

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE; CRITICAL CARE NURSING PROGRAM

CODE NO: NUR 406

PROGRAM: NEUROLOGY

SEMESTER:

DATE; DECEMBER, 1988

AUTHOR: P. EDWARDS, B.S. VANDERK

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NEUROLOGY

406

COURSE NAME

COURSE NUMBER

COURSE DESCRIPTION:

This 33 hour course emphasizes neurophysiology, neuropathophysiology and the nursing care of patients with neurological disorders. The course format includes both classroom and lab sessions.

COURSE OBJECTIVES

PART A: NEUROPHYSIOLOGY 9 HRS.

1. Describe the normal anatomy of the central, and peripheral (including the autonomic) nervous systems.
2. Describe the function of the central and peripheral (including the autonomic) nervous system,

PART B: NEUROPATHOPHYSIOLOGY 9 HRS.

1. Explain the appropriate pathophysiology of the major neurological disorders.

PART C: NURSING CARE (INCLUDING LABS) 15 HRS.

1. Formulate an appropriate plan of care for a patient with each of the major neurological disorders.
2. Integrate a systematic approach in the assessment of a patient with a neurological disturbance.

METHOD OF EVALUATION:

	<u>MARKS</u>
1. Test #1 - Neurophysiology	20
2. Test #2 - Neuropathophysiology	20
3. Nursing Care Plan	20
4. Test #3 - Final Exam - Comprehensive	40

LEAraiING OBJBCnVES

CONTENT

RESOOBCESES

CMtT A: NEQRDraYSI(XX3G7

- | | | |
|---|---|---|
| 1, Describe the structure and function of the cellular units of the nervous system. | neurons, afferent, efferent, intermuncial neuroglia cells nerve regeneration | 1. any current anatomy & Physiology text
2, Hickey, Joanne <u>The Clinical Practice of Neurological and Neurosurgical Nursing</u> , J.B. Lippincott Co. Philadelphia, 1986 |
| 2. Sunnarize the conduction of nerve inpulses. | - neuron potentials
- saltatory conduction
- synapse, nr [^] oneural junction
- neurotransmitters
- excitable properties | |
| Explain the structure and function of the central nervous system including the brain and the spinal cord. | BRAIN
- telencephalon (cerebrum)
- corpus callosuni
- basal ganglia
- diencephalon - thalanus
- hypothalanrus
- brain steni - midbrain - pons
- medulla
- reticular activating system | |
| Describe cerebral circulation. | SPINAL CORD
- spinal roots - dorsal, ventral | |
| Describe cerebral circulation. | - arterial and venous circulation
- Circle of Willis
- unique characteristics of cerebral circulation
- blood supply to spinal cord
- blood brain barrier | |
| 5. Explain the circulation and function of cerebral spinal fluid. | - meninges
- fontiation
- absorption
- flow
- intracranial pressure | |

LEAFNING OBJECTIVES

OCNTERT

RESOURCES

Describe the structure and function of each of the following peripheral nervous system components:

classification of each
location of each

a) cranial nerves

b) spinal nerves

c) sensory (afferent) nerves

d) notor (efferent) nerves

e) mixed nerves
(sensory & notor)

f) plexuses

g) Autonomic Nervous System:

- including neurotransmitters

i) synpathetic

i i) parasynpathetic

7, Explain the functions and purposes of cord and brain reflexes•

BRAIN

- cardioregulatory
- vascnotor
- pupillary

CORD

- withdrawal
- crossed extensor
- stretch

USARNING CeJQCnVES

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RESOORCES

Sunnarize the Gate
Control Pain Theory

location of gating
nechanisnts
how functions
referred pain
endogenous opiates
TENS

mSF B: NEOBDeiaHOFHXSIIOIYG

1. Describe the underlying
pathcphysiology of each
of the following
neurological disorders:

pathophys iology,
etiology and
clinical
nanifestation for
all of the
following

a) skull lacerations
and fractures

b) closed head injury

intracranial henetoita

c) increased intracranial
pressure

herniation syndrome
factors influencing
conditions associated
with
compensation

Whitney, L.
"Assessing your
Patient for
Increased I.C.P."
Nursing '87, June
1987 p.34-41

d) C.V.A.

including T.I.A.'s

e) Intracranial
Aneyrysus &
Arteriovenous
Mai fomat ions
(AVM)

f) seizures

status
epilepticus

Friednan, Diane
"Taking the Scare
Out of Caring For
Seizure Patients"
Nursing '88, Feb.
p.52-59

g) neningitis
& encephalitis

initiumization
for meningitis

LEABNING CBJECriVBS

CDNIENT

VESOBCES

h) acute spinal cord injuries

classification according to type of injury and by syndromes

i) Gullian-Barre Syndrome

j) Myasthenia Gravis

h) drug intoxication

alcohol
narcotics, barbiturates

2. Describe the medical management required for the above listed neuropathophysiological conditions.

emergency (initial) tx
ongoing and monitoring
pharmacological agents

3. Relate the appropriate diagnostic testing for the above listed neurological disorders

myelography (computed)
discography
lumbar puncture
EEG
cerebral angiography

REVIEW: NURSING CARE

1. Explain the appropriate nursing care for each of the preceding neurological disorders

Assessment
Diagnosis
Planning
Implementation
Evaluation

1. "Caring for the Patient with Elevated Intracranial Pressure" Nursing*84, March p. 12

2. Anderson, Mary, "My Head Hurts", Nursing' 84, Sept[^]tiber 1984 p,34-41

3. McCash, Ann, "Controlling ICP after a Craniotomy" m July 1985 p.23-25

EJBM^NING OBJECTIVES

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RESOURCES

I<<FT C: NURSING CARE (continued)

2. Perform a complete neurological assessment•

- a) Altered Level of Consciousness (LOC) - Lab
- b) Glasgow Catia Scale
- c) Cranial Nerve Testing
- d) Reflex Testing
- e) Mental Status
- f) Motor & Sensory Testing

4. Kunkel/ Joyce
John Wiley "Acute Head Injury: What to do When . . . and Why"
Nursing '79, March
p.23-33

1. ^pling Stevens, Susan; Lent Becker, Kathleen "A Simple, Step-by-step i^proach to Neurologic Assessment" Nursing'88
Part I - Sept* p
Part II - Oct. p.51 •58