/ Courses

2020/2021 - MEDD 412 - Week 19: Peripheral Neuropathy

Week 19: Peripheral Neuropathy Objectives Summary

Week Objectives

1: Discuss the patient's biopsychosocial context of wellness and, in light of this context, identify barriers to the access of health care and strategies to promote and prevent disease

Office Visits (1-10) - 1 (https://entrada.med.ubc.ca/events/?rid=27433)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 2 (https://entrada.med.ubc.ca/events/?rid=27434)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 3 (https://entrada.med.ubc.ca/events/?rid=27435)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies

- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 4 (https://entrada.med.ubc.ca/events/?rid=27436)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 5 (https://entrada.med.ubc.ca/events/?rid=27437)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 6 (https://entrada.med.ubc.ca/events/?rid=27438)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 7 (https://entrada.med.ubc.ca/events/?rid=27439)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 8 (https://entrada.med.ubc.ca/events/?rid=27440)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 9 (https://entrada.med.ubc.ca/events/?rid=27441)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

Office Visits (1-10) - 10 (https://entrada.med.ubc.ca/events/?rid=27442)

Clinical Experience - Ambulatory

- Recognize health promotion and disease prevention strategies
- Recognize the bio-psycho-social context of the patient and barriers in accessing health care

SYNC/Real-Time Session Chronic Pain Interprofessional Discussion (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27453)

Conference;Lecture

- Describe the importance of relationship-based patient centred care
- Define strategies to improve understanding of the patient's experience of illness and how to balance this with the medical knowledge of disease
- List different communication strategies that enhance cross cultural communication
- Discuss the importance of relationship building within the community to support patient care, improve care access and mitigate resource gaps

FoS Meets Neurology - I've Got Scholarship on my Mind [Online Module] (https://entrada.med.ubc.ca/events/?rid=27456)

Independent Learning;Self-Directed Learning

- Examine the importance of patient and stakeholder involvement in medical research (reviews MEDD 419 concepts: patient and stakeholder engagement, and spirals to MEDD 419 Weeks 22 (Principles of Project and Research Design), Week 23 (Research Ethics and Responsible Conduct in Research) and Week 26 (Knowledge Translation).

2: Describe the embryology, normal anatomy, histology and physiology of the peripheral nervous system, relating structure to function

SYNC/Real-Time Session CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)

Case-Based Instruction/Learning

- Describe the anatomy of the peripheral nerves, sensory receptors, and neuromuscular junction
- Describe the physiology of action potential propagation and the role of myelin

SYNC/Real-Time Session CBL - Peripheral Neuropathy - Tutorial 2 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27430)

Case-Based Instruction/Learning

- Describe the anatomy of the peripheral nerves, sensory receptors, and neuromuscular junction
- Describe the physiology of action potential propagation and the role of myelin

***SYNC/Real-Time Session* Histology - Peripheral Nervous System (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27444)**

Laboratory

- Describe the organization of a peripheral nerve with reference to the endoneurium, perineurium and epineurium and the blood-nerve barrier
- Identify myelinated and unmyelinated axons and describe their characteristic features
- Identify motor neurons within the grey matter of the anterior horn of the spinal cord
- Describe the organization of the neuromuscular junction with specific reference to presynaptic vesicles, junctional folds, ACh receptors and peri-junctional voltage-gated Na+ channels
- Identify and describe the organization of a typical peripheral ganglion
- Identify the features of muscles spindles and describe how a muscle spindle detects length

***SYNC/Real-Time Session* Neuroanatomy Bootcamp Virtual Lab 2 - Let's Keep it Real and Simple - Neuroscience for the Rest of us (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27447)**

Laboratory;Lecture

- Differentiate between the somatic and visceral peripheral nervous systems and how these two systems are controlled by the CNS.

