including assessing the

cumulative effects of multiple substances

4.3.15 Discuss strategies to reduce opioid diversion

4.3.16 Broadly discuss regimens of supervised withdrawal from:-

• Street opioids

• Prescribed opioids (including methadone, buprenorphone and others)

• Benzodiazepines

• Alcohol

4.3.17 Demonstrate understanding of controlled opioid substitution treatment programs in

your relevant health care system

4.3.18 Demonstrate understanding the management of patients with problematic substance

use in the context of acute and chronic pain, including monitoring, drug therapy and

rehabilitation

4.3.19 Counsel patients, their families and carers, and colleagues regarding the conduct of

withdrawal of opioids and benzodiazepines in chronic non-cancer pain

4.3.20 Work ethically with general practitioners, addiction services, families and, where

appropriate, employers of patients with co-morbid pain and problematic substance use

4.3.21 Assist in the management of the healthcare professional with problematic substance

use, especially benzodiazepines and opioids; including monitoring, drug therapy and rehabilitation

**Topical drugs, Cannabinoids, NMDA Antagonists, Botulimum toxin, Alpha Lipoic Acid – Pharmacology, Classification, Mechanism of Action, Clinical Application**

1.8.4 Describe the:-

• Mechanism(s) of action

• Potential adverse effects (including toxicity)

• Indications, precautions, and contraindications for use

• Interactions with other drugs

• Site of action

1.8.6 Describe pharmacokinetic and pharmacodynamic differences between the different

systemic routes of administration of drugs (for example, onset/offset of action,

efficacy, adverse effects), including:-

• Oral

• Sublingual

• Buccal

• Rectal

• Transdermal

• Topical

• Inhaled

• Intranasal

• Subcutaneous

• Intramuscular

• Intravenous

• Intra-articular

• Spinal (epidural and intra-thecal)

**Antidepressants Coanalgesics for Pain – Pharmacology, Classification, Mechanism of Action, Clinical Application**

1.8.4 Describe the:-

• Mechanism(s) of action

• Potential adverse effects (including toxicity)

• Indications, precautions, and contraindications for use

• Interactions with other drugs

• Site of action

1.8.6 Describe pharmacokinetic and pharmacodynamic differences between the different

systemic routes of administration of drugs (for example, onset/offset of action,

efficacy, adverse effects), including:-

• Oral

• Sublingual

• Buccal

• Rectal

• Transdermal

• Topical

• Inhaled

• Intranasal

• Subcutaneous

• Intramuscular

• Intravenous

• Intra-articular

• Spinal (epidural and intra-thecal)

**Anticonvulsants – Coanalgesics for Pain – Pharmacology, Classification, Mechanism of Action, Clinical Application**

1.8.4 Describe the:-

• Mechanism(s) of action

• Potential adverse effects (including toxicity)

• Indications, precautions, and contraindications for use

• Interactions with other drugs

• Site of action

1.8.6 Describe pharmacokinetic and pharmacodynamic differences between the different

systemic routes of administration of drugs (for example, onset/offset of action,

efficacy, adverse effects), including:-

• Oral

• Sublingual

• Buccal

• Rectal

• Transdermal

• Topical

• Inhaled

• Intranasal

• Subcutaneous

• Intramuscular

• Intravenous

• Intra-articular

• Spinal (epidural and intra-thecal)

**Placebo and Placebo Effect**

1.3.3 Discuss the concepts of placebo and nocebo effect

In referring to the placebo response, address also ‘regression to the mean’

Discuss the relevance of placebo and nocebo for routine clinical care

2.1.18 Understand the principles and application of placebo and nocebo theory in patients

with pain

**Discuss the process of applying multidisciplinary treatment principles in pain management programs. Demonstrate ability to adapt plans to the specific needs of patient groups**

• Pregnant women

• Older adults (including those with dementia)

• Patients with mental health disorders

• Opioid-tolerant

• With active or past substance abuse problems

• Patients with intellectual and/or physical disabilities

**VI Non-Pharmacological Treatment of Pain**

**Transcutaneous Electroneural Stimulation**

**Interventional Pain Managment**

2.1.23 Critically discuss indications, efficacy, complications, management and patient

follow-up for procedural treatment modalities related to pain medicine, including but

not limited to:-

• Peripheral injections

oo Soft-tissue

oo Intra-articular

• Neuraxial injections

• Electrical stimulation (Transcutaneous- and Percutaneous Electrical Nerve

Stimulation, TENS, PENS)

• Electroacupuncture

• Ablative techniques

oo Chemical o Electrical/thermal

• Neuromodulation

oo Spinal Cord Stimulation

oo Dorsal Root Ganglion (DRG) stimulation

oo Intrathecal drug delivery

• Epiduroscopy

• Surgical interventions

oo MRI-, US-, laser- guided ablations

oo Deep brain, motor cortex, transcranial magnetic stimulation

oo Stereotactic surgical techniques

oo Cordotomy

oo Dorsal root entry zone (DREZ)

oo Other CNS surgical techniques for pain treatment

3.1.8 Describe the pharmacokinetics and pharmacodynamics of opioids and local

anaesthetics administered into the epidural space or cerebrospinal fluid; also

perineural and infiltrative techniques (infusions in wounds, joints, peritoneal,

subfascial, subacromial etc.)

3.1.9 Describe the physiological consequences of a central neuraxial (epidural or

intrathecal) block with local anaesthetics and/or opioids

3.1.20 Describe the complications that may be associated with neuraxial analgesia and

other regional analgesia (including secondary to needle/catheter insertion and

drug administration) and how these may be mitigated and managed

3.1.22 Discuss the use of ultrasound imaging in the performance of regional analgesic

Techniques

3.1.23 For patients receiving:-

• Intravenous PCA

• Epidural analgesia (including epidural PCA)

• Sublingual PCA (using sufentanil)

• Intrathecal analgesia

• Anlagiesia by major peripheral nerve blocks nest

• Plexus analgiesia

• Pravertebral block

Outline:-

1. Risks versus benefits

2. Monitoring of efficacy

3. Safety considerations

3.1.25 Discuss the management of patients who are taking anticoagulants or anti-platelet

agents and who have or are about to receive catheters in situ for neuraxial or major

peripheral nerve analgesia

3.1.26 Discuss the potential complications specific to the concurrent use of anticoagulant

and antiplatelet agents in patients undergoing central neuraxial and major regional

nerve blockade

3.3.27. Discuss the role of interventional procedures in the management of cancer pain that

is unresponsive to non-invasive treatment, including but not limited to:-

• Neuraxial and intracerebroventricular administration of medications

• Neurolytic blocks, with particular reference to:-

oo Saddle block

oo Coeliac plexus block

• Surgical procedures

oo Cordotomy

oo Vertebral procedures

3.5.27 Critically discuss the evidence base for the indications, efficacy and complications of

interventions used for chronic spinal pain, with or without radicular pain including:-

• Injections

oo Epidural/caudal steroids

oo Medial branch injections

oo Prolotherapy

oo Trigger point injections

oo Botulinum toxin

oo Intra-articular steroids (apophyseal and sacro-iliac)

• Radiofrequency and electrothermal treatment (including evaluation)

oo Facet joint

oo Intervertebral disc

oo Sacro-Iliac joint

oo Dorsal root ganglion

• Central neuromodulation including spinal cord stimulation

• Peripheral nerve stimulation

• Intrathecal drug infusion

• Epiduroscopy

3.10.19 Critically discuss the evidence base for the indications, efficacy and complications

of interventions used for chronic HDCT pain, including:-

• Injections

• Epidural/caudal steroids

• Medial branch injections

• Trigger point injections

oo Botulinum toxin

oo Intra-articular steroids

**Surgical Pain Treatment**

3.5.28 Critically discuss the evidence base for the indications, efficacy and limitations of

surgical interventions for chronic spinal pain with or without radiculopathy:-

• Decompression/laminectomy

• Discectomy

• Disc replacement

• Fusion

**Topical Anesthesia in Managment of Pain in Children**

**Non-pharmocological complementary/alternative methods of Pain Menagment (available methods, mechanism of action and clinical effects of acupuncture)**

2.1.24 Critically discuss the use, evidence, efficacy and potential interactions and adverse

effects of complementary and alternative medicine (CAM) used in the community for

the treatment of pain, including:-

• Acupuncture

• Homeopathy

• Herbal medications,

• Nutritional supplemental

2.1.22 Critically discuss physical treatment modalities related to pain medicine, including

but not limited to:-

• Principles of physical activity and role of physiotherapy

• Principles of pacing and graded activity

• Passive and active therapy

• Manual therapy

• Know how to adapt physical treatments to different pain states

• Exercise prescription

**The Role of Physical Medicine and Rehabilitation in Pain Managment – physical modalities according to the type od pain and patient population**

1.6.17 Demonstrate an understanding of the range of treatment options that a chartered

physiotherapist can offer including:-

• TENS

• Paced and graded activity

• Physical activity and fitness

• Goal setting

• Neurodynamics

• Manual therapy, and their level of integration (peripheral, spinal, supraspinal)

Demonstrate an understanding of the range of treatment options that occupational

therapy can offer:-

• Energy conservation

• Pacing

• Relaxation

Demonstreate an understanding of the importance of integrating physiotherapy

programme to work and leisure

2.1.22 Critically discuss physical treatment modalities related to pain medicine, including

but not limited to:-

• Principles of physical activity and role of physiotherapy

• Principles of pacing and graded activity

• Passive and active therapy

• Manual therapy

• Know how to adapt physical treatments to different pain states

• Exercise prescription

SUMMER SEMESTAR

**II Cancer Pain**

**Cancer Pain: Etiology, Classification and Assessment of Cancer Pain, Principles of Pain Managment, Opiod Rotation**

3.3.1 Identify age and sociocultural influences on the perception and experience of cancer

and of cancer- related pain

3.3.2 Compare and contrast the assessment and management of persons with cancer

pain and those with chronic non-cancer pain

3.3.3 Recognize the problems faced by cancer survivors who have persistent pain

3.3.4 Discuss the meaning and significance of the World Health Organization (WHO)

analgesic guidelines for pain in cancer

3.3.12 Be aware of and discuss clinical practice guidelines addressing the management of

end-of-life symptoms including but not limited to:-

• Pain

• Nausea/vomiting

• Respiratory symptoms

• Fatigue

• Itch

• Emotional distress

3.3.13 Recognise the essential role of close collaborations between the various teams

involved in the care of cancer patients - for example pain specialist, oncologist,

surgeon,palliative care and family physicians

3.3.14 Discuss the neurophysiological mechanisms contributing to the experience of pain:-

• Nociceptive pain related to cancer and cancer treatment

• Neuropathic pain related to cancer and cancer treatment

• Visceral pain related to cancer and cancer treatment

Adress specific mechanisms including pain:-

• Arising from a solid viscus

• Arising from a hollow viscus

• Directly related to cancer (tumour invasion, compression, metastases etc.)

