

Surgical Technology

SRGT 1441



Surgical Procedures I

EVC (8102) W (8:00am – 2:30pm) (9:00am-1:30pm)

Synonym: _____ Section Number: _____

Instructors: _____ _____
 _____ _____
 _____ _____
 _____ _____

AUSTIN COMMUNITY COLLEGE
Surgical Technology Program

SRGT 1441

DESCRIPTION

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

PREREQUISITES

SRGT 1505, SRGT 1509, SRGT 1160, and SRGT 1144

COREQUISITES

SRGT 1660

COURSE RATIONALE

The purpose of the class is to present a foundational understanding of the operative procedures in which the surgical technologist participates. Such a foundational understanding requires competency in basic surgical anatomy, pathophysiology, and surgical technique.

COURSE LEVEL STUDENT LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

1. Identify and describe the techniques used to aid the surgeon in establishing pre-operative diagnosis;
2. Describe the operative sequence involved in designated procedures;
3. Discuss relevant anatomy, indications for surgery, purpose of surgery, expected outcomes, and possible complications for designated procedures;
4. Define the surgical procedure common to the field of surgery being considered.

For the procedures designated on the following pages, the student should be able to:

1. Identify relevant anatomy
2. Describe the pathology prompting surgical intervention
3. Discuss relevant preoperative diagnostic procedures/tests
4. Discuss any special preoperative preparation needed
5. Identify any special instruments, supplies, and medications required
6. Identify any special equipment required
7. Discuss special requirements of positioning and prepping
8. Present a step-by-step description of the procedure
9. Discuss expected outcomes and possible complications

PROGRAM LEVEL STUDENT LEARNING OUTCOMES

Upon successful completion of the program, students will be able to:

- Utilize appropriate medical terminology.
- Apply a basic understanding of human physiology and surgical anatomy to the perioperative role of a surgical technology.
- Demonstrate a basic understanding of the concepts of pharmacology.

- Demonstrate theoretical and practical proficiency in surgical aseptic technique, surgical procedures and patient care.
- Identify and assume appropriate responsibility for patient care.
- Relate diagnosis with surgical procedure.
- Relate anatomy with surgical procedure.
- Integrate learning from one surgical procedure into subsequent surgical procedures.

COURSE INFORMATION OF GENERAL CONCERN

Reading: It will be very important for you to keep up with your reading assignments. The fact that class meets once a week can lull you into the false belief that you can do it "tomorrow". You will be well advised to set aside reading time every day, to read smaller blocks of material more often, and to read materials assigned before lecture.

TESTS

Exams cover introductory concepts in general surgery, OB-GYN surgery, genitourinary, and orthopedic surgery. The semester tests will be approximately 75% multiple choice and short answer and 25% essay. The comprehensive final will be all multiple choice questions. Test grades are not curved. Makeup exams will not be available unless permission is granted by a faculty panel. Essay questions that will appear on the tests are given on the procedures page. However, since you know the questions, a high level of accuracy and organization will be expected. Other objectives may appear in an essay format, as well.

GRADES

Grades will be computed as follows:

4 exams X 100 points each	= 400
<u>1 final exam X 200 points</u>	<u>= 200</u>
TOTAL POSSIBLE POINTS	= 600

Grade scale is as follows:

90-100%	= A
80-89%	= B
70-79%	= C
69% or below	= F

NOTE: Assignments, for this class, that are turned in late will be subject to a 10% deduction per day (including weekends) from the total points allotted. These assignments may be turned in at clinicals to avoid further daily point deductions. Late assignments will not be accepted more than one week past their due date.

EXTRA CREDIT

An optional **maximum of 20 points** may be earned as extra credit. An attendance incentive (10 points), a four hour shift volunteering at Seton's Mock Surgery (10 points), and being a volunteer for the sonography program (10 points) are offered as extra credit opportunities this semester. Further chances to earn extra credit will be announced should they arise. Information regarding the criteria for extra credit this semester is available at the back of this syllabus.

*****BE ADVISED:** A student **must** have at least a 70% final average before **any** extra credit is awarded. Extra points will be added to total points before averaging final grade.

Example: Test #1 Test #2 Test #3 Final = Total
 90 80 80 185 = 435
 435 + 20 (extra credit points) = 455
 455 ÷ 500 (total points available) = .91 = 91% = A

INSTRUCTIONAL METHODOLOGY

This course is taught in the classroom in a lecture format along with demonstrations by the instructor.