Sensory Exam - Neurophysiology of Sensation (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27449)

Lecture

- Describe the basic physiologic principle of sensory transduction
- Describe the basic pathway for touch and proprioception information from the peripheral nervous system to the central nervous system
- Describe the basic pathway for pain and temperature information from the peripheral nervous system to the central nervous system
- Describe how peripheral nerves are organised and how peripheral nerve fibres are categorised based upon size, conduction velocity and the presence of myelin

Motor Exam - Neurophysiology Motor System (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27450)

Lecture

- Describe the pathway involved in delivering a motor signal to skeletal muscle
- List the steps involved in neuromuscular transmission
- Briefly outline the steps involved in skeletal muscle contraction
- Identify potential reasons for weakness or paralysis detected through a motor examination

Reflex Exam - Neurophysiology Reflexes (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27451)

Lecture

- Describe the basic clinical stretch (deep tendon) reflex test performed during the neurological examination
- Describe the physiological components that comprise the monosynaptic (deep tendon) reflex
- Describe how the stretch reflex is activated by a rapid stretch of skeletal muscle
- Identify potential sites of injury that will alter the normal stretch (deep tendon) reflex

***SYNC/Real-Time Session* Conceptual Overview of Plexus Formation - Brachial Plexus Lab (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27455)**

Laboratory;Lecture

- Identify the roots, trunks and cords of the brachial plexus
- Identify the radial, axillary, musculocutaneous, median and ulnar nerves
- Identify the superior and inferior subscapular nerves, thoracodorsal nerve, long thoracic nerve, suprascapular nerve, and medial and lateral pectoral nerves
- Identify the muscles or skin areas supplied by the major branches of the brachial plexus
- Identify the axillary artery and the relationship of brachial plexus cords to the vessel

Introduction to Neurophysiology [Online Module] (https://entrada.med.ubc.ca/events/?rid=27457)

Independent Learning

- Identify the different sections of a neuron and their primary functions
- Describe the events leading up to an inhibitory / excitatory response
- Describe the events leading up to an action potential
- List the membrane channels found in the dendrite, axon, and axon terminal
- Define the main role of a neuron

Looking Forward to Autonomics - Parasympathetic Nervous System and Sympathetic Nervous System [Video/Online Module] (https://entrada.med.ubc.ca/events/?rid=27460)

Independent Learning

- Review the anatomy of visceral connections to and from the spinal cord at various levels
- Review parasympathetic motor neurons and their targets
- Review sympathetic motor neurons and their targets

Conceptual Overview of the Plexus Formation (2021 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27461)

Lecture

- Name the major peripheral nerves that originate from the brachial plexus and indicate the muscle compartments of the upper limb that they innervate
- List which spinal nerves in the body are associated with the formation of somatic plexuses
- Describe the parts of the brachial plexus from 'roots' to peripheral nerves
- List which spinal levels are respresented in each of the major peripheral nerves that originate out of the brachial plexus

3: Describe the response of peripheral nerves to injury and how these changes may manifest clinically

***SYNC/Real-Time Session* CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)**

Case-Based Instruction/Learning

- Recognize the symptoms of neuropathy, including 'positive' and 'negative' sensory symptoms, pattern of weakness, and autonomic symptoms

***SYNC/Real-Time Session* CBL - Peripheral Neuropathy - Tutorial 2 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27430)**

Case-Based Instruction/Learning

- Recognize the symptoms of neuropathy, including 'positive' and 'negative' sensory symptoms, pattern of weakness, and autonomic symptoms

***SYNC/Real-Time Session* Clinical Pathological Correlation - Applied Cases - Peripheral Neuropathy (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27432)**

Discussion, Large Group (more than 12)

- Describe the response of peripheral nerves to injury and how these changes may manifest clinically

Responses of Peripheral Nerves to Injury - Laceration and Compression (2019 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27452)

Lecture

- Describe how peripheral nerve injuries are manifest clinically
- Describe the responses of peripheral nerves to laceration and compression injuries focusing on the process of Wallerian degeneration and peripheral nerve regeneration
- Compare and contrast manifestations of demyelination and axon disruption, clinically and on EMG/NCS (Nerve Conduction Studies)

4: Describe the clinical and pathological features, investigations, and treatment of the major types of peripheral neuropathies, in particular focusing on axonal and demyelinating neuropathies