• Indirectly related to cancer (pressure areas, osteoporosis, acute herpes zoster

infection, worsening back pain due to poor mobilisation)

• Related to cancer treatments (surgery, radiotherapy, chemotherapy, hormone

therapy or immunotherapy)

3.3.16 Discuss the analgesic benefits of cancer-modifying treatments such as:-

• Surgery

• Chemotherapy

• Radiotherapy

• Hormone therapy

3.3.17 Define and distinguish between:-

• Breakthrough pain and persistent background pain

• Incident pain and incompletely relieved background pain

3.3.18 Apply a mechanism-based approach to identifying the origins and contributing

factors to pain in cancer patients:-

• Bone pain

• Soft tissue

• Visceral pain

3.3.19 Discuss assessment and management of cancer pain in special populations such

as older adults, children, adults with learning difficulties and those with substance

abuse problems.

*See Section Four: Special Patient Populations*

3.3.20 Discuss the presentation of emergencies in the patient with cancer- related pain,

including but not limited to:-

• Acute spinal cord compression

• Life-threatening increased intracranial pressure

• Gastrointestinal obstruction and perforation of a viscus

oo Bleeding from tumour

oo Airway obstruction from tumour or post radiotherapy

• Hypercalcaemia

• Long bone fracture

3.3.22 Discuss the management of acute pain in cancer patients, including:-

• Diagnostic interventions

• Therapeutic interventions

3.3.23 Discuss the management of post-chemotherapy and post-radiotherapy pain

3.3.24 Discuss the management of mucositis

3.3.26 Critically discuss the use of adjuvant analgesics in cancer pain including but not

limited to:-

• Bisphosphonates

• Denosumab

• Corticosteroids

• Ketamine

• Antidepressants

• Anticonvulsants

3.3.29 Evaluate efficacy of key interventions through reassessment of key clinical and patient

reported outcomes

3.3.32 Outline the value of palliative care regarding structure and process of care

**Pharmacotherapy of Cancer Pain, Managment of Breakthrough Pain**

3.3.5 Discuss the choice of analgesics in the WHO ladder and critically evaluate the

evidence base

3.3.6 Discuss the differences between application routes (oral, transdermal, subcutaneous,

intravenous, intrathecal)

3.3.7 Discuss the management of opioid analgesics including the role of opioid rotation

in patients with inadequate pain relief or severe side effects

3.3.8 Critically discuss situations in which changing the route of analgesic administration

may be required

3.3.9 Discuss the use of opioids in the patients with impaired renal or liver function

3.3.10 Discuss the options for the management of breakthrough cancer pain

3.3.11 Discuss the management of opioid-related adverse events

3.3.30 Discuss the different goals of care for a pre-terminal patient compared with those for

a terminally ill patient

**Basics of Cancer Pain Therapy, Radiotherapy, Chemotherapy, Hormon Therapy in Pain Managment**

3.3.15 Recognise interactions of medications, particularly the anti-cancer drugs, with the

cytochrome P450 enzyme system and how this might influence analgesic treatments

3.3.25 Outline the changes in pain management when a patient is:-

• No longer able to swallow

• Unconscious or delirious

• Likely to die within days

3.3.23. Discuss the management of post-chemotherapy and post-radiotherapy pain

3.3.24. Discuss the management of mucositis

**Urgent situations in Cancer Pain Managment in the Terminal Phase of the Malignant Disease**

3.3.21 Discuss the role of cancer therapies in the management of cancer-related pain,

including but not limited to:-

• Radiotherapy

• Radiopharmaceuticals

• Chemotherapy

• Immune therapy

• Surge*ry*

**Psychiatric comorbidities Associated With Chronic Pain. Depression and Anxiet in Painful Conditions – Recognition and Therapy**

2.1.19 Critically discuss evidence-based psychological therapies related to pain medicine,

including:-

• Solution focused brief therapy

• Cognitive and behavioural therapies

• Mindfulness-based cognitive behaviour therapy; acceptance and commitment

therapy; mindfulness-based stress reduction

• Systemic (couple and family) therapy

• Hypnosis/guided imagery

• Biofeedback, relaxation techniques such as progressive muscle relaxation and

autogenic training

2.1.20 Discuss in detail clinical pharmacotherapy, the evidence base for the efficacy and

adverse effects in pain medicine, including but not limited to the use of:-

2.1.25 Describe the application of multidisciplinary treatment principles in pain management

programs

*See Section One: Foundations of Pain Medicine/1.6 Bio-psychosocial Aspects of Pain*

2.1.26 Share with the patient and his significant others the diagnostic formulation and the

proposed management plan

2.1.27 Build a therapeutic alliance with the patient and his significant others towards

implementation of the management plan, using ‘plain language’, the teachback

method to ensure patient’s understanding, and establishing common expectations

2.1.28 Discuss the role of shared decision when choosing treatment

2.1.29 Evaluate efficacy of intervention, through reassessment of key indicators (reflecting

International Classification of Functioning, Disability and Health)

2.1.30 Discuss the role of adherence

2.1.31 Demonstrate the ability to differentiate between those patients who require:-

• Multimodal approach from one practitioner

• Multidisciplinary approach from a team

• Referral to other medical specialists and/or allied healthcare professionals

2.1.32 Consult and collaborate with colleagues and other healthcare professionals to

optimise patient wellbeing and enhance patient outcomes

2.1.33 Demonstrate the skills required to lead a multidisciplinary team (across health

and social care) in the implementation of a pain management plan, including communication skills

2.1.34 Incorporate as part of a comprehensive pain management plan, where indicated:-

• Risk assessment

• Identification of vulnerable adults and appropriate safeguarding referral

• Consider use of an independent patient advocate

• Psychological treatment, physical therapies and social needs evaluation in a

multidisciplinary and multiprofessional setting

• Rational pharmacotherapy

• Appropriate interventional treatment modalities

• Patient education

• Involvement in supported self-management, in voluntary and community Organizations

2.1.35 Demonstrate ability to rationalize, supervise and individualize complex

pharmacotherapy in patients experiencing pain, also in light of their co-morbidities

2.1.36 Consider the use of alternative therapies to meet patient needs

2.1.37 Arrange appropriate follow up and proper outcome measurement

**Pain and Imminent Death**

**Existential Dimension of Pain**

**III Non-cancer Pain**

**Acute and Postoperative Pain- Etiology, Assessment, Therapy**

3.1.1 Discuss the role of Acute Pain Services (APS). The SPMP should be able to broadly

describe the two main APS models: physician-based and specialist nurse-based,

physician supervised

3.1.2 Discuss the role of acute pain management in primary care

3.1.3 Discuss general requirements that enable safe and effective delivery of acute pain

management techniques in hospitals including: education of staff and patient

monitoring requirements (assess and document pain as the “fifth vital sign”); responses

to inadequate or excessive medication; use of “standard orders”; equipment used

3.1.4 Discuss the issues related to the ongoing management of acute pain following

discharge from hospital, including patients undergoing ambulatory surgery

3.1.5 Evaluate the role of acute pain management in rehabilitation, including enhanced

recovery or “fast-track” surgery

3.1.6 Understand the evidence for acute pain management and promotion of enhanced

recovery and rehabilitation in prevention of chronic pain

3.1.7 Discuss the risk factors and mechanisms involved in the transition of acute to chronic

pain, and critically evaluate the evidence for measures that may reduce (mitigate)

that transition

3.1.8 Describe the pharmacokinetics and pharmacodynamics of opioids and local

anaesthetics administered into the epidural space or cerebrospinal fluid; also

perineural and infiltrative techniques (infusions in wounds, joints, peritoneal,

subfascial, subacromial etc.)

3.1.9 Describe the physiological consequences of a central neuraxial (epidural or

intrathecal) block with local anaesthetics and/or opioids

3.1.10 Describe the adjuvant agents that may be used to enhance the quality or extend the

duration of central neuraxial or other regional analgesia blocks, and discuss their

mechanisms of action, risks and benefits

3.1.11 Discuss the contribution of maladaptive psychological coping skills, mental disorders,

psychological distress, psychiatric illness and socioenvironmental and further culturally

related factors to the experience of acute pain (pain ratings, opioid use) and the risks

of persistent pain and prolonged opioid use after discharge from hospital

3.1.12 Critically discuss the importance of regular institutional audits to ensure that the goals

of effective analgesia and patient satisfaction are being met and also to serve as a

benchmarking tool

3.1.13 Discuss assessment of acute pain (including acute neuropathic pain) in the adult

patient, including the nonverbal patient and those from diverse socieeconomic,

ethnic, or other, linguistic- and cultural backgrounds, and the relevance of functional

assessment

3.1.14 Discuss assessment of acute pain in the older patient (especially those with dementia)

including challenges in communication, relevance of functional assessment and use

of other pain evaluation methods that do not rely on verbal ability

3.1.15 Discuss assessment of acute pain in infants, young children and adolescents including

the developmental and practical challenges, relevance of functional assessment and

use of appropriate and validated paediatric pain scales, including those for children

with neurodevelopmental impairment

3.1.16 Recognise causes of delirium in the acute pain setting and the effect this may have

on assessment and treatment of the patient with acute pain

3.1.17 Compare and contrast the evidence for efficacy and adverse effects in the

management of acute pain by using analgesics:-

• Paracetamol, metamizole

• Non-steroidal anti-inflammatory drugs (COX-1 and COX-2 inhibitors)

• Strong and weak opioids

3.1.18 Critically discuss the evidence-base for the indications, efficacy and adverse effects of:-

• NMDA-receptor antagonists

• Anticonvulsants

• Antidepressants

• Alpha-2 adrenergic agonists

• Inhalational agents

• Corticosteroids

• Systemic lidocaine

3.1.19 Assess and manage adverse effects related to pharmacological therapies in acute

pain management, including but not limited to:-

• Opioid induced:-

oo Nausea and vomiting

oo Respiratory depression

oo Excessive sedation

oo Pruritus

oo Constipation

oo Congnitive dysfunction

3.1.20 Describe the complications that may be associated with neuraxial analgesia and

other regional analgesia (including secondary to needle/catheter insertion and

drug administration) and how these may be mitigated and managed

3.1.21 Outline a plan to transition patients from patient-controlled analgesia (PCA),

intravenous or regional, to oral administration

3.1.23 For patients receiving:-

• Intravenous PCA

• Epidural analgesia (including epidural PCA)

• Sublingual PCA (using sufentanil)

• Intrathecal analgesia

• Anlagiesia by major peripheral nerve blocks nest

• Plexus analgiesia

• Pravertebral block

Outline:-

1. Risks versus benefits

2. Monitoring of efficacy

3. Safety considerations

3.1.24 Discuss issues specific to the management of acute pain in patients with:-

• Spinal cord injury

• Burns

• Trauma

• Crush injuries and ischaemic limbs with a risk of compartment syndrome

• Patients with obstructive sleep apnoea

• Patients who are pregnant or breast-feeding

• Patients with renal impairment (including those on dialysis)

• Patients with chronic pain

• Opioid-tolerant patients and patients with past or present substance abuse disorder

3.1.25 Discuss the management of patients who are taking anticoagulants or anti-platelet

agents and who have or are about to receive catheters in situ for neuraxial or major

peripheral nerve analgesia

3.1.27 Discuss the management of patients undergoing repeated painful procedures

including use of EMLA, NO2 or psychological treatment (distraction, hypnosis)

