

University of Pennsylvania
School of Nursing
Course Syllabus
Summer 2013

TITLE: N 619 Principles of NA Practice III

COURSE UNITS: 1 cu

CATALOG DESCRIPTION:

This course explores the perioperative evaluation and anesthetic principles related to patient populations undergoing advanced surgical procedures. Emphasis is placed on selection and administration of anesthesia to these populations to ensure optimal patient care, comfort, and safety. Particular emphasis is also placed on monitoring, and implementing interventions to prevent and treat common perioperative emergencies.

PLACEMENT: Summer I/II Year II

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PRE-REQUISITE(S): N618 Principles of Nurse Anesthesia Practice II
N683 Applied Sciences Related To Anesthesia III
N792 Clinical Fieldwork for Nurse Anesthesia Practice II
N580 Pharmacology of Anesthetics

CO-REQUISITE(S): None

COURSE OVERVIEW:

This course explores the administration of anesthesia to populations undergoing advanced surgical procedures. In addition, monitoring and interventions for treating perioperative emergencies will be discussed.

COURSE OBJECTIVES:

1. Discuss cerebral perfusion pressure, cerebral autoregulation, and the extrinsic influences on these concepts.
2. Discuss the anesthetic implications in the treatment of intracranial masses and aneurysms.
3. Identify the complications in craniotomy procedures and discuss the interventions involved.
4. Discuss the anesthetic management of patients with massive blood loss from thoracolumbar procedures.
5. Discuss the impact of various pre existing respiratory conditions on the selection and administration of an anesthetic.

6. Explore anesthetic considerations for patients undergoing a thoracotomy.
7. Describe methods to achieve one lung ventilation and its impact on ventilation and perfusion.
8. Discuss the concept of hypoxic pulmonary ventilation and its impact on the selection and delivery of anesthesia.
9. Discuss the implementation and management of double-lumen tubes and thoracic epidurals in thoracotomy procedures.
10. Identify specific anesthetics with positive and negative impacts on one-lung ventilation.
11. Discuss concepts of evoked potential monitoring. Identify surgical procedures where evoked potential monitoring is needed.
12. Discuss the impact on the selection of an anesthetic when evoked potential monitoring is implemented.
13. Explain clinical manifestations of bone cement, tourniquet release, and embolisms in patients undergoing orthopedic procedures
14. Discuss regional anesthetic techniques specific for orthopedic procedures and their effects on postoperative analgesia.
15. Identify postoperative adverse events and discuss anesthetic interventions in treatment.
16. Identify the anesthetic management for endoscopic sinus surgery, neck dissections, and para/thyroidectomy.
17. Discuss the process of laser airway surgery and the anesthetic management of adverse events.
18. Identify techniques involved to minimize blood loss in endoscopic surgery and their clinical manifestations.
19. Discuss the airways challenges in maxillofacial reconstructive surgery and any postoperative procedure with airway manipulation involved.
20. Explain the anesthetic management of patients undergoing both outpatient and in hospital surgical procedures involving plastic and reconstructive body surgery.
21. Explain complications of positioning, TURP syndrome, and shock wave lithotripsy involved in urological procedures.
22. Describe anesthetic techniques used for both outpatient and inpatient short duration urologic surgeries in often elderly population.
23. Explore systemic effects of traumatic injuries requiring surgical intervention.
24. Discuss various shock states, their effect on homeostasis, and interventions to maintain perfusion.
25. Explain anesthesia delivery to the traumatically injured patient with focus on oxygenation, airway management, and perfusion.
26. Examine the current trauma system.

TEACHING METHODS:

Lecture & group discussion

EVALUATION METHODS:

Exam # 1	33.3%
Exam # 2	33.3%
Exam # 3	33.3%

GRADING POLICY:

A+ 97-100	B+ 87-89	C+ 77-79	F 0-69
A 93-96	B 83-86	C 73-76	
A- 90-92	B- 80-82	C- 70-72	

Rounding will be done as follows:

Grades of .5 and above will be rounded up to the next whole number

Grades of .4 or less will be rounded down to the next whole number

Should a student be found responsible for cheating in this course, their grade for the course will be a failure. The University Code of Academic integrity will be followed in this course. It is available on Blackboard and the student handbook.

Code of Academic Integrity

Since the University is an academic community, its fundamental purpose is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to the principles of academic integrity. Every member of the University community is responsible for upholding the highest standards of honesty at all times. Students, as members of the community, are also responsible for adhering to the principles and spirit of the following Code of Academic Integrity.

Academic Dishonesty Definitions

Activities that have the effect or intention of interfering with education, pursuit of knowledge, or fair evaluation of a student's performance are prohibited. Examples of such activities include but are not limited to the following definitions:

- A. Cheating: using or attempting to use unauthorized assistance, material, or study aids in examinations or other academic work or preventing, or attempting to prevent, another from using authorized assistance, material, or study aids. Example: using a cheat sheet in a quiz or exam, altering a graded exam and resubmitting it for a better grade, etc.
- B. Plagiarism: using the ideas, data, or language of another without specific or proper acknowledgment. Example: copying another person's paper, article, or computer work and submitting it for an assignment, cloning someone else's ideas without attribution, failing to use quotation marks where appropriate, etc.
- C. Fabrication: submitting contrived or altered information in any academic exercise. Example: making up data for an experiment, fudging data, citing nonexistent articles, contriving sources, etc.
- D. Multiple submissions: submitting, without prior permission, any work submitted to fulfill another academic requirement.
- E. Misrepresentation of academic records: misrepresenting or tampering with or attempting to tamper with any portion of a student's transcripts or academic record, either before or after coming to the University of Pennsylvania. Example: forging a change of grade slip, tampering with computer records, falsifying academic information on one's resume, etc.
- F. Facilitating academic dishonesty: knowingly helping or attempting to help another violate any provision of the Code. Example: working together on a take-home exam, etc.
- G. Unfair advantage: attempting to gain unauthorized advantage over fellow students in an academic exercise. Example: gaining or providing unauthorized access to examination materials, obstructing or interfering with another student's efforts in an academic exercise, lying about a need for an extension for an exam or paper, continuing

to write even when time is up during an exam, destroying or keeping library materials for one's own use., etc.

* If a student is unsure whether his action(s) constitute a violation of the Code of Academic Integrity, then it is that student's responsibility to consult with the instructor to clarify any ambiguities. (Source: Office of the Provost, 1996)

<http://www.vpul.upenn.edu/osl/pennbook.html>

REQUIRED TEXTS:

Rhoades, R.A. & Bell, D.R. (2013). *Medical Physiology: Principles for Clinical Medicine* 4th Edition. Philadelphia: Lippincott, Williams, & Wilkins.

Nagelhout, J. & Zaglaniczny (2013). *Nurse Anesthesia* 5th Edition. Missouri: Elsevier Saunders.

Barash, P.G., Cullen, B.F. & Stoeling, R.K. Eds. (2013). *Clinical Anesthesia* 7th Edition. Phila., PA: Lippincott, Williams & Wilkins.

RECOMMENDED TEXTS:

Morgan, E.G., Mikhail, M. S., & Murray, M.J. (2013). *Clinical Anesthesiology* 5th Edition. New York: Lange Medical Division/McGraw-Hill Companies, Inc.

Stoelting, R., Hines, R.L., & Marschall, K.E. (2012). *Anesthesia and Co-Existing Diseases* 6th Edition. Pennsylvania: Elsevier Saunders.

Stoelting, R. & Miller, R. (2007). *Basics of Anesthesia* 5th Edition. New York: Churchill Livingstone.

Stoelting, R. & Hillier, S. (2006). *Pharmacology and Physiology in Anesthetic Practice* 4th Ed. Philadelphia: Lippincott Williams & Wilkins.

Macksey, L. (2011). *Surgical Procedures and Anesthetic Implications: A Handbook for Nurse Anesthesia Practice* 1st Edition. Massachusetts: Jones & Bartlett Learning, LLC.

Tuesday 1p-4p**WEEKLY TOPICAL OUTLINE:**

Day/Time	Topic	Objective	Readings
Week 1 May 20 Dawn Bent	Perioperative emergencies and nurse anesthesia interventions	5 & 15	S & M Ch. 38 M & M Ch. 46 & 48 Nagelhout Ch. 51 & 54 Barash Ch. 29 & 55
Week 2 May 27 Pete Conicelli	Orthopedic procedures and their impact on nurse anesthesia practice	13-15	Nagelhout Ch. 40 Barash Ch. 50
Week 3 June 3 Mike Ford	Urologic Procedures and the implications of nurse anesthesia practice	21 & 22	M & M pgs. 734-740; Ch 33. Nagelhout Ch. 30, 32, & 43. Barash Ch. 52
Week 4 June 10 Lori Ann Winner	Exam # 1 (Perioperative, Orthopedic and Urologic Anesthesia) Following Exam #1: Outpatient Surgery Obesity Plastic & Reconstructive Procedures	20 & 22	Exam is content covered in previous weeks 1-3. Nagelhout Ch. 37, 38, & 43 Barash Ch. 30-32, 43-44
Week 5 June 17 Yianni Augoustides	Thoracic Anesthesia and Pulmonary Mechanics on One Lung Ventilation	5-10	S & M Ch. 16, 17, & 27 Nagelhout Ch 17, 27 Barash Ch. 11, 27, & 37 Macksey Ch 14

Week 6 June 24 Eileen Verbrugge	Trauma Anesthesia	23-26	M&M Ch. 39 S&M Ch. 41 Barash Ch. 36 & 57 Nagelhout Ch. 36
Week 7 July 1 Jill Krystofinski	Anesthesia for the Burn patient	23-26	N&P Ch. 35 & 36 Barash Ch. 52 M&M Ch 39, pgs. 819-822.
Week 8 July 8	Exam #2 (Outpatient, Obesity, Plastics, Trauma/Burns & Thoracic Anesthesia)		Exam is content covered in previous weeks 4-7.
Week 9 July 15 Lori Ann Winner	Anesthetic considerations for Head and Neck Procedures	16 - 19	S & M Ch. 33-37 M & M Ch. 39 Nagelhout Ch. 39 Barash Ch. 50
Week 10 July 22 Lori Ann Winner	Evoked Potential Monitoring	11 & 12	Barash pgs. 1010-11 Nagelhout pgs. 353-56 M&M pgs. 146-47, 624-26
Week 11 July 29	End of semester evaluations with mentors		

Week 12 August 5	Exam #3 (ENT & Evoked Potential Monitoring)		Exam is content covered in previous weeks 9-10.

TOTAL NUMBER OF THEORY HOURS: 45

TOTAL NUMBER OF CLINICAL HOURS: 0