NOTE: A topic outline for the presentation to be done in the 3rd semester will be due the day of the comprehensive final. This outline must be turned in before being allowed to take the comprehensive final—No exceptions! *****More information regarding these presentations will be given in class.**

ABSENCES

Although attendance for this class is voluntary, please note that a large amount of material will be covered each day of lecture. Missing a day of lecture could be detrimental to your grade; therefore, attending all class sessions is highly encouraged. Attendance will be taken each class session in order to evaluate attendance incentive extra credit at the end of the semester. Please note that two tardies will be assessed as an absence. Any handouts from a “missed” lecture can be obtained from the course- designated folder found in the wall pocket holders across from Michele’s office (8203.1). Lecture notes from a missed class should be obtained from another classmate, **not the instructor!**

INSTRUCTORS

<u>Name</u>	<u>Office</u>	<u>Office Phone</u>	<u>Digital Pager</u>	<u>Office Hours</u>
Pedro Barrera pbarrera@austincc.edu	EVC 8203.3	(512) 223.5804	(512) 204.4009	Posted
Javier Palacios jpalaci1@austincc.edu	EVC 8205	(512) 223.5806	(512) 204.3942	Posted
Michele Richards mrich@austincc.edu	EVC 8203.1	(512) 223.5803	(512) 204.4090	Posted
Susan Diamond sdiamond@austincc.edu	EVC 8281	(512) 223.5807	(512) 204.4084	Posted
Kathy Cook kcook1@austincc.edu	EVC 8203.4	(512) 223.5801	(512) 204.6454	Posted
Barbara Powell bpowell@austincc.edu	EVC 8203.2	(512) 223.5802	(512) 204.3999	Posted
Kathy Baumbach kbaumbac@austincc.edu	RRC 3117.07	(512) 223.	(512) 204.4428	Posted
Carol Hamilton chamilto@austincc.edu	RRC 3117.04	(512) 223.5806	(512) 204.0904	Posted

TEXTBOOKS

Required:

Rothrock. Alexander's Care of the Patient in Surgery (13th edition)

Porth, C Essentials of Pathophysiology. (2nd edition)

Recommended:

Goldman Pocket Guide to the Operating Room

Tabors Cyclopedia Medical Dictionary or another Medical Dictionary

In addition, a recently published anatomy and physiology textbook is recommended.

COURSE SCHEDULE FOR _____

Date	TOPIC	READING ASSIGNMENT
	Syllabi, etc 12:00 p.m. in lab in scrubs	
	Hernia Breast	Alex* Chp 13; no Porth Alex*17; Porth 948-952
	Cancer; Thyroid/Parathyroid	Chapter 16 Alex: (p.553-565) Porth:Chapter 2 (p. 29-33)
	Test #1; Anatomy and Physiology of GI tract	Alex: Chp 11 Porth: Chp 28 (pp. 605-627)
	GI Pathophysiology and Surgery	
	Hepatobiliary and Pancreatic	Alex: Chp 12 pp536-362; 369-385 Porth: Chp 28
	Test #2 GYN (Female Anatomy And Physiology)	Alex*: Chp 14 Porth: Chp 39, skim Chp 40 Assignment on GYN Page View the following videos in the library: (not specifically on date listed)
	GYN	Cesarean Section: WQ430 C421 2005 Lap Assisted Vaginal Hysterectomy: WP 458 L299 1996
	GYN	Endometriosis: WP 390 E53 1994
	Test #3/Orthopedics	Alex*: Chp 22 Porth: Review Chp 41; Chp 42 pp 789- 804; Chp 43
	Ortho	
	Ortho	
	Ortho	
	Test #4/Genitourinary	Alex Chp 15 pp 467-551 Porth Chp22-25 (skim through all)
	GU	
	GU	
	Comprehensive Final	

IMPORTANT DATES TO REMEMBER! (Also, see calendar for additional dates)

_____ Last Day to Withdraw

***Alexander's ----read intro to relevant chapter and review A & P and relevant procedures only. Reading assignments include any and/or all handouts.**

Alex = Alexander's Care of the Patient in Surgery, (13th edition)
Porth, C = Essentials of Pathophysiology, (2nd edition)

SCANS

In 1994, the U.S. Department of Labor established the Secretary's Commission on Achieving Necessary Skills (SCANS) to examine the demands of the workplace and whether our nation's students are capable of meeting those demands. The Commission determined that today's jobs generally require competencies in the following areas:

- A. Resources: Identifies, organizes, plans, and allocates resources
- B. Interpersonal: Acquires and uses information
- C. Information: Acquires and uses information
- D. Systems: Understands complex interrelationships
- E. Technology: Works with a variety of technologies