3.1.28 Discuss the management of acute pain by using nonpharmacological methods

e.g. hot/cold pack, TENS, low-laser therapy and psychological strategies (e.g.

distractions and breathing techniques) and psychological support for patients before

and after surgery

3.1.29 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**Pain Managment in Acute Intentsive Care Units**

**Acute, chronic and Preoperative Pain Managmetn in Children**

4.2.3 Outline the of principles of age related changes in body composition, pharmacokinetics

and pharmacodynamics affecting pain pharmacotherapy, therapeutics and dosing

in infants, children and adolescents

4.2.4 Discuss ethical and legal aspects of prescribing for children including marketing

authorisation and off-label prescribing

4.2.8 Critically discuss methods of analgesic delivery appropriate for:-

• Home

• School

• Hospital settings

4.2.10 Discuss safe and effective pharmacological management of acute, procedural and

complex pain conditions in children using analgesics and adjuvants

4.2.11 Demonstrate safe and appropriate prescription of analgesia with awareness

of toxicity, interactions and side-effects associated with opioids and other pain

medication

4.2.9 Discuss the evidence-base for effective pain treatments in children of different ages

and in different contexts including, but not limited to:-

• Procedural pain, including repeated painful procedures

• Acute pain

• Postoperative pain

• Complex pain conditions including, but not limited to functional abdominal

pain, headache, Complex Regional Pain Syndrome, chronic widespread pain,

neuropathic, visceral and musculoskeletal pain

• Cancer pain and palliative care, including mucositis

• Role of interventional procedures including regional nerve blocks and surgical

Procedures

4.2.12 Demonstrate understanding of the principles of multidisciplinary team management

of pain in children and adolescents

4.2.13 Discuss biopsychosocial aspects of pain management in children, including the role

of the family (or carer) and society and influence of diverse socio-economic, ethnic

and cultural backgrounds

Demonstrate understanding of organisational aspects of children’s pain services

including:-

• Acute (postoperative and procedural) pain

• Cancer pain and palliative care

• Complex pain

4.2.15 Critically discuss Child Protection and safeguarding risks and procedures

4.2.16 Outline practices for transitioning from pediatric to adult pain clinics

4.2.17 Demonstrate skills for communication with:-

• Children and families/carers in a setting of cultural diversity

• Other healthcare professionals in primary and secondary children’s care

4.2.18 Discuss the role of Returning To School (RTS) and Staying In School (SIS)

4.2.19 Recognize the family as information provider as well as co-therapist. Examples

include but not limited to allowing for PCA by proxy in small children or by facilitating

breast feeding during immunization

4.2.20 Demonstrate skills for setting adequate and realistic functional goals for management

of complex pain conditions

4.2.21 Outline means to identify children at risk and means to implement local safeguarding

Procedures

4.2.22 Critically discuss appropriate skills mix for multidisciplinary pain management in

children of different ages, abilities and social, cultural and educational needs

4.2.23 Demonstrate verbal and written communication skills necessary within the

multidisciplinary team

4.2.24 Discuss approaches for integrating the 3 P’s – Pharmacology, Physiotherapy and

Psychology into a multidisciplinary management plan

4.2.25 Outline physical and psychological strategies to manage pain including, but not

limited to:-

• Hot/cold pack

• TENS

• Distractions

• Breathing techniques

**Central Pain, Phantom Pain and Other Phenomena After Amputation**

3.2.6 Describe the different presentations of pain and clinical findings in the following

primary neurological diseases:-

3.2.11. Critically discuss the non-pharmacological approaches in the treatment of neuropathic

pain:-

• Neuromodulation

• Physical therapy and physiotherapy (e.g., mirror therapy for phantom limb pain)

• General multimodal and multidisciplinary principles of chronic pain management

**Osteoarthritis and Rheumathoid arthritis**

**Pain during soft tissue infection of the locomotor system**

3.4.1. Understand the pathophysiology of joint pain, muscle pain and bone pain

3.4.2 Recognise the stages of acute and chronic MSK pain and discuss the development

and prevention of chronicity

3.4.3 Recognise causes and treatments of joint pain

3.4.4 Recognise causes and treatment of bone pain

3.4.5 Recognise the role of movement in causation of MSK pain

3.4.6 Recognise the influence of repetitive injuries in MSK pain

3.4.7 Discuss the role of work and its relationship with MSK pain

3.4.8 Discuss sleep disorders and their relationship to MSK pain

3.4.9 Recognise the poor correlation between symptoms and imaging findings

3.4.10 Outline the importance of assessment of function together with pain

3.4.11 Differentiate inflammatory and mechanical pain

3.4.12 Assess the impact of MSK pain on activities of daily living

3.4.13 Discuss the evidence base for employing the following strategies to manage MSK:-

• Self management

• Exercise

• Rehabilitation

• Pharmacology

• Non pharmacological approaches

*See also Sections 3.5 Neck and Back Pain and 3.6 Fibromyalgia Syndrome and*

*Chronic Widespread Pain*

3.4.14 Evaluate efficacy of key interventions, through assessment of key clinical and patient

reported outcomes

3.5.1 Compare and contrast the current International Association for the Study of Pain

3.5.2 Discuss controversies in diagnostic terminology in spinal pain

3.5.3 Discuss the public health dimensions of the problem of spinal pain, including but not

limited to:-

• Prevalence

• Demography

• Personal and societal costs including but not limited to:-

oo Effects on quality of life

oo Ability to work

oo Social function

oo Disability and sickness benefits

oo Lost productivity

3.5.4 Recognise major risk factors, including psychosocial, for transition of acute to chronic

low back pain

3.5.5 Recognise risk factors for transition of acute to chronic neck pain following “whiplash”

Injury

3.5.6 Discuss factors predictive of chronicity after acute spinal pain, including but not

restricted to the “flag” system

3.5.7 Describe the neuroanatomy and function of the spine and identify potential structures

that can be associated with pain

3.5.8 Critically appraise the value of epidural injections, zygo-apophyseal joint blocks,

medial branch blocks and denervation as part of a long-term plan and as part of

the diagnostic process

3.5.9 Discuss initial evaluation of spinal pain, including risk assessment and risk stratification

tools, e.g. STarT Back

3.5.10 Discuss the rationale and use of questionnaires for assessing dimensions of chronic

spinal pain, e.g.:-

• Oswestry Low Back Pain Disability Questionnaire

• Roland Morris Disability Questionnaire

• Assessment of mood, anxiety, catastrophising

3.5.11 Identify the potential specific causes of acute and chronic spinal pain including but

not limited to:-

• Infection

• Trauma

• Neoplasia

• Metabolic bone disease

• Inflammatory disease

• Pain hypersensitivity/augmentation

3.5.13 Critically interpret commonly used physical examination tests for upper and lower

limbs, for example, Lasegue/straight leg raise test, slump test, etc.

3.5.14 Perform a gait analysis

3.5.15 Recognise the clinical presentation of symptomatic spinal stenosis

3.5.16 Recognize ‘red flag’ pathologies: e.g. cauda equina syndrome and neoplasm

3. 5.17 Distinguish between acute and acute-on-chronic episodes of spinal pain

3.5.18 Reinterpret pre-existing investigations and opinions in the light of clinical findings

3.5.19 Know and discuss when to order investigations including imaging and how to

interpret images and reports

3.5.20 Critically discuss the evidence base for management of acute low back pain with

or without radicular pain

3.5.21 Describe national, European and international guidelines for the management of

acute and chronic low back pain

3.5.22 Discuss the importance of self-management and how it may be implemented

3.5.23 Discuss the efficacy of psychological therapies in chronic spinal pain including, but

not limited to:-

• Cognitive

• Behavioural

• Acceptance commitment

• Biofeedback

• Mindfulness

• Relaxation therapies

• Hypnosis

• Combined psychological and physical approaches

3.6.1 Demonstrate understanding of historical speculations about the nature of pain that

is poorly understood, the shortcomings of these speculations and the medical and

social outcomes that have arisen as a result of the adoption of these concepts. These

include but are not limited to:-

• Symptoms as psychological by default (DSM-V and ICD-10)

• Symptoms as injury (for example, “repetitive strain injury”)

• Symptoms as disease entity (for example, “fibromyalgia syndrome”)

• Symptoms according to different age groups, e.g. adolescents, adults and

older adults

3.6.2 Be aware of developments in the field of nociceptive signal processing in the brain

and descending control systems

3.6.3 Critically discuss the concepts of somatisation and hypervigilance

3.6.4 Discuss the “diagnostic” category of somatic symptom and related disorders

(according to DSM-V or ICD-10), including but not limited to:-

• Somatic symptom disorder

• Illness anxiety disorder

• Psychological factors affecting other medical conditions

• Central sensitization disorders

• Small nerve neuropathy

• Chronic Pain Disorder with somatic and psychological factors

3.6.5 Recognise the potential contributions of sources of somatic and visceral nociception

to the experience of widespread pain including CNS processing and descending

controls

3.6.6 Outline the heterogeneity of clinical presentations of CWP

3.6.7 Critically interpret the clinical finding of “tenderness”

3.6.8 Critically evaluate the constructs of “myofascial pain” and “fibromyalgia syndrome”

3.6.9 Evaluate the role of a liaison psychiatrist in providing a formulation and assessing

risk of suicide

3.6.10 Understand the condition of FMS and its historical and more recent definitions,

including the current American College of Rheumatology definition, revised in 2011

3.6.11 Know the incidence, including relative occurrence according to gender, and

understand the societal impact

3.6.12 Discuss and critique the criteria for diagnosis including:-

• Widespread pain

• Tender points

• Fatigue

• Sleep problems

• Mood disturbance, including depression and anxiety

• Cognitive effects, including loss of concentration, memory

• Associated conditions including irritable bowel syndrome (IBS), headache,

cystitis, chronic fatigue syndrome (CFS)

• Absence of other conditions to explain symptoms

3.6.13 Discuss the possible aetiologies for FMS and CWP such as:-

• Chemical changes in the brain

• Central sensitisation

• Small fibre neuropathy

• Altered descending inhibition

• Sleep disturbance

• Injury (including trauma and litigation)

• Infection

• Sympathetic

• Viral disorder

• Growth hormone deficiency

• Genetic predisposition (gene abnormalities)

• Immune system disorder

• Lyme disease

• Neuropathic pain

• Psychological disturbance

• Somatoform disorder

• Arteriovenous shunt (Albrecht)

• Malingering

3.6.14 Discuss reasons for the paucity of quality evidence in the management of CWP

3.6.15 Appreciate the need to provide a multidisciplinary approach including explanation,

acceptance, graded activity and social adaptations. Critically review medications

used for FMS (see below)

3.6.16 Discuss treatment of FMS according to National and International Guidelines

including the evidence base and the place of:-

• Self-management

• Graded exercise

• Medications, including duloxetine, milnacipran, antidepressants, pregabalin,

tramadol, simple analgesics only in short term usage

oo Other than tramadol, opioids should not be used

• Cognitive Behavioural Therapy (CBT) and the use of appropriate alternative

techniques to reduce symptoms and encourage increased activity and better

function

3.6.17 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**Back Pain, Neck Pain and Pain in the Upper Extremities: Etiology, Pathogenesis, Therapy**