***SYNC/Real-Time Session* CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)**

Case-Based Instruction/Learning

- List the appropriate diagnostic tests for a patient with sensory loss. Develop a treatment plan for a patient with a demyelinating neuropathy, and for a patient with an axonal neuropathy
- Identify whether the location of a neurologic problem is in the central nervous system or the peripheral nervous system (upper vs. lower neuron, pattern of sensory abnormality)
- Describe the features which distinguish between an axonal versus demyelinating neuropathy
- Recognize the symptoms of neuropathy, including 'positive' and 'negative' sensory symptoms, pattern of weakness, and autonomic symptoms

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Lecture

- Describe how peripheral nerve injuries are manifest clinically
- Compare and contrast manifestations of demyelination and axon disruption, clinically and on EMG/NCS (Nerve Conduction Studies)

5: Describe the pharmacology of local anesthetics

***SYNC/Real-Time Session* Pharmacology of Local Anesthetics (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27448)**

Lecture

- Describe the mechanism(s) of action of local anesthetics
- Describe the indications, contraindications, pharmacokinetic issues and major side effects of local anesthetics

6: Describe how to take a pain and symptom history, including assessment of total pain (physical, psychological and spiritual)

***SYNC/Real-Time Session* CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)**

Case-Based Instruction/Learning

- Describe the clinical features distinguishing neuropathic pain from nociceptive pain, and develop a treatment strategy for neuropathic pain

***SYNC/Real-Time Session* CBL - Peripheral Neuropathy - Tutorial 2 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27430)**

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Discussion, Large Group (more than 12)

- Describe how to take a pain and symptom history, including assessment of total pain (physical, psychological and spiritual)

***SYNC/Real-Time Session* Chronic Pain Interprofessional Discussion (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27453)**

Conference;Lecture

- List different communication strategies that enhance cross cultural communication

7: List the key attributes of the most effective health care organizations and discuss how these attributes contribute to effectiveness

***SYNC/Real-Time Session* Chronic Pain Interprofessional Discussion (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27453)**

Conference;Lecture

- Describe the importance of relationship-based patient centred care
- Define strategies to improve understanding of the patient's experience of illness and how to balance this with the medical knowledge of disease
- List different communication strategies that enhance cross cultural communication
- Discuss the importance of relationship building within the community to support patient care, improve care access and mitigate resource gaps

8: Demonstrate a patient-centred medical interview and focused physical examination and propose a list of differential diagnosis in the context of a community office visit

Office Visits (1-10) - 1 (https://entrada.med.ubc.ca/events/?rid=27433)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis
- Gather a patient centred medical history
- Perform appropriate physical examination

Office Visits (1-10) - 2 (https://entrada.med.ubc.ca/events/?rid=27434)

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Office Visits (1-10) - 6 (https://entrada.med.ubc.ca/events/?rid=27438)

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- Interpret history and physical examination findings to offer a potential diagnosis
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Office Visits (1-10) - 7 (https://entrada.med.ubc.ca/events/?rid=27439)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis
- Gather a patient centred medical history
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Office Visits (1-10) - 8 (https://entrada.med.ubc.ca/events/?rid=27440)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis
- Gather a patient centred medical history
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Office Visits (1-10) - 9 (https://entrada.med.ubc.ca/events/?rid=27441)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis
- Gather a patient centred medical history
- Perform appropriate physical examination

Office Visits (1-10) - 10 (https://entrada.med.ubc.ca/events/?rid=27442)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis
- Gather a patient centred medical history
- Perform appropriate physical examination

9: Practice effective verbal and written communication skills for reporting history and physical exam findings and for obtaining informed consent

Office Visits (1-10) - 1 (https://entrada.med.ubc.ca/events/?rid=27433)

Clinical Experience - Ambulatory

- Communicate history and physical exam findings effectively verbally and document appropriately
- Obtain consent appropriate for level of care provided

Office Visits (1-10) - 2 (https://entrada.med.ubc.ca/events/?rid=27434)

Clinical Experience - Ambulatory

- Communicate history and physical exam findings effectively verbally and document appropriately

- Obtain consent appropriate for level of care provided

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- Obtain consent appropriate for level of care provided