The Texas Higher Education Coordinating Board requires that all degree plans in institutions of higher education incorporate these competencies and identify to the student how these competencies are achieved in course objectives. This course, Surgical Procedures I, incorporates the SCANS competencies in the following ways:

COMPETENCE	EXAMPLE OF LEVEL
Resources	Identifies preoperative preparation, instrumentation, supplies, medications, and equipment needed for a given procedure.
Interpersonal	Shares experiences and knowledge with classmates, works as a member of a team for assigned presentation
Information	Identifies preoperative preparation, instrumentation, supplies, medications, and equipment needed for a given procedure based on individual patient status
Systems	Understands the systems of the organization and the organizations ultimate goal (i.e., excellent patient care)
Technology	Discusses special surgical equipment, its functions and troubleshooting techniques.
Basic Skills	Reads assigned pages; Calculates drug dosage.
Thinking Skills	Identifies preoperative preparation, instrumentation, supplies, medications, and equipment needed for a given procedure based on individual patient status
Personal Qualities	Works as a team member for assigned presentation. Asserts self and networks with people at the clinical sites to obtain information on current topics.

ACC Course Policies

Attendance/Class Participation

Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

Withdrawal Policy

It is the responsibility of each student to ensure that his or her name is removed from the roll should he or she decide to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The student is also strongly encouraged to retain their copy of the withdrawal form for their records.

Students who enroll for the third or subsequent time in a course taken since Fall, 2002, may be charged a higher tuition rate, for that course.

State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically count towards this limit. Details regarding this policy can be found in the ACC college catalog.

Incompletes

An instructor may award a grade of “I” (Incomplete) if a student was unable to complete all of the objectives for the passing grade in a course. An incomplete grade cannot be carried beyond the established date in the following semester. The completion date is determined by the instructor but may not be later than the final deadline for withdrawal in the subsequent semester.

Statement on Scholastic Dishonesty

A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an educational institution. Students have the responsibility to submit coursework that is the result of their own thought, research, or self-expression. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the violation and may range from lowering a grade on one assignment to an “F” in the course and/or expulsion from the college. See the Student Standards of Conduct and Disciplinary Process and other policies at <http://www.austincc.edu/current/needtoknow>

Student Rights and Responsibilities

Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

Statement on Students with Disabilities

Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Students with Disabilities (OSD). Students are encouraged to request

accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed.

Students who have received approval for accommodations from OSD for this course must provide the instructor with the 'Notice of Approved Accommodations' from OSD before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the 'Notice of Approved Accommodations' from the student.

Students with approved accommodations are encouraged to submit the 'Notice of Approved Accommodations' to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations.

Additional information about the Office for Students with Disabilities is available at <http://www.austincc.edu/support/osd/>

Safety Statement

Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at <http://www.austincc.edu/ehs>. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at <http://www.austincc.edu/emergency/>.

Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities.

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Use of ACC email

All College e-mail communication to students will be sent solely to the student's ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at <http://www.austincc.edu/accmail/index.php>.

Student And Instructional Services

ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: <http://www.austincc.edu/s4/>

Links to many student services and other information can be found at:

<http://www.austincc.edu/current/>

ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at:

<http://www.austincc.edu/tutor/students/tutoring.php>

For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab.

The following procedures are divided into material appearing on each test. The terms in bold print are the procedures that are to be known in detail as described previously. For testing purposes, those in regular print are to be defined only.

Test #1:

Cancer; Thyroid/Parathyroid, Hernia, Breast

thyroid lobectomy

inguinal herniorrhaphy (direct vs. indirect)

Mastectomy (MRM)

subtotal thyroidectomy parathyroidectomy

thyroglossal duct cystectomy various types of herniorrhaphy

lumpectomy axillary node dissection

sentinal node biopsy

ESSAYS

1. Compare and contrast hypothyroidism and hyperthyroidism.
2. Define and describe fibrocystic change; explain why patients with fibrocystic change are seen in the O.R.
3. Describe the topographic and structural anatomy of the breast.
4. List and describe the pathological conditions involving the breast. Discuss the procedures that are commonly performed on the breast (as discussed in class).

The following procedures are divided into material appearing on each test. The terms in bold print are the procedures that are to be known in detail as described previously. For testing purposes, those in regular print are to be defined only.