3.5.1 Compare and contrast the current International Association for the Study of Pain

(IASP) Classification of Spinal Pain with other classification systems

3.5.2 Discuss controversies in diagnostic terminology in spinal pain

3.5.3 Discuss the public health dimensions of the problem of spinal pain, including but not

limited to:-

• Prevalence

• Demography

• Personal and societal costs including but not limited to:-

oo Effects on quality of life

oo Ability to work

oo Social function

oo Disability and sickness benefits

oo Lost productivity

3.5.4 Recognise major risk factors, including psychosocial, for transition of acute to chronic

low back pain

3.5.5 Recognise risk factors for transition of acute to chronic neck pain following “whiplash”

Injury

3.5.6 Discuss factors predictive of chronicity after acute spinal pain, including but not

restricted to the “flag” system

3.5.7 Describe the neuroanatomy and function of the spine and identify potential structures

that can be associated with pain

3.5.8 Critically appraise the value of epidural injections, zygo-apophyseal joint blocks,

medial branch blocks and denervation as part of a long-term plan and as part of

the diagnostic process

3.5.9 Discuss initial evaluation of spinal pain, including risk assessment and risk stratification

tools, e.g. STarT Back

3.5.10 Discuss the rationale and use of questionnaires for assessing dimensions of chronic

spinal pain, e.g.:-

• Oswestry Low Back Pain Disability Questionnaire

• Roland Morris Disability Questionnaire

• Assessment of mood, anxiety, catastrophising

3.5.11 Identify the potential specific causes of acute and chronic spinal pain including but

not limited to:-

• Infection

• Trauma

• Neoplasia

• Metabolic bone disease

• Inflammatory disease

• Pain hypersensitivity/augmentation

3.5.13 Critically interpret commonly used physical examination tests for upper and lower

limbs, for example, Lasegue/straight leg raise test, slump test, etc.

3.5.14 Perform a gait analysis

3.5.15 Recognise the clinical presentation of symptomatic spinal stenosis

3.5.16 Recognize ‘red flag’ pathologies: e.g. cauda equina syndrome and neoplasm

3.5.17 Distinguish between acute and acute-on-chronic episodes of spinal pain

3.5.18 Reinterpret pre-existing investigations and opinions in the light of clinical findings

3.5.19 Know and discuss when to order investigations including imaging and how to

interpret images and reports

3.5.20 Critically discuss the evidence base for management of acute low back pain with

or without radicular pain

3.5.21 Describe national, European and international guidelines for the management of

acute and chronic low back pain

3.5.22 Discuss the importance of self-management and how it may be implemented

3.5.23 Discuss the efficacy of psychological therapies in chronic spinal pain including, but

not limited to:-

• Cognitive

• Behavioural

• Acceptance commitment

• Biofeedback

• Mindfulness

• Relaxation therapies

• Hypnosis

• Combined psychological and physical approaches

3.5.24 Discuss principles of activity prescription in the management of neck and back pain

3.5.25 Generally discuss the evidence for efficacy and adverse effects of physical therapies

in spinal pain, including but not limited to:-

• Graded exercise exposure

• Aerobic exercises

• Stretching/strengthening

• Posture training

• Hydrotherapy

• Alexander technique

• Manual therapy

• Massage

• Acupuncture

• Electrical stimulation, Transcutaneous- and Percutaneous Electrical Nerve

Stimulation (TENS, PENS)

• Laser therapy

3.5.26 Critically discuss the evidence base for the efficacy of pharmacological treatments

for chronic spinal pain including:-

3.5.27 Critically discuss the evidence base for the indications, efficacy and complications of

interventions used for chronic spinal pain, with or without radicular pain including:-

• Injections

oo Epidural/caudal steroids

oo Medial branch injections

oo Prolotherapy

oo Trigger point injections

oo Botulinum toxin

oo Intra-articular steroids (apophyseal and sacro-iliac)

• Radiofrequency and electrothermal treatment (including evaluation)

oo Facet joint

oo Intervertebral disc

oo Sacro-Iliac joint

oo Dorsal root ganglion

• Central neuromodulation including spinal cord stimulation

• Peripheral nerve stimulation

• Intrathecal drug infusion

• Epiduroscopy

3.5.28 Critically discuss the evidence base for the indications, efficacy and limitations of

surgical interventions for chronic spinal pain with or without radiculopathy:-

• Decompression/laminectomy

• Discectomy

• Disc replacement

• Fusion

3.5.29 Critically discuss the evidence base for the efficacy and complications of

complementary and alternative medicine in spinal pain, for example, acupuncture,

chiropractic

3.5.30 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**Chronic Visceral Pain, Abdominal Pain and Geniturinary Pain**

3.8.1 Describe the taxonomy of functional gastrointestinal disorders

3.8.2 Discuss the concurrence of somatic and visceral pain syndromes

3.8.3 Describe epidemiology of principle visceral pain conditions and their social impact

3.8.4 Outline definition and classification visceral pain

3.8.5 Demonstrate an understanding of the following with respect to chronic visceral pain:-

• Neuroanatomy

oo Central pathways

oo Peripheral pathways

oo Innervation of viscera within: thorax, abdomen & pelvis

With particular reference to:-

»» Stellate ganglion

»» Splanchnic nerves

»» Coeliac ganglion

»» Hypogastric plexus

»» Ganglion impar

»» Pudendal nerve

• Neurophysiology

oo Visceral Sensitization

oo Visceral nociceptors

oo Visceral pain & hyperalgesia

oo Visceral hypersensitivity

oo Neurophysiological basis of referred visceral pain

oo The gut-brain-axis

• Biopsychosocial issues of visceral pain

3.8.6 Outline features for evaluating the clinical history of suspected functional abdominal

pain syndrome

3.8.7 Outline features of a pyschosocial assessment

3.8.8 Outline features of a physical examination

3.8.9 Distinguish clinically between:

• Active visceral nociception

• Visceral hyperalgesia

• Referred pain with and without hyperalgesia:

oo Viscero-somatic

oo Viscero-visceral

3.8.10 Interpret laboratory tests and imaging

3.8.11 Identify ‘red flag’ features that suggest active visceral disease

3.8.12 Demonstrate a mechanistic approach for identifying non-visceral causes of thoracic,

abdominal and pelvic pain. This would include myofascial, thoracic and abdominal

wall pain, and post-surgical neuropathic pain

3.8.13 Discuss the principles of pharmacotherapy to manage visceral pain

3.8.14 Discuss the evidence base for the indications, effectiveness and adverse effects of

the following therapies:-

• Physiotherapy

• Physical therapies (e.g. acupuncture)

• Invasive therapies

oo Radiofrequency techniques

»» Neuromodulation

»» Intrathecal

»» Electrical stimulation

»» Neurolytic techniques

3.8.15 Discuss the evidence base for the indications and effectiveness of psychological

interventions used for management of chronic visceral pain

3.8.16 Discuss treatment options for the management of:-

• Functional pain syndromes such as: irritable bowel syndrome, chronic functional

abdominal pain, painful bladder syndrome and functional chest pain

• Organic visceral pain disorders such as in chronic pancreatitis and inflammatory

bowel diseases

• Abdominal wall pain

• Anorectal pain

• Pelvic pain syndromes

3.8.17 • Evaluate efficacy of key interventions through assessment of key clinical and

patient reported outcomes

**Pain in Hereditary Connective Tissue Disorders**

3.10.1 Compare and contrast the current definition of HDCT Rheumatoid Arthritis/Juvenile

RA, Bechterew/Ankylosing Spondylitis, Systemic Lupus Erythematosus (SLE), Osteo

Arthritis, Fibromyalgia syndrome, ‘Growing Pain‘, Migraine, Multiple Sclerosis,

Painful Peripheral /Entrapment Neuropathies, Restless Legs, Low Back Pain

3.10.2 Discuss controversies in diagnostic terminology of HDCT

3.10.3 Discuss the public health dimensions of the problem of pain in HDCT, including but

not limited to:

• Prevalence

• Demography

• Personal and community costs

3.10.4 Describe the connective tissue structure and function and identify potential structures

that may be associated with pain

3.10.5 Discuss the rationale and use of psychological and functional questionnaires for

assessing these chronic pain conditions

3.10.6 Identify the potential specific causes of acute and chronic pain in HDCT

• Dislocation/subluxation

• Trauma

• Skin and tissue fragility

3.10.7 Distinguish between radiculopathic and referred pain with respect to limb girdle or

limb pain associated with spinal pain, or peripheral or central entrapment entrapment

disorders

3.10.8 Critically interpret commonly used physical examination tests, for example, Beighton

score, Brighton criteria and myofascial pain syndrome tests.

3.10.9 Perform a gait analysis, bedside neurological examination, orthostatoic blood

pressure test, joint/muscle examination

3.10.11 Recognise the clinical presentation of symptomatic dysautonomia

3.10.12 Distinguish between acute and acute-on-chronic episodes of pain

3.10.13 Reinterpret pre-existing investigations and opinions in the light of clinical findings

3.10.14 Critically discuss the evidence base for management of acute and chronic pain

according to the pain etiology

3.10.15 Discuss the efficacy of psychological therapies in chronic musculo-skeletal pain,

including but not limited to:-

• Cognitive

• Behavioural

• Acceptance and commitment

3.10.16 Discuss principles of activity prescription in the management of pain in HDCT

3.10.17 Generally discuss the evidence-base for efficacy and adverse effects of physical

therapies in chronic HDCT pain, including but not limited to:-

• Graded exercise exposure

• Stabilization/strengthening

• Posture training, proprioceptive training

• Hydrotherapy

• Feldenkrais technique

• Manual therapy

• Massage

• Acupuncture

• Biofeedback, TENS

3.10.18 Critically discuss the evidence base for the efficacy of pharmacological treatments

for chronic pain and dysautonomia in HDCT

3.10.19 Critically discuss the evidence base for the indications, efficacy and complications

of interventions used for chronic HDCT pain, including:-

• Injections

• Epidural/caudal steroids

• Medial branch injections

• Trigger point injections

oo Botulinum toxin

oo Intra-articular steroids

3.10.20 Broadly appreciate the evidence base for the efficacy and complications of

complementary and alternative medicine for management of HDCT pain, for

example, acupuncture and and chiropractic medicine

**Fibromyalgia Syndrome and Chronic Widespread Pain**

3.6.1 Demonstrate understanding of historical speculations about the nature of pain that

is poorly understood, the shortcomings of these speculations and the medical and

social outcomes that have arisen as a result of the adoption of these concepts. These

include but are not limited to:-

• Symptoms as psychological by default (DSM-V and ICD-10)

• Symptoms as injury (for example, “repetitive strain injury”)

• Symptoms as disease entity (for example, “fibromyalgia syndrome”)