10: Identify and describe the gross and microscopic anatomy of the skull, brain, and intracranial compartments and their importance

SYNC/Real-Time Session Neuroanatomy Bootcamp Virtual Lab 1 - This is your Brain and the Layers that Protect it - Introduction to the Nervous System and MAP Overview (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27446)

Laboratory;Lecture

- Apply the anatomical planes of orientation as you look at central nervous system (CNS) specimens and cross-sectional imaging studies
- Describe the major surface markings of the brain
- Identify major sulci and gyri on the surface of the brain
- Identify the five cerebral lobes and define their boundaries in general terms
- Describe the location/organization of the gray matter and the white matter in the CNS in general terms
- Relate the three meningeal layers and the spaces between them to common pathologies that can be found in these real and potential spaces
- Explain the organization of the ventricular system and the location of its component parts as well as the circulation of CSF

SYNC/Real-Time Session Neuroanatomy Bootcamp Virtual Lab 2 - Let's Keep it Real and Simple - Neuroscience for the Rest of us (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27447)

Laboratory;Lecture

- Conceptualize the sensory input to the brain: how this information is gathered, sorted,

interpreted, and prioritized.
- Conceptualize the motor output from the brain: how this signal is generated, controlled, prioritized.
- Relate the location and general function of the 12 cranial nerves to the clinical neurological exam.

Overview of the Central Nervous System (CNS) [Online Module] (https://entrada.med.ubc.ca/events/?rid=27454)

Independent Learning

- Localise the five cerebral lobes and define their boundaries in general terms
- Describe the general location of grey and white matter in the brain and spinal cord
- Identify the major components of the brainstem as well as key surface anatomy
- Explain the organisation of the ventricular system and the location of its component parts
- Describe and identify sections made along three planes of orientation

FoS Meets Neurology - I've Got Scholarship on my Mind [Online Module] (https://entrada.med.ubc.ca/events/?rid=27456)

Independent Learning;Self-Directed Learning

- Review the strength of evidence in studies examining the therapeutic efficacy of angioplasty for treatment of "chronic cerebrospinal venous insufficiency" in multiple sclerosis patients. (reviews MEDD 419 concepts: critical appraisal of the literature, quantitative methodology, evidence-based medicine)

Introduction to the Central Nervous System (CNS) - UBC Neuroanatomy Season 1 - Episode 1 (Video) (https://entrada.med.ubc.ca/events/?rid=27458)

Independent Learning

- Localise the five cerebral lobes and define their boundaries in general terms
- Describe the general location of grey and white matter in the brain and spinal cord
- Identify the major components of the brainstem as well as key surface anatomy
- Explain the organisation of the ventricular system and the location of its component parts
- Describe and identify sections made along three planes of orientation

***SYNC/Real-Time Session* Cranial Cavity and Contents (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27462)**

Laboratory;Lecture

- Identify the middle meningeal artery in the dura
- Identify the cranial dura, arachnoid and pia
- Identify the tentorium cerebelli and falx cerebri
- Identify the position of the subarachnoid space

- Identify the superior sagittal, inferior sagittal, straight, transverse and sigmoid sinuses
- Identify the confluence of sinuses
- Identify the position of the pituitary gland and cavernous sinuses
- Identify the internal carotid, vertebral, and basilar arteries
- Identify the cerebral arterial circle (of Willis)

Imaging of the Skull and Brain (2019 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27463)

Lecture

- Not yet available

Overview of the Skull and Meninges (2021 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27464)

Lecture

- Name the layers of the scalp and describe the relationship of emissary veins to cranial venous sinuses
- Describe the clinical importance of the loose connective tissue layer of the scalp
- Describe the relationship of the cranial dura to bone and the position of meningeal arteries in relationship to the dura
- Describe the potential and real spaces related to the meninges
- Name the two major dural folds that subdivide the cranial cavity and support the brain
- Name the major cranial venous sinuses
- Name the 2 major pairs of arteries that supply the brain

11: Define the elements of a focused history related to the peripheral vascular system and perform an examination of the peripheral vascular system, including the measurement of the ankle-brachial index (ABI)

