

## **ANES 460 - Introduction to Anesthesia Summer 2009**

### **Faculty:**

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### **Course Description and Objectives:**

This course is designed to start new anesthesia students learning the basics of anesthesia. A section of this course will be taught by Professor Pete Kaluszyk, AA-C, M.Ed. (Clinical Coordinator, MetroHealth Medical Center) and will cover terminology. My section of the course consists of 10 Power Point lectures:

1. Sterile Technique / Body Substance Isolation for Anesthesia
2. Anesthesia Machine Set-up / Clinical Set-up (Didactic-Practical)
3. Pharmacology of Volatile Agents
4. IV Insertion Techniques
5. Oral Intubations & LMA Placement
6. Anesthesia Math I-II
7. Pharmacology of Non-Volatile Agents I-II
8. Patient Positioning Didactic-Practical
9. Patient Monitoring
10. Formulating an Anesthetic Plan I–II

For Anesthesia Math (lecture 6) and Formulating an Anesthetic Plan (lecture 10), Part II consists of the student's presentation of the homework assignment from Part I of the lectures. During the first three weeks of the summer the students supplement their reading with *Basics of Anesthesia* (Stoelting and Miller).

### **Exams and Grading:**

The grading of the course is as follows:

- Comprehensive final exam - 50%
- Quizzes – 20%  
There will be 1 quiz per day covering material from the previous class. Eight quizzes, plus Pete Kaluszyk's quizzes from his Terminology I & II classes, will make up this portion of your grade.
- Homework assignments due the next class, unless otherwise instructed - 10%
- Anesthesia Care Plan - 10%
- Anesthesia Machine/Clinical Setup - 10%
- Questions and participation in class discussions is strongly encouraged

**Note: It is the student's responsibility to contact the instructor beforehand if he or she has to miss a class or exam. Missed quizzes or exams may be made up at the discretion of the instructor.**

## **Class Schedule:**

### Lecture 1: Sterile Technique / Body Substance Isolation for Anesthesia

#### Learning Objectives:

1. Understand the necessity for sterile technique
2. Understand the need for body substance isolation
3. Learn the ways of obtaining body substance isolation
4. Learn the basics of sterile technique

### Lecture 2: Anesthesia Machine Set-up / Clinical Set-up (Didactic-Practical)

#### Learning Objectives:

1. Learn what an anesthesia machine is
2. Understand how an anesthesia machine works
3. Learn how to set up an anesthesia machine  
Hands on demonstration of the FDA requirements for the setup of an anesthesia machine. Over the course of the first two weeks the students are given 12 hours of practice time with machine setup with an instructor available for questions.
4. Learn what a clinical set up is (syringes, monitors)
5. Understand why a clinical set up is needed
6. Learn how to do a clinical set up (hands on demonstration drawing up medication from vials)

### Lecture 3: Pharmacology of Volatile Agents

#### Learning Objectives:

1. Learn what a volatile agent is
2. Learn the different volatile agents
3. Learn the terminology used when discussing volatile agents
4. Learn the physical attributes of various volatile agents
5. Understand the pharmacokinetics and pharmacodynamics of volatile agents

### Lecture 4: IV Insertion Techniques

#### Learning Objectives:

1. Understand the different types of IV catheters
2. Learn the proper technique for inserting an IV
3. By the end of class successfully start at least one IV
4. By the end of class have at least one person attempt an IV on you

### Lecture 5: Oral Intubations & LMA Placement

#### Learning Objectives:

1. Understand the indications and reasons for intubation
2. Learn the airway anatomy
3. Learn the different types of endotracheal tubes and LMAs
4. Learn the indications for extubation of the trachea
5. Learn how to classify an airway
6. Learn the proper technique for intubation (practice intubating and LMA placement on manikins)

### Lecture 6: Anesthesia Math I-II

#### Learning Objectives:

1. Understand ratio and percentages

2. Learn some of the basic calculations you will need to perform (converting units to calculate how much drug to add to a IV bag to get the concentration desired)
3. Be able to calculate a patient's fluid deficit, maintenance, and replacement (Fluid replacement calculations, fluid deficit, maintenance, blood replacement)
4. Learn the units used in various measurements
5. Learn the various types of IV fluids (crystalloid vs. colloid)

#### Lecture 7: Pharmacology of Non-Volatile Agents I–II

##### Learning Objectives:

1. Learn the terminology
2. Learn the basics of induction, anxiolytic, muscle relaxant, anticholinesterase, anticholinergic, and opioid agonist drugs
3. Learn the dose of these drugs
4. Learn the mechanism of action of these drugs
5. Learn types of drugs used to treat nausea, hypotension, hypertension, and diuretics
6. Understand the basic mechanism of action of these drugs
7. Learn the doses of these classes of drugs
8. Learn some new terms for discussing these drugs

#### Lecture 8: Patient Positioning Didactic-Practical

##### Learning Objectives:

1. Learn what our role is in positioning the patient in the OR
2. Learn the different positions a patient may have to be placed
3. Learn how to move patients into these positions
4. Learn the common pressure points that need to be padded
5. Practice placing each other in these positions

#### Lecture 9: Patient Monitoring

##### Learning Objectives:

1. Learn which monitors are standard for every case
2. Learn the proper placement and use of these monitors
3. Learn the default alarm settings and how to change them

#### Lecture 10: Formulating an Anesthetic Plan I–II

##### Learning Objectives:

1. Learn some of the considerations when choosing the type of anesthetic for different cases
2. Discuss specific types of cases and work through anesthetic plans
3. Homework is to do an anesthetic plan for a case given a unique preop