• Symptoms according to different age groups, e.g. adolescents, adults and

older adults

3.6.2 Be aware of developments in the field of nociceptive signal processing in the brain

and descending control systems

3.6.3 Critically discuss the concepts of somatisation and hypervigilance

3.6.4 Discuss the “diagnostic” category of somatic symptom and related disorders

(according to DSM-V or ICD-10), including but not limited to:-

• Somatic symptom disorder

• Illness anxiety disorder

• Psychological factors affecting other medical conditions

• Central sensitization disorders

• Small nerve neuropathy

• Chronic Pain Disorder with somatic and psychological factors

3.6.5 Recognise the potential contributions of sources of somatic and visceral nociception

to the experience of widespread pain including CNS processing and descending

controls

3.6.6 Outline the heterogeneity of clinical presentations of CWP

3.6.7 Critically interpret the clinical finding of “tenderness”

3.6.8 Critically evaluate the constructs of “myofascial pain” and “fibromyalgia syndrome”

3.6.9 Evaluate the role of a liaison psychiatrist in providing a formulation and assessing

risk of suicide

3.6.10 Understand the condition of FMS and its historical and more recent definitions,

including the current American College of Rheumatology definition, revised in 2011

3.6.11 Know the incidence, including relative occurrence according to gender, and

understand the societal impact

3.6.12 Discuss and critique the criteria for diagnosis including:-

• Widespread pain

• Tender points

• Fatigue

• Sleep problems

• Mood disturbance, including depression and anxiety

• Cognitive effects, including loss of concentration, memory

• Associated conditions including irritable bowel syndrome (IBS), headache,

cystitis, chronic fatigue syndrome (CFS)

• Absence of other conditions to explain symptoms

3.6.13 Discuss the possible aetiologies for FMS and CWP such as:-

• Chemical changes in the brain

• Central sensitisation

• Small fibre neuropathy

• Altered descending inhibition

• Sleep disturbance

• Injury (including trauma and litigation)

• Infection

• Sympathetic

• Viral disorder

• Growth hormone deficiency

• Genetic predisposition (gene abnormalities)

• Immune system disorder

• Lyme disease

• Neuropathic pain

• Psychological disturbance

• Somatoform disorder

• Arteriovenous shunt (Albrecht)

• Malingering

3.6.14 Discuss reasons for the paucity of quality evidence in the management of CWP

3.6.15 Appreciate the need to provide a multidisciplinary approach including explanation,

acceptance, graded activity and social adaptations. Critically review medications

used for FMS (see below)

3.6.16 Discuss treatment of FMS according to National and International Guidelines

including the evidence base and the place of:-

• Self-management

• Graded exercise

• Medications, including duloxetine, milnacipran, antidepressants, pregabalin,

tramadol, simple analgesics only in short term usage

oo Other than tramadol, opioids should not be used

• Cognitive Behavioural Therapy (CBT) and the use of appropriate alternative

techniques to reduce symptoms and encourage increased activity and better

function

3.6.17 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**IV Headaches**

**Epidemiology, Classification, Clinical Presentation**

3.7.1 Appraise the International Classification of Headache Disorders and compare to

IASP’s

3.7.2 Generally discuss accepted definitions of terms associated with headache disorders

and orofacial pain conditions

3.7.4 Describe the anatomy of the cranial and upper cervical nerves and the innervation

of the scalp, sinuses and teeth

3.7.8 Perform a cranial nerve examination

3.7.9 Perform an examination of the face including the temporomandibular system and

intraoral examination

3.7.10 Perform an examination of the cervical spine

3.7.11 Detail the critical factors for assessing life-threatening headache

3.7.12 Demonstrate awareness of potential causes of headache that may be overlooked on

initial assessment including:-

• Idiopathic intracranial hypertension

• Low cerebrospinal fluid (CSF); low pressure headache; intracranial hypotension

• Post-craniotomy headache

• Space-occupying lesions

• Vascular disease, especially temporal arteritis

• Cervical artery dysfunction

• Pathology in the eyes and ears

• Sinus pathology

**Patophysiology of Headaches, Doc. dr Jasna Zidverc – Trajković**

3.7.5 Describe potential neurobiological mechanisms for:-

• Primary and secondary headaches

• Orofacial pain

• Dental pain

3.7.7 Discuss the pathophysiology of:-

• Migraine

• Post-traumatic headache

• Post-dural puncture headache

3.7.12 Demonstrate awareness of potential causes of headache that may be overlooked on

initial assessment including:-

• Idiopathic intracranial hypertension

• Low cerebrospinal fluid (CSF); low pressure headache; intracranial hypotension

• Post-craniotomy headache

• Space-occupying lesions

• Vascular disease, especially temporal arteritis

• Cervical artery dysfunction

• Pathology in the eyes and ears

• Sinus pathology

**Sudden Onset Headaches**

**Chronic, progressive and non-progressive headache**

3.7.13 Distinguish between the clinical features of the following primary chronic daily

headache syndromes:-

• Migraine (with and without aura)

• Tension-type headache

• Trigeminal autonomic cephalalgias (cluster headache, paroxysmal hemicrania,

short-lasting unilateral neuralgiform headache attacks, hemicrania continua)

3.7.14 Distinguish between the clinical features of the following secondary chronic daily

headache syndromes:-

• Medication-related

oo Medication overuse headache

oo Medication-induced side effects

• Post-traumatic

oo Headache attributable to head injury

oo Headache attributable to neck injury or whiplash trauma

• Disorders of intracranial pressure

oo Increased intracranial pressure

oo Decreased intracranial pressure

• Headache referred from other structures

oo Cervicogenic headache

**Therapy of Primary Headaches**

3.7.21 Discuss the evidence base for non-drug interventions in primary and secondary

headaches:-

• Education and information (counseling), including the importance of

oo Keeping a pain diary

oo Relaxation

oo Aerobic exercise

oo Sleep hygiene

oo Diet

• Cognitive-behavioural therapy

• Biofeedback

• Physical therapy (e.g. acupuncture, massage)

• Manual therapy

• Role of patient support groups

3.7.22 Discuss the evidence base for pharmacological treatment of acute migraine:-

• Paracetamol

• Non-steroidal anti-inflammatory drugs

• Antiemetics

• Triptans

• Opioids

3.7.23 Discuss the evidence base for pharmacological prophylaxis of migraine in adults:-

• Beta-blockers

• Calcium channel blockers

• Sodium valproate

• Tricyclic agents

• Topiramateizotifen

• Other agents including selective serotonin-nordrenalin reuptake inhibitors

(SNRIs) and gabapentin

3.7.24 Discuss the evidence base for and the role of botulinum toxin in the prophylaxis

management of chronic migraine

3.7.25 Discuss the limited role of invasive treatment options for migrane and cluter headache

3.7.26 Describe management of cluster headache

3.7.27 Discuss the treatment options available in the management of medication-overuse

headache

**Trigeminal neuralgia and atypical facial pain**

3.7.2 Generally discuss accepted definitions of terms associated with headache disorders

and orofacial pain conditions

3.7.3 Describe a taxonomy of orofacial pain

3.7.4 Describe the anatomy of the cranial and upper cervical nerves and the innervation

of the scalp, sinuses and teeth

3.7.5 Describe potential neurobiological mechanisms for:-

• Primary and secondary headaches

• Orofacial pain

• Dental pain

3.7.6 Discuss the pathophysiology of trigeminal neuralgia

3.7.8 Perform a cranial nerve examination

3.7.9 Perform an examination of the face including the temporomandibular system and

intraoral examination

3.7.15 Recognise the clinical features of:-

• Trigeminal neuralgia and its variants

• Secondary trigeminal neurlagia – e.g multiple sclerosis, tumour

• Glossopharyngeal neuralgia

• Post-herpetic neuralgia

• Trigeminal neuropathic pain related to past trauma

• Post stroke pain

• ”Burning mouth” syndrome

3.7.16 Describe the use of investigations such as MRI for trigeminal neuralgia

3.7.17 Apply a differential diagnosis approach to determining the anatomical origin of

persistent idiopathic facial pain

3.7.18 Distinguish pain of odontogenic (especially cracked tooth) and non-odontogenic

origin and appreciating the role of the dentist in ruling out odontogentic causes

3.7.19 Describe the spectrum of diagnostic criteria for temporomandibular disorders as

defined by the 2014 International Research Diagnostic Criteria for Temporomandibular

Disorders consortium and the findings of the large OPPERA study in the USA

3.7.20 Discuss the importance of psychosocial factors as predictors of chronicity in

temporomandibular disorders

3.7.28 Discuss the evidence base, recommendations and side effects for pharmacological

treatment of trigeminal neuralgia with:-

• Carbamazepine

• Oxcarbazepine

• Lamotrigine

• Gabapentin and pregabalin

• Clonazepam

• Baclofen

• Levetirazetame

• Angiotensin II receptor antagonists

• Others

3.7.29 Discuss the efficacy and complications of surgical options for trigeminal neuralgia:-

• Neurovascular decompression

• Radiofrequency ablation

• Balloon compression

• Gamma irradiation

• Glycerol rhizotomy

• Partial rhizotomy

• Sterotactic radiosurgery

3.7.30 Discuss the evidence base for managemant of painful trigeminal neuropathy with

trigeminal ganglion stimulation

3.7.31 Discuss the evidence base behind these treatments for temporomandibular disorders:-

• Education and information (counseling)

• Cognitive behavioural therapy

• Jaw exercises

• Occlusal appliances

• Physical therapies (e.g. acupuncture, massage) or physiotherapy techniques

• Temporomandibular joint arthroscopy

• Temporomandibular joint surgery

3.7.32 Appreciate the need to manage temporomadibular disorders early and holistically

to prevent chronicty

3.7.33 Discuss the evidence base for management of ”burning mouth” syndrome

3.7.34 Discuss the evidence base for management of presistent idiopathic facial pain

3.7.35 Discuss the evidence base for managemant of facial deafferation with motor cortex

Stimulation

3.7.36 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**V Neuropathic Pain**

**Neuropathic Pain-Epidemiology, Etiology, Classification, Characteristics, Clinical Presentation**

3.7.21 Discuss the evidence base for non-drug interventions in primary and secondary

headaches:-

• Education and information (counseling), including the importance of

oo Keeping a pain diary

oo Relaxation

oo Aerobic exercise

oo Sleep hygiene

oo Diet

• Cognitive-behavioural therapy

• Biofeedback

• Physical therapy (e.g. acupuncture, massage)

• Manual therapy

• Role of patient support groups

3.7.22 Discuss the evidence base for pharmacological treatment of acute migraine:-

• Paracetamol

• Non-steroidal anti-inflammatory drugs

• Antiemetics

• Triptans

• Opioids

3.7.23 Discuss the evidence base for pharmacological prophylaxis of migraine in adults:-

• Beta-blockers

• Calcium channel blockers

• Sodium valproate

• Tricyclic agents

• Topiramateizotifen

• Other agents including selective serotonin-nordrenalin reuptake inhibitors

(SNRIs) and gabapentin

3.7.24 Discuss the evidence base for and the role of botulinum toxin in the prophylaxis

management of chronic migraine

3.7.25 Discuss the limited role of invasive treatment options for migrane and cluter headache

3.7.26 Describe management of cluster headache

3.7.27 Discuss the treatment options available in the management of medication-overuse

Headache

**Therapy of Neuropathic Pain**

3.2.7 Critically discuss the general management of neuropathic pain in a biopsychosocial

Context

3.2.8 Critically discuss the pharmacological treatment of neuropathic pain

3.2.9 Critically evaluate the evidence for the efficacy and adverse effects for drugs used

in the treatment of neuropathic pain:-

• Antidepressants

• Anticonvulsants

• Topical lidocaine and capsaicin

• Opioids

• Others (e.g. NMDA-receptor antagonists, intrathecal drug delivery)