Peripheral Vascular (https://entrada.med.ubc.ca/events/?rid=27443)

Discussion, Small Group (12 or less)

- Explain the importance of inspection, palpation and auscultation pertaining to the peripheral vascular physical exam
- Learn how an ankle-brachial index (ABI) is obtained using a handheld Doppler ultrasound
- Define elements of the peripheral vascular history, including symptoms of occlusive arterial disease ranging from claudication to pain at rest

12: Demonstrate key components of professionalism including informed consent; respect of patient's confidentiality, privacy, and autonomy; appropriate boundaries in a patient-physician relationships; respectful attitude toward colleagues and office staff

SYNC/Real-Time Session CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)

Case-Based Instruction/Learning

- Demonstrate professional behaviour particularly in regards to appropriate response to feedback, appearance, communication, confidentiality, boundaries, honesty and respect in clinical and non-clinical learning environments

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- Demonstrate professional behaviour
- Respond appropriately to feedback and incorporate necessary changes in practice effectively

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- List different communication strategies that enhance cross cultural communication

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Independent Learning;Self-Directed Learning

- Examine the importance of patient and stakeholder involvement in medical research (reviews MEDD 419 concepts: patient and stakeholder engagement, and spirals to MEDD 419 Weeks 22 (Principles of Project and Research Design), Week 23 (Research Ethics and Responsible Conduct in Research) and Week 26 (Knowledge Translation).

13: Describe how to perform the clinical sensory, motor, and reflex neurological examinations, outlining basic principles of 'localization' of pathology through analysis of clinical abnormality

Neuro 2 - Motor, Sensory, Reflexes (https://entrada.med.ubc.ca/events/?rid=27445)

Discussion, Small Group (12 or less);Tutorial

- Demonstrate all of the individual components of the motor, sensory, and reflex exams
- Describe several patterns of abnormal signs that can lead to an anatomical diagnosis (e.g., pyramidal distribution weakness, spinal cord syndrome, peripheral neuropathy)

***SYNC/Real-Time Session* Neuroanatomy Bootcamp Virtual Lab 2 - Let's Keep it Real and Simple - Neuroscience for the Rest of us (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27447)**

Laboratory;Lecture

- Relate the location and general function of the 12 cranial nerves to the clinical neurological exam.

Sensory Exam - Neurophysiology of Sensation (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27449)

Lecture

- Describe the basic steps of the clinical neurological sensory examination
- Describe the basic pathway for touch and proprioception information from the peripheral nervous system to the central nervous system
- Describe the basic pathway for pain and temperature information from the peripheral nervous system to the central nervous system
- Describe how peripheral nerves are organised and how peripheral nerve fibres are categorised based upon size, conduction velocity and the presence of myelin

Motor Exam - Neurophysiology Motor System (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27450)

Lecture

- Describe the pathway involved in delivering a motor signal to skeletal muscle
- Describe how to perform a clinical motor exam
- Identify potential reasons for weakness or paralysis detected through a motor examination

Reflex Exam - Neurophysiology Reflexes (2020 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27451)

Lecture

- Describe the basic clinical stretch (deep tendon) reflex test performed during the neurological examination
- Identify potential sites of injury that will alter the normal stretch (deep tendon) reflex

Responses of Peripheral Nerves to Injury - Laceration and Compression (2019 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27452)

Lecture

- Describe how peripheral nerve injuries are manifest clinically

14: Apply foundational knowledge, critical thinking skills, and clinical decision making and describe health care barriers in the context of a simulated or real clinical scenario

SYNC/Real-Time Session CBL - Peripheral Neuropathy - Tutorial 1 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27429)