Test #2:
GI, Hepatobiliary

**laparoscopic Roux-n-Y
open cholecystectomy**

**low anterior colon resection
laparoscopic cholecystectomy**

pancreatectomy
Whipple procedure/pancreatojejunostomy
hemorrhoidectomy
esophageal balloons
Nissen fundoplication

CBD exploration
variceal exploration
hemorrhoidectomy

ESSAYS

1. Discuss the liver pathologies: ascites, portal hypertension, jaundice, and cirrhosis. Identify clinical manifestations and causes for each. Include examples which explain how one type of pathology may contribute to the development of the another.
2. Trace the pathway of bile, from the liver to the duodenum, and identify the principle ingredients of bile. Explain the main disorders that can cause jaundice, categorized as pre-hepatic, intra-hepatic, and post-hepatic
3. Discuss intestinal obstruction. State two types of obstruction. Why is obstruction so dangerous? What treatments are done to correct or alleviate the obstruction?
4. Discuss inflammatory disease and compare Crohn's disease and ulcerative colitis.

The following procedures are divided into material appearing on each test. The terms in bold print are the procedures that are to be known in detail as described previously. For testing purposes, those in regular print are to be defined only.

Test #3 :GYN

C-Section
LAVH

D & C
TAH
TAH-BSO

pelvic exenteration
Hysteroscopy
A & P repair
vulvectomy
cervical cerclage
tubal ligation
salpingectomy
abdominal myomectomy

laparoscopy
LEEP
cervical conization
exc. of bartholin's cyst
oophorectomy
endometrial ablation

ESSAYS

1. Differentiate between cystocele, rectocele, and enterocele.
2. Define and describe leiomyomas; discuss its development and include treatments.
3. Define and describe endometriosis; briefly list why endometriosis is important.
4. List the reasons for performing a C-section. Define VBAC and discuss the risks of VBAC.
5. Discuss elective sterilization methods.

The following procedures are divided into material appearing on each test. The terms in bold print are the procedures that are to be known in detail as described previously. For testing purposes, those in regular print are to be defined only.

Test #4: ORTHOPEDICS

ORIF radius/ ulna
open rotator cuff repair
compression hip screw/ ORIF hip
femoral head -- replacement/ ORIF hip
total knee arthroplasty
Arthroscopy

carpal tunnel release	external fixation
tenorrhaphy	tibial osteotomy
fasciectomy	patellar realignment
IM rodding	patellectomy
ganglionectomy	bakers cyst
hallux valgus repair	trigger finger release
casting techniques	triple arthrodesis
AC separation	pelvic fractures
Bristow, Bankhart; Putti-Platt procedures	

ESSAYS

1. Discuss the process of bone healing. List the stages and describe what occurs at each stage.
2. Describe and discuss the differences between rheumatoid arthritis and osteoarthritis.
3. Differentiate between the properties of benign and malignant bone tumors. Name the three most common types of malignant bone tumors. Discuss the symptoms of bone cancers and the primary goals for treatment of primary bone cancer.

The following procedures are divided into material appearing on each test. The terms in bold print are the procedures that are to be known in detail as described previously. For testing purposes, those in regular print are to be defined only.

Included with Comprehensive Final: GENITOURINARY

Cystoscopy

Prostatectomy (laparoscopic, suprapubic, perineal, and retropubic)

Pyeloplasty

Nephrectomy (laparoscopic, open and partial)

Penile Prosthesis Meatotomy

Circumcision ESWL

Adrenalectomy

Orchiectomy (inguinal and scrotal)

Orchiopexy Cystectomy with Ileal Conduit

Ureteral Reimplantation

Also, be able to define the following genitourinary disorders:

Hypospadias / Epispadias / Chordee

Hydrocele / Hydrocelectomy

Phimosis / Paraphimosis

Spermatocele

Priapism

Varicocele

Peyronie's Plaque

Testicular Torsion

Balanitis

Testicular Cancer

ESSAYS

1. List the four types of kidney stones and explain their pathogenesis, describe the clinical symptoms they produce, and the treatments available.
2. Discuss the differences in diagnostic procedures, symptoms, and the treatments/ surgeries of prostate cancer and BPH.
3. Differentiate between trans-obturator sling and trans-vaginal tape sling for bladder suspension.

UNIT OBJECTIVES

Cancer: Thyroid/Parathyroid

1. Identify relevant anatomy of the thyroid and parathyroid.
2. List the hormones that regulate the thyroid.
3. List the diagnostic tools when diagnosing thyroid conditions.
4. List signs and symptoms for the various pathological conditions involving the thyroid and parathyroid glands.
5. Describe the basic procedures performed on the thyroid and parathyroid glands.
6. Discuss instrumentation used in thyroid surgeries
7. Describe Thyroid Storm and some of its symptoms.