3.2.10 Critically discuss the clinical decision making in the pharmacological treatment of

neuropathic pain:-

• Associated therapeutic goals (e.g., sleeping disorder, depression)

• Comorbidity, adverse effects

• A mechanism based versus a disease based approach

3.2.11 Critically discuss the non-pharmacological approaches in the treatment of neuropathic

pain:-

• Neuromodulation

• Physical therapy and physiotherapy (e.g., mirror therapy for phantom limb pain)

• General multimodal and multidisciplinary principles of chronic pain management

**Components in Low Back Pain**

3.5.12 Distinguish between radiculopathic and referred pain, with respect to limb girdle or

limb pain associated with spinal pain. Identify neuropathic components of spinal pain

**Postherpetic neuralgia, Prof. dr Dragana Lavrnić**

**Diabetic neuropathia, Pathogenesis,Prof. dr Dragan Micić, Prof. dr Mirjana Šumarac – Dumanović**

**Pain in Older Adults**

1.6.24 Discuss the process of applying multidisciplinary treatment principles in pain

management programs. Demonstrate ability to adapt plans to the specific needs of

patient groups, including but not limited to:-

• Pregnant women

• Older adults (including those with dementia)

• Patients with mental health disorders

• Opioid-tolerant

• With active or past substance abuse problems

• Patients with intellectual and/or physical disabilities

4.1.1 Demonstrate an understanding of the prevalence of pain in later life

4.1.2 Demonstrate an understanding of the onset of pain in older adults

4.1.3 Demonstrate an understanding of the burden pain has both on the individual and

to society

4.1.4 Demonstrate an understanding of the key risk factors both associated with, and

predictive of, pain in older adults

4.1.5 Discuss the prognosis for pain in older adults

4.1.6 Demonstrate an understanding of the anatomical and pathophysiological processes

involved in the distribution and perception of pain in the older person, addressing:-

• Alterations to anatomical structures and physiological processes associated

with ageing and how these alterations impact upon the presentation and

normal physiological response to pain and its treatment

• Site of pain

• Physical comorbidities

• Thresholds of pain

• Physiological processes in the Central Nervous System related to:-

oo Injury

oo Ischaemia

oo Degeneration

oo Dementia in (a) Parkinsons disease, (b) Neurotransmitters

• Physiological processes in the Peripheral Nervous System related to:-

oo Injury

oo Degeneration

oo Neurotransmitters

4.1.7 Address the multifactorial nature of pain, including:-

• Emotional and behavioural components

• Mood

• Sleep

• Functional ability

4.1.8 Demonstrate knowledge of alterations to physiological and metabolic processes

associated with ageing and how these alterations impact upon the metabolic and

physical response to the pharmacological management of pain addressing:-

• General physical ageing

• Gastrointestinal

• Hepatic: structural and metabolic

• Renal system: structural and functional

4.1.9 Demonstrate an understanding of conceptualisations of attitudes and beliefs and

their relationship to behavior

4.1.10 Demonstrate an understanding of the impact of beliefs held by health professionals,

care givers and family

4.1.11 Demonstrate an understanding of the impact the beliefs health professionals, care

givers, and family have on the support and interventions offered to older people

4.1.12 Demonstrate an understanding of the impact the beliefs health professionals, care

givers, and family have on older people’s responses to pain

4.1.13 Show an understanding of the pharmacokinets, pharmacodynamics, tolerance

and dependence of drugs upon the older person with and without identified comorbidities.

Describe:-

• Pharmacokinetics

oo Drug absorption

oo Drug distribution

oo Renal drug excretion

oo Drug metabolism

• Pharmacodynamics

oo Receptor properties

oo Homeostatic mechanisms

• Tolerance

• Dependence

4.1.14 Describe some of the common conditions/diseases in older people and presenting

with specific pain, including:-

• Bone pain (secondary to metastasis or osteoporotic fractures)

• Chronic neuralgic pain (from nerve compression or radiculopathy)

• Chronic visceral pain syndrome (like bladder pain and gastrointestinal pain)

• Include an understanding of the characteristics of visceral pain (in contrast to

somatic pain)

4.1.15 Demonstrate skills for assessing the intensity of pain in the older population regardless

of aetiology and communication ability

4.1.16 Discuss key topics required for diagnosis of pain in older adults along with the range

of assessment tools available for clinicians to use:-

• To determine the differences between acute and chronic pain

• To identify the assessment tools which can be applied by clinicians to aid

diagnosis and quantify symptoms

a. Brief Pain Inventory

b. Numerical Pain Scales/Verbal Pain Scales

c. NRS/VPS

d. Geriatric Pain Scales

4.1.17 Show ability to identify the impact of pain upon the mood and quality of life of the

older person:-

• Explore tools available to measure anxiety and depression which may be

associated with long term pain (Hospital Anxiety and Depression Scale, Beck

Depression Scale)

• Identify the impact of pain upon quality of life

4.1.18 Perform a person-centred assessment and establish a management plan:-

• Prioritise facilitation of physical activity/exercise within issues to be addressed

with the person

• Assess physical abilities and capacity, preferences for physical activity/

exercise, and perceived barriers

• Establish goals of physical activity/exercise in collaboration with the person

and, if appropriate, their families, which should consider improvement/

maintenance of social, physical and psychological function; and managing

symptoms

• Establish a person-centred physical activity/exercise plan

4.1.19 Demonstrate ability to:-

• Identify and manage pain in people living with dementia, use of pain tools and

carer involvement

• Describe the effects of pain (e.g. on diet, mood and behaviour) on general

health of people living with dementia

• Outline referral pathways for people living with dementia who experience pain

• Support carers and family of people living with dementia who experience pain

4.1.20 Discuss the influence of other prescribed medicines and the potential impact of

common comorbidities when considering treatment options for pain

4.1.21 Describe changes in the pharmacodynamics and pharmacokinetics of analgesic

drugs that occur with ageing

• NSAIDs

• Opioids

• Tricyclic antidepressants

• Anticonvulsants

4.1.22 Explain the consequences and implications of physiological and pharmacological

changes on effectiveness, side effects and need for dose adjustment

4.1.23 Monitor effects of pain management approaches to adjust the care plan as needed

4.1.24 Recognise that pharmacological treatments for persistent pain are more effective

when combined with non-pharmacological approaches and that use of analgesic

medicines should aid functional rehabilitation

4.1.25 Recognise that dependence to and misuse of analgesics may occur in older people

and ensure appropriate monitoring

4.1.26 Show ability to facilitate physical activity/exercise within the practitioner’s defined

scope of practice and expertise:-

• Demonstrate a commitment to facilitating physical activity/exercise in older

people with persistent pain

• Apply knowledge of the clinical, biological, psychological and social sciences

relevant to the practitioner’s discipline, in the context of physical activity/

exercise

• Recognize the breadth of work, leisure, and other activities of daily living

covered by the term ‘physical activity’

• Perform appropriate clinical assessments and provide clearly understandable

recommendations, which may include referral to a health professional from a

more appropriate discipline for physical activity/exercise, such as occupational

therapy or physiotherapy

• Recognize and respond to the complexity, uncertainty, and ambiguity inherent

in facilitation of physical activity/exercise

4.1.27 Plan and perform facilitation of physical activity/exercise:-

• Determine, in collaboration with the patient, options for physical activity/

exercise, appropriate to their physical abilities/capacity, including discussion

of the possible value of equipment and adaptations to support engagement in

activity

• Explain the risks and benefits of, and the rationale for, a proposed physical

activity/exercise plan

• Consider the priority of the type of physical activity/exercise, taking into

account the person’s functional status and available resources.

oo For example, professional-led rehabilitation focusing on strength, flexibility,

endurance and balance for people with limited function; supervised

activity/exercise for people not yet confident in independent physical

activity/exercise; community-based physical activity/exercise for higher

functioning people

• Provide clear feedback on the person’s performance of physical activity/

exercise

• Facilitate physical activity/exercise in a skilful and safe manner, adapting to

unanticipated findings or changing clinical circumstances

4.1.28 Establish plans for physical activity/exercise as part of self-management and, when

appropriate, provide provision for timely consultation:-

• Implement a person-centred physical activity/exercise plan that supports selfmanagement,

and provides practical advice about future consultation

4.1.29 Discuss the benefits of minimally invasive interventional strategies in pain management.

Addressing the:-

• Evidence base behind recommending invasive approach in certain conditions

• The different available modalities and when to consider each one

4.1.30 Discuss current evidence around growing interest in the use of psychosocial

interventions to help older adults manage pain:-

• Demonstrate an understanding of the various psychosocial interventions

available

• Demonstrate an understanding of the evidence on effectiveness of these

interventions in older adults

• Demonstrate an understanding of why psychosocial interventions would be

beneficial for older adults based on the aetiology of pain in this population

4.1.31 Demonstrate an understanding on the key aspects of Cognitive Behavioural Therapy

(CBT) as relevant for pain management in older adults:-

• Demonstrate a knowledge of CBT and what it is

• Demonstrate an understanding of areas where evidence for CBT is strong and

pain research can learn from

• Demonstrate an understanding of the evidence around CBT and its use for pain

management in older adults

4.1.32 Discuss the considerations which must be made when using complementary therapies

with older adults in terms of contraindications, efficacy and side effects:-

• Consider the use of complementary therapies such as acupuncture, TENS and

Massage

4.1.33 Understand the needs of older adults when receiving cancer care or palliative care

4.1.34 Consider the implications of treatment and side effects

4.1.35 Understand the principles of analgesic use, using the three step, WHO, analgesic

Ladder

4.1.36 Anticipate and prevent the risk of side effects associated with strong opioid drugs

4.1.37 Promote evidence based practice

4.1.38 Provide guidelines for the end of life

4.1.39 Ensure the application of good pain management practice regardless of patients’

age or cognitive ability:-

• Conduct relevant and appropriate pain assessment and documentation using

well validated pain tools according to level of cognitive ability

• Act as a patient advocate throughout the pain management process, ensuring

that the patient receives the best possible care and understands the implications

of such care

• Monitor progress and report any deviations from the pain management process

or any untoward side effects

• Communicate between the patient their carer and members of the multidisciplinary

Team

**Transcutanoeus electrical nerve stimulation**

**Complex Regional Pain Syndromes, Type I and II**

3.9.1 Discuss the historical progression of terminology used to describe CRPS Syndromes,

type I and II, towards the current use of clinical and research New IASP criteria.