Case-Based Instruction/Learning

- List the appropriate diagnostic tests for a patient with sensory loss. Develop a treatment plan for a patient with a demyelinating neuropathy, and for a patient with an axonal neuropathy
- Describe the anatomy of the peripheral nerves, sensory receptors, and neuromuscular junction
- Describe the physiology of action potential propagation and the role of myelin
- Identify whether the location of a neurologic problem is in the central nervous system or the peripheral nervous system (upper vs. lower neuron, pattern of sensory abnormality)
- Describe the features which distinguish between an axonal versus demyelinating neuropathy
- Describe the clinical features distinguishing neuropathic pain from nociceptive pain, and develop a treatment strategy for neuropathic pain
- Demonstrate professional behaviour particularly in regards to appropriate response to feedback, appearance, communication, confidentiality, boundaries, honesty and respect in clinical and non-clinical learning environments
- Apply foundational knowledge, critical thinking skills, and clinical decision making and describe health care barriers in the context of a simulated or real clinical scenario
- Recognize the symptoms of neuropathy, including 'positive' and 'negative' sensory symptoms, pattern of weakness, and autonomic symptoms

SYNC/Real-Time Session CBL - Peripheral Neuropathy - Tutorial 2 (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27430)

Case-Based Instruction/Learning

- List the appropriate diagnostic tests for a patient with sensory loss. Develop a treatment plan for a patient with a demyelinating neuropathy, and for a patient with an axonal neuropathy
- Describe the anatomy of the peripheral nerves, sensory receptors, and neuromuscular junction
- Describe the physiology of action potential propagation and the role of myelin
- Identify whether the location of a neurologic problem is in the central nervous system or the peripheral nervous system (upper vs. lower neuron, pattern of sensory abnormality)
- Describe the features which distinguish between an axonal versus demyelinating

neuropathy
- Describe the clinical features distinguishing neuropathic pain from nociceptive pain, and develop a treatment strategy for neuropathic pain
- Demonstrate professional behaviour particularly in regards to appropriate response to feedback, appearance, communication, confidentiality, boundaries, honesty and respect in clinical and non-clinical learning environments
- Apply foundational knowledge, critical thinking skills, and clinical decision making and describe health care barriers in the context of a simulated or real clinical scenario
- Recognize the symptoms of neuropathy, including 'positive' and 'negative' sensory symptoms, pattern of weakness, and autonomic symptoms

***SYNC/Real-Time Session* Clinical Decision Making - Peripheral Neuropathy (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27431)**

Discussion, Large Group (more than 12)

- State the patient's presenting problem
- Propose two or more medical conditions which might explain the patient's presenting problem (rudimentary differential diagnosis)
- Identify two or more features on history and physical which support or refute each diagnostic possibility
- Use the CDM grid to help organize your thinking
- Arrange the list of differential diagnoses into at least the one or two "most likely" conditions at the top, above the "much less likely" conditions below, based on these associated supporting and refuting findings

***SYNC/Real-Time Session* Clinical Pathological Correlation - Applied Cases - Peripheral Neuropathy (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27432)**

Discussion, Large Group (more than 12)

- Describe the response of peripheral nerves to injury and how these changes may manifest clinically
- Describe the clinical and pathological features, investigations, and treatment of the major types of peripheral neuropathies, in particular focusing on axonal and demyelinating neuropathies
- Describe how to take a pain and symptom history, including assessment of total pain (physical, psychological and spiritual)

Office Visits (1-10) - 1 (https://entrada.med.ubc.ca/events/?rid=27433)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 2 (https://entrada.med.ubc.ca/events/?rid=27434)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 3 (https://entrada.med.ubc.ca/events/?rid=27435)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 4 (https://entrada.med.ubc.ca/events/?rid=27436)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 5 (https://entrada.med.ubc.ca/events/?rid=27437)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 6 (https://entrada.med.ubc.ca/events/?rid=27438)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 7 (https://entrada.med.ubc.ca/events/?rid=27439)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 8 (https://entrada.med.ubc.ca/events/?rid=27440)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 9 (https://entrada.med.ubc.ca/events/?rid=27441)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

Office Visits (1-10) - 10 (https://entrada.med.ubc.ca/events/?rid=27442)

Clinical Experience - Ambulatory

- Interpret history and physical examination findings to offer a potential diagnosis

***SYNC/Real-Time Session* Chronic Pain Interprofessional Discussion (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27453)**

Conference;Lecture

- Define strategies to improve understanding of the patient's experience of illness and how to balance this with the medical knowledge of disease