Address also, sensitivity, specificity and positive predictive value of the current

diagnostic criteria

3.9.2 Know that there are differences between adult and paediatric CRPS in terms of

presentation, disease course and management and prognosis

3.9.3 Discuss proposed pathophysiological mechanisms of CRPS, types I and II.

3.9.4 Critically discuss “sympathetically maintained pain”

3.9.5 Explain the rationale for programs of:-

• Desensitisation

• Graded mobilization

3.9.6 Generate a differential diagnosis of more common conditions for a patient with

presumed CRPS and know how to use the New IASP criteria

3.9.7 Perform a functional assessment of the CRPS-affected limb including:-

• Comparison with the contralateral side

• Performance of activities of daily living

• Motion analysis, where relevant

• Deep somatic structures (bone, joints)

• Vasomotor changes, sudomotor changes, trophic changes and sensory changes

*See also Section 3.5. Neck and Back Pain*

3.9.8 Outline the role and the elements of the following strategies in achieving improved

function and/or recovery in patients with CRPS:-

• General:-

oo Patient information and education

• Psychological (cognitive behavioural therapy), including but not limited to:-

oo Coping skills

oo Relaxation techniques

oo Addressing critical life events and abuse

oo Management of anxiety and/or depression

• Physical, including but not limited to:-

oo Graded motor imagery

oo Mirror visual feedback

oo Occupational therapy

oo Graded paced exercise and activity

oo Desensitization with tactile and thermal stimuli

• Pharmacotherapy depending on the stage of the disease including

oo Neuropathic pain medication

oo Bisphosphonates

oo Steroids

• Invasive treatment options in selected patients

oo Neuromodulation

oo Neuraxial application of analgesics

oo Sympathectomy

3.9.9 Evaluate efficacy of key interventions through assessment of key clinical and patient

reported outcomes

**VI Special Patient Populations**

**Obstetric Pain**

1.6.24 Discuss the process of applying multidisciplinary treatment principles in pain

management programs. Demonstrate ability to adapt plans to the specific needs of

patient groups, including but not limited to:-

• Pregnant women

• Older adults (including those with dementia)

• Patients with mental health disorders

• Opioid-tolerant

• With active or past substance abuse problems

• Patients with intellectual and/or physical disabilities

**VII EPIDEMIOLOGY OF PAIN. Metodology in research related to pain medicine.**

* **Disease surveillance and the importance of measures of morbidity (prevalence, incidence rates, cumulative incidence, and person-time at risk) and mortality (mortality rate and case-fatality) in pain medicine. Standardized rates. Burden of disease (DALY, YLD, YLL)**
* **Measuring instruments: validation and cultural adaptation of questionnaires - Doc. dr Isidora Vujčić (1 lecture)**
* **Questionnaire Construction**
* **Application of measures of morbidity and mortality in pain medicine according to the type of research. Critical analysis of publications**
* **Types of studies (observational and interventional studies). A general overview of the importance of epidemiological research in pain medicine. The significance of a descriptive study in research related to pain medicine (case study, case series study, ecological study). Study design. Advantages and disadvantages.**
* [**Analytical studies**](http://www.wikilectures.eu/w/Analytical_Studies)**. The significance of case-control studies and case-control studies based in a defined cohort (nested case-control study, case-cohort study) in research related to pain medicine. Study design. Potential biases in these studies (selection bias, information bias, confaunding). Odds ratio.**
* **Significance of cross sectional study in research related to pain medicine. Study design. Potential biases. Sample size. Odds ratio.**
* **The significance of cohort studies (prospective and retrospective) in research related to pain medicine. Study design. Potential biases in cohort studies. Relative risk.**
* **The significance of experimental studies (clinical trials, field experiment, community experiment) in research related to pain medicine. Study design. Randomisation and masking. Problems posed by noncompliance.**
* **Application of cross-sectional studies, case-control studies, hybrid studies, cohort and experimental studies. Critical analysis of publications.**
* **The significance of systematic review and meta-analysis in pain medicine**
* **Application of descriptive study, systematic review and meta-analysis in pain medicine. Critical analysis of publications.**
* **How to write a scientific paper in pain medicin**
* **Ethics.** [**Scientific misconduct and how to prevent it**](https://www.vumc.com/branch/research-code-VUmc-AMC/Misconduct/) **(good mentorship,** [**respect for human subjects involved in medical research**](https://www.vumc.com/branch/research-code-VUmc-AMC/Human-subjects/)**,** [**good clinical practice**](https://www.vumc.com/branch/research-code-VUmc-AMC/clinical-research/)**,** [**research data management**](https://www.vumc.com/branch/research-code-VUmc-AMC/Research-data-management/)**,** [**the right to authorship**](https://www.vumc.com/branch/research-code-VUmc-AMC/Authorship/)**,** [**conflicts of interest**](https://www.vumc.com/branch/research-code-VUmc-AMC/Conflicts-of-interest/)**)**
* **The natural history of disease: ways of expressing prognosis.**

**1.5 Research Methodology of Pain**

1.5.1 Describe the principles of clinical trial design:-

• Case definitions (inclusion and exclusion criteria)

• Use of data from medical history and clinical examination

• Use of questionnaires

• Use of laboratory tests and imaging

• Hypothesis generation

1.5.2 Address ethical principles guiding research in humans:-

• Social and clinical value

• Scientific validity

• Fair subject selection

• Favorable risk-benefit ratio

• Independent review

• Informed consent

• Respect for potential and enrolled subjects

• Historical review of abuses of medical ethics

1.5.3 Describe the principles of clinical epidemiology, including:-

• Terminology and presentation of epidemiological data

• Different types of epidemiological study design: descriptive/observational

(correlational, case reports/series, cohort, retrospective, cross-sectional survey)

and controlled (interventional, prospective, experimental/clinical trials)

• Difference between statistical significance and clinical relevance (minimally

clinical important difference; substantial benefit and harm)

1.5.4 Demonstrate understanding of fundamental data analysis concepts by discussing the

following:-

• Different data types (parametric/non-parametric, continuous/interval, ratio,

categorical, dichotomous), and their relevance to statistical analysis

• Concept of clear and efficient organization of raw or summary data in tables

and graphs

• Concepts of normal and non-normal data distributions as relevant to statistical

testing, and the use of normalizing transformations such as logarithms

• Descriptive statistics, including calculation and interpretation of a 95 per cent

confidence interval of a mean or a proportion

• Concept of probability testing, sample distributions and the importance of

appropriate sampling techniques

1.5.5 Describe basic power, effect size, and significance concepts by addressing the

following concepts:-

• Power and power calculations

• Importance of effect size in respect of power calculations and evaluating the

necessary levels of evidence

• Concepts of significance and power when testing an hypothesis, that is, type

one and type two errors and their relationship to sample size

• Influence of sample size on derived indices such as a proportion or a mean

1.5.6 Describe and demonstrate understanding of single and multiple study results:-

• Concept of minimal clinically important difference

• Concept of regression analysis to examine relationship between dependent

variable and multiple explanatory variables (including ability to control for

confounding variables)

• Appropriate use of tests of relationships between continuous data, such as

Pearson and Spearman correlation coefficients

• Application, limitations and interpretation of tests used to analyse single studies

and meta-analyses: specifically t-test and ANOVA (including repeated measures

versions), linear regression, chi-squared test, odds ratios, logistic regression,

Receiver Operating Characteristic (ROC) methods, effect size and statistical

power, survival curves and number-needed-to-treat (NNT) and number-neededto-

harm (NNH)

• Appropriate use of methodologies for assessing inter-test session and intertester

precision of tests, particularly with regard to clinical relevance, such as

determination of repeatability and minimal clinical difference (MCD)

• Appropriate use of methodologies for determining quantitative agreement

between different clinical test methods or instruments, such as Bland-Altman

methods and intra-class correlation

• Concept of summary statistics in meta-analysis (effect sizes, standardized mean

differences and odds ratios)

1.5.7 Explain the concepts of:-

• Reliability

• Validity

• Sensitivity

• Specificity

1.5.8 Explain the concept of design of studies to logically examine specific hypotheses,

with special regard to appropriate counterbalancing and controls, tests of placebo

and related effects, and randomization methods for minimizing bias

1.5.9 Describe the principles of assessing scientific evidence, including:-

• Grades of evidence and methodologies and difficulties of combining evidence

as in systematic reviews and meta-analyses

• Cochrane database of systematic reviews

• Influence of bias, chance, multiple comparisons and confounding variables in

studies, and methods to reduce them

• Publication bias

• Principles of assessment of qualitative studies including systematic reviews of same

**Epidemiology of non cancer pain (low back pain)**

VIII LEGAL FRAMEWORK OF PALLIATIVE MEDICINE AND MEDICINE

**The rights of patients in accordance with the Law on Health Care, the Law on**

**health insurance and the Law on Patients' Rights**

Etički, kulturološki i verski principi:

2.1.1 Triage referred patients with respect to urgency, complexity, risk factors for ongoing

chronicity, facilities required

2.2.2 Exhibit understanding of principles of confidentiality, including access to, content of,

and security of records

2.2.3 Discuss the principle of inVformed consent without coercion and shared-decision making

2.2.4 Explain the concepts of competence, contract and negligence

2.2.5 Demonstrate professional relationships with colleagues and patients and their

significant others

2.2.6 Accept the responsibilities involved in continuing care of people with complex

Conditions

2.2.7 Recognise and respond to ethical issues encountered in practice

2.2.8 Recognise limitations of expertise and seek appropriate guidance

2.2.9 Demonstrate professional integrity, probity and ethical conduct in response to industry

marketing strategies

2.2.10 Recognise and manage conflicts of interest

2.2.11 Demonstrate an understanding of how personal beliefs, cultural bias and biopsychosocial

factors may influence pain diagnosis, management, rehabilitation and

interactions with others

2.2.12 Demonstrate respect for differences in cultural and social responses to health and

illness in general, and to pain in particular

2.2.13 Incorporate health beliefs of the individual/community into management modalities

in a culturally sensitive manner

**Rights, obligations and types of responsibility of health workers**

Zakoni i propisi:

2.2.14 Adhere to professional, legal and ethical codes of practice

2.2.15 Fulfill regulatory and legal obligations required of current practice

2.2.16 Respond to requests for medico-legal and coroner’s opinion, especially in

compensation settings

2.2.17 Demonstrate accountability in considering access, clinical efficacy and quality when

making patient-care decisions

2.2.18 Recognise and respond to others’ unprofessional behaviour, which may include

notification to regulatory authorities

2.2.19 Recognize conflicts of interest in choice of provider

2.2.20 Demonstrate detailed knowledge of regulations with respect to controlled substances

in the relevant jurisdiction(s)

2.2.21 Be aware of the restrictions regarding the use of cannabinoids in the relevant

jurisdiction(s)

2.2.22 Recognise the features of substance abuse in the patient and in the healthcare

Professional

2.2.23 Identify risks to personal physical and mental wellbeing

2.2.24 Adopt strategies to enhance personal and professional awareness and insight, such

as developing a mentor relationship

2.2.25 Recognise and respond to other professionals in need

**Criminal liability of health workers**

**Health Advocate**

2.7.1 Work with patients experiencing pain to address relevant determinants of health

2.7.2 Identify opportunities for advocacy, promotion of health and improvement in quality

of life for patients with pain

2.7.3 Advocate for access to evidence-based treatments for pain

2.7.4 Advocate for access to controlled medicines including opioids for management of

pain as a human right

2.7.5 Advocate for patient-centred management options, including in palliative and endof-

life contexts

2.7.6 Identify circumstances where advanced care directives or plans, particularly with

respect to management of pain, should be formulated by the patient and their family

2.7.7 Promote strategies regarding the recognition of pain in patients with other conditions

and in patients from different cultural backgrounds

2.7.8 Promote patient self-advocacy for access to health-related resources

2.7.9 Work with a community or population to identify those determinants of health such

as cultural influence on pain belief that might influence the experience of pain

2.7.10 Advocate for, and contribute to, the generation of adequate population based

statistics on pain in the general population

2.7.11 Promote the availability and the appropriate and safe use of therapeutic substances

for pain treatment within the population

2.7.12 Understand a public health approach to pain management and palliative care as

essential in resource-poor settings

2.7.13 Describe the role of specialist pain medicine physicians in advocating for improved

resources locally, nationally and internationally in order to improve access for and

management of patients with pain

2.7.14 Promote the position of pain medicine within the spectrum of medical professions

2.7.15 Support establishment of personalized pain medicine

2.7.16 Understand health care systems and determinants of access to pain management

2.7.17 Identify risks to personal, physical and mental wellbeing, help in understading non

familiar situations related to cultural differences

2.7.18 Advocate for the health, wellbeing and safety of colleagues and assist or intervene

if required

**Clinician**

2.1.1 Triage referred patients with respect to urgency, complexity, risk factors for ongoing

chronicity, facilities required

2.1.2 Elicit and interpret a detailed history of:-

• The patient‘s biopsychosocial backgound

• The pain experienced by the patient

• The consequences of the experience of pain for the patient, with particular

regards to concerns and beliefs about the pain

2.1.3 Discuss the application of the World Health Organization (WHO) International

Classification of Functioning, Disability and Health (ICF) concepts to people

experiencing pain:-

• Functioning and disability

oo Body functions and body structures

oo Activities and participations

• Contextual factors

oo Environmental Factors

oo Personal factors

• Select appropriate outcome measures across the ICF domains

2.1.4 Perform a focused psychological and sociological assessment

*See Section One: Foundations of Pain Medicine/1.6.14 Bio-psychosocial Aspects*

*of Pain*

2.1.5 Perform a focused biomedical assessment, including but not limited to:-

• Response to treatment(s) to date

• Nutritional status

• Sleep function

• Sexual function

• Pharmacological management

• General health indicators

2.1.6 Perform and interpret a pain-orientated physical examination, incorporating:-

• Documentation of pain qualities and symptoms

• Assessment of nervous system functions

oo Pain oriented sensory testing (POST)

oo Assessment of motor functions

oo Assessment of autonomic functions

• Relevant systems

2.1.7 Use appropriate and validated assessment techniques to specific populations such as:-

• Older patients

• Patients from linguistically or culturally diverse backgrounds

• Patients who are cognitively impaired

2.1.8 Recognise that pain in any one patient may attract different concurrent descriptors

and therefore different inferred mechanisms

2.1.9 Demonstrate ability to infer mechanism(s) of production of pain on the basis of

clinical examination, irrespective of pre-existing diagnostic label(s)

2.1.10 Critically review existing investigations and interpretations, including but not limited

to bone scans, computed tomography (CT) scans, magnetic resonance imaging

(MRI), positron emission tomography (PET) scans, and electrodiagnostic techniques

2.1.11 Make judicious and resource-sensitive decisions about obtaining further investigative

Options

2.1.12 Integrate multiple sources of information towards a multi-axial formulation of

diagnosis-function-context

Identify and explore the patient’s issues, concerns, beliefs, goals and expectations

with respect to their pain experience and the pain treatment

2.1.13 Evaluate and arrange if necessary whether further specialised assessment and/

or management is required in sociological, psychological, cultural, religious or

biomedical dimensions

2.1.14 Develop understanding of the person and their family, in relation to their painassociated

limitations, losses and distress, but also strengths, motivators and resilience

2.1.15 Synthesize, justify and negotiate with the patient an individualized management plan

and options, based on evidence and the context in which the patient’s experience

of pain occurs

2.1.16 Recognise and respond to the uncertainty inherent in the practice of pain medicine,

including but not limited to:-

• Accommodating unpredictability

• Managing risk in complex patient care situations

• Varying practice according to contextual and cultural influences

2.1.17 Adapt plans to the specific needs of the following patient groups experiencing pain:-

• Pregnant women

• Patients with hepatic and/or renal function impairment

• Elderly patients (including those with dementia)

• Patients with mental health disorders, cognitive or neurodevelopmental impairment

• Opioid-tolerant patients

• Patients with active or past substance abuse problems

• Patients from diverse socio-economic, ethnic and cultural backgrounds

• Patients with allergies

2.1.20 Discuss in detail clinical pharmacotherapy, the evidence base for the efficacy and

adverse effects in pain medicine, including but not limited to the use of:-

• Paracetamol

• Non-steroidal anti-inflammatory drugs

• Opioids, strong and weak

• Tramadol and tapentadol

• Cannabinoids

• Capsaicin

• NMDA-receptor antagonists

• Local anaesthetic agents

• Anticonvulsants

• Antidepressants

• Benzodiazepines

• Neuroleptics

• Alpha-2 adrenergic agonists

• Anti-emetics

• Laxatives

• Vitamins and electrolytes supplementations

**Scholar**

2.3.1 Identify opportunities for further personal development and learning

2.3.2 Participate in relevant professional and educational development in pain medicine

and apply insights in practice

2.3.3 Access established and evolving knowledge in the clinical and social sciences

relevant to pain medicine

2.3.4 Participate in practice evaluation and quality improvement activities, apply insights

from own learning to medical practice

2.3.5 Determine the validity and risk of bias in a wide range of scholarly sources

2.3.6 Critically appraise scientific literature and translate evidence into decision-making

about the care of patients with pain using national high quality guidelines

2.3.7 Describe the principles, application and limitations of evidence-based medicine

2.3.8 Participate in audit of specific areas of practice

2.3.9 Identify the learning needs of others and prioritise learning outcomes

2.3.10 Demonstrate effective teaching strategies to facilitate learning

2.3.11 Provide meaningful feedback to others

2.3.12 Provide inter-professional mentorship to colleagues and other health professionals by

leading education sessions related to pain medicine

2.2.13 Incorporate health beliefs of the individual/community into management modalities

in a culturally sensitive manner

2.2.14 Adhere to professional, legal and ethical codes of practice

2.2.15 Fulfill regulatory and legal obligations required of current practice

**Communicator**

2.4.1 Establish therapeutic relationships with patients, their families and carers, and foster

their involvement as partners in their care

Be able to assess a patients level of ‚activation’ and health literacy and be able to

tailor information giving appropriately

2.4.2 Communicate using a patient-centred approach that encourages patient trust and

autonomy, and is characterised by empathy and respect

2.4.3 Demonstrate effective communication skills, including but not limited to:-

• Active listening

• Encouraging discussion

• Reinforcing key messages

• Attending to verbal and non-verbal cues

• Respecting patient difference and diversity

• Adapting communication skills to individual patients

• Recognising and addressing miscommunication

• Apply the “Teach-back method” to ensure patients understanding of condition

and therapeutic instructions

2.4.4 Acknowledge and validate the patient’s experiences of pain

2.4.5 Optimise the physical environment for patient comfort, dignity, privacy, engagement

and safety

2.4.6 Recognise and negotiate challenging communication situations, including conflict or

culturally related situations

2.4.7 Identify and manage emotionally charged situations

2.4.8 Gather, prioritise and synthesise information about the patient’s medical condition,

including beliefs, anxieties, expectations and experiences, from a variety of sources

2.4.9 Utilise appropriate personnel and resources to facilitate communication with patients

from culturally and linguistically diverse populations

2.4.10 Elicit a patient’s understanding of their referral to a pain service and correct

Misconceptions

2.4.11 Advise patients about the risks and benefits of treatment options, specifically the

limitations of evidence, to help with informed choices

2.4.12 Facilitate discussion with patients and their families to ensure a common understanding

of the problems and plans, using appropriate developmental tools for children (e.g.

videos, drawings, pictures)

2.4.13 Respect diversity and difference and the impact these have upon decisionmaking

2.4.14 Encourage active involvement in shared decision-making

2.4.15 Provide patients with “plain language” information regarding model of care,

discharge and follow up

2.4.16 Explain unanticipated complications to patients, their families and other healthcare

Providers

2.4.17 Assist patients and others to identify and make use of information and communication

technologies to support their care and manage their health

2.4.18 Demonstrate effective written and verbal communication skills tailored to audience,

purpose, intent and context

2.4.19 Comprehensively and succinctly document the assessment and agreed management

plan for the individual patient with pain

2.4.20 Develop skills for communication in medico-legal settings and with administrative

Bodies

2.4.21 Develop skills for communication with consumer groups and the broader community

**Collaborator**

2.5.1 Negotiate overlapping and shared responsibilities with inter-professional healthcare

providers for episodic or ongoing care of patients

2.5.2 Participate constructively as a member of a multidisciplinary team

Respect the autonomy of other experts in the multiprofessional team

2.5.3 Demonstrate ability to work respectfully with patients, families and carer

representatives, other healthcare professionals and agencies, to facilitate and

improve patient outcomes

2.5.4 Enlist the co-operation and support of others to optimise patient care and safety

2.5.5 Discuss the particular personal and team-related stressors inherent in specialist pain

medicine practice, and seek assistance or provide support as necessary

2.5.6 Demonstrate consideration for the professional perspectives, goals and priorities of

all team members

2.5.7 Negotiate and work with others to minimise and resolve conflict

2.5.8 Respect and acknowledge differences, misunderstandings and limitations in oneself

and other healthcare professionals that may contribute to interprofessional tension(s)

2.5.9 Participate in team debriefings and implement strategies to improve performance

2.5.10 Convey all relevant information when transferring care of a patient to another

Practitioner

**Manager (and Leader)**

2.6.1 Define the characteristics underpinning the provision of quality patient-centred pain

management services that are safe, effective, efficient and timely

2.6.2 Contribute to the processes of quality assurance, quality improvement and

accreditation activities within their department/practice

2.6.3 Use and adapt systems to learn from adverse events and critical incidents, and to

inform regulatory agencies when needed

2.6.4 Apply legislative/regulatory requirements and service policies, for example, adverse

outcomes reporting

2.6.5 Describe their own scope of practice, responsibilities and line of reporting

2.6.6 Identify the operational structure and their role in the pain management service/

Practice

2.6.7 Organise, prioritise and delegate tasks in order to achieve balance between

professional requirements and personal life

2.6.8 Demonstrate self-reflection to appraise and improve efficiency and effectiveness in

the workplace

2.6.9 Use information technology to optimise patient care

2.6.10 Understand the general principles of organisational and healthcare funding

2.6.11 Optimise cost-appropriate care in pain medicine

2.6.12 Demonstrate leadership in the management and allocation of tasks and resources

2.6.13 Develop leadership skills in interdisciplinary and administrative settings

2.6.14 Contribute to clinical governance forums as appropriate

2.6.15 Participate in committees and meetings at various organisational levels, as appropriate

2.6.16 Understand the financial, administrative and human resource requirements in order

to manage a pain management unit or private practice