FoS Meets Neurology - I've Got Scholarship on my Mind [Online Module] (https://entrada.med.ubc.ca/events/?rid=27456)

Independent Learning;Self-Directed Learning

- Review the strength of evidence in studies examining the therapeutic efficacy of angioplasty for treatment of "chronic cerebrospinal venous insufficiency" in multiple sclerosis patients. (reviews MEDD 419 concepts: critical appraisal of the literature, quantitative methodology, evidence-based medicine)

15: Describe the anatomy of the skull and identify imaging modalities used to investigate skull pathology

Imaging of the Skull and Brain (2019 Lecture Recording Available) (https://entrada.med.ubc.ca/events/?rid=27463)

Lecture

- Describe the imaging modalities used to evaluate the skull and intracranial contents
- Describe an approach to interpreting a CT scan of the brain
- Identify the bones and sutures of the skull on CT
- Identify the cerebral lobes on CT and MRI
- Describe how the meningeal layers contribute to traumatic intracranial pathology (e.g. subdural, subarachnoid, epidural hemorrhage)
- Identify the bony anatomy of the skull
- Match specific imaging modalities (X-Ray, CT, MRI, special studies) to examples of suspected pathologies of the skull they are used to investigate

16: Describe the structure of each component of the PNS and CNS, outlining the paths of incoming sensory signals and outgoing motor transmissions

***SYNC/Real-Time Session* Neuroanatomy Bootcamp Virtual Lab 1 - This is your Brain and the Layers that Protect it - Introduction to the Nervous System and MAP Overview**

(Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27446)

Laboratory;Lecture

- Apply the anatomical planes of orientation as you look at central nervous system (CNS) specimens and cross-sectional imaging studies
- Describe the major surface markings of the brain
- Identify major sulci and gyri on the surface of the brain
- Identify the five cerebral lobes and define their boundaries in general terms
- Describe the location/organization of the gray matter and the white matter in the CNS in general terms
- Relate the three meningeal layers and the spaces between them to common pathologies that can be found in these real and potential spaces
- Explain the organization of the ventricular system and the location of its component parts as well as the circulation of CSF

***SYNC/Real-Time Session* Neuroanatomy Bootcamp Virtual Lab 2 - Let's Keep it Real and Simple - Neuroscience for the Rest of us (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27447)**

Laboratory;Lecture

- Differentiate between the somatic and visceral peripheral nervous systems and how these two systems are controlled by the CNS.
- Conceptualize the sensory input to the brain: how this information is gathered, sorted, interpreted, and prioritized.
- Conceptualize the motor output from the brain: how this signal is generated, controlled, prioritized.
- Relate the location and general function of the 12 cranial nerves to the clinical neurological exam.

Overview of the Central Nervous System (CNS) [Online Module] (https://entrada.med.ubc.ca/events/?rid=27454)

Independent Learning

- Localise the five cerebral lobes and define their boundaries in general terms
- Describe the general location of grey and white matter in the brain and spinal cord
- Identify the major components of the brainstem as well as key surface anatomy

Introduction to the Central Nervous System (CNS) - UBC Neuroanatomy Season 1 - Episode 1 (Video) (https://entrada.med.ubc.ca/events/?rid=27458)

Independent Learning

- Localise the five cerebral lobes and define their boundaries in general terms

- Describe the general location of grey and white matter in the brain and spinal cord
- Identify the major components of the brainstem as well as key surface anatomy

***SYNC/Real-Time Session* Welcome to the Brain (Zoom Connection - See Required Prep) (https://entrada.med.ubc.ca/events/?rid=27459)**

Lecture

- Describe the parts to the brain
- Conceptualize how the brain's sensory systems functions to understand the external world and internal body signals
- Conceptualize how the brain's motor system functions for a measured, coordinated, appropriate interaction with the world

Looking Forward to Autonomics - Parasympathetic Nervous System and Sympathetic Nervous System [Video/Online Module] (https://entrada.med.ubc.ca/events/?rid=27460)

Independent Learning

- Review the anatomy of visceral connections to and from the spinal cord at various levels