Hernias

1. List and locate the layers of the abdominal wall.
2. Describe the basic pathology and the procedures performed on abdominal wall defects. (hernias)
3. Distinguish between direct and indirect inguinal hernias.

Breast

1. Describe the topographic and structural anatomy of the breast.
2. List and describe the pathological conditions involving the breast.
3. Describe the procedures that are commonly performed on the breast.
4. Identify criteria necessary for post-mastectomy breast reconstruction type selection.

Gastrointestinal

1. List, locate, and describe the pathway through the alimentary tract/canal and explain their function.
2. Identify the surgical landmarks related to GI anatomy.
3. List and locate the accessory digestive structures and describe their functions.
4. Identify common pathophysiologies that lead to GI surgery.
5. Identify common preoperative routines and tests for GI surgery.
6. Define the common procedures that are done in relation to the common pathophysiologies.
7. Discuss the attributes of GI instruments and identify common GI instruments.
8. Discuss the vasculature to the large colon.
9. Discuss inflammatory disease and compare Crohn's disease and ulcerative colitis.
10. Discuss intestinal obstruction. List two types of obstruction. Why is obstruction so dangerous? What treatments are done to correct or alleviate the obstruction?
11. Identify criteria for eligibility for bariatric surgery.
12. Discuss the two types of surgery for weight loss. Give an example of each surgery.
13. Identify and discuss potential complications from lap band and roux-n-y procedures.

Hepatobiliary:

1. Identify relevant anatomy:
 - a. liver/ lobes of liver/ associated blood vessels and ligaments/ Glisson's capsule
 - b. gallbladder/ gallbladder regions
 - c. serosa
 - d. biliary tree/ duct system
 - e. pancreas/pancreatic ducts
 - f. anastomosis of pancreatic and bile ducts with duodenum (Ampulla of Vater, Sphincter of Odi)
2. Explain the source of the pressure gradient that exists between arterial supply and venous drainage in the liver.
3. Contrast the qualities of the blood being delivered from the liver's dual blood supply, being sure to discuss two main differences
4. Define a portacaval anastomosis, and identify four types of portacaval anastomoses by region.
5. Identify four main vessels which drain into the hepatic portal vein.
6. Describe two main functions of the liver.
7. Define: metabolism, anabolism, catabolism, and relate these terms to the functional workings of the liver, being sure to include what types of substances and biomolecules are involved.
8. Name the functional unit of the liver, as well as two main types of liver cell, and identify their functions.
9. List the components of bile, as well as how much bile the liver produces daily. Explain the origins of bilirubin, and identify the ingredient in bile which has a digestive function, and what other bile component it is synthesized from. Explain how this component is "recycled" in the body, and what the name for this process
10. Trace the pathway of bile from its manufacture in a hepatocyte to its exit from the biliary tree into the duodenum.
11. Jaundice is named for the cast it gives to tissues. Name the component of bile responsible for this, and tell where jaundice is most apparent. Also, identify four factors that may produce jaundice.
12. Name three types of jaundice, classified by the area the pathophysiology originates in, and relate cause of jaundice with type of jaundice.
13. Define ascites, portal hypertension, and jaundice, and explain why they are symptoms rather than specific disease processes. Identify the etiology and clinical manifestations of each of these pathophysiologies.
14. Analyze how the presence of jaundice, portal hypertension, and ascites may bear on each other, or other liver pathophysiologies discussed in class.
15. Define portal hypertension and identify its causes. Explain how long-term portal hypertension may become a cause for other pathophysiological states. Identify four treatments for portal hypertension.
16. Distinguish between first, second, and third spaces.
17. For each of the types of viral hepatitis, identify the route of transmission, presence of chronic or carrier state, and high-risk groups for contracting the virus. Identify those for which a vaccine is available. Also, explain how the presence of hepatitis may bear on other liver pathophysiologies.
18. Identify six causes of cirrhosis. No matter what the cause of cirrhosis, histologically the results are the same. Describe these and the appearance of the liver once these changes occur. Contrast early and late signs of cirrhosis, and identify its only treatment.
19. Identify two types of primary neoplasm of the liver, and supply contributing factors for each type of primary liver tumor. Distinguish between incidence of primary and secondary liver tumors (most importantly, which is more common and why?). Identify the most common primary tumor areas that lead to metastasis in the liver. Explain how liver tumors are diagnosed.
20. Describe the different types of gallbladder pathophysiologies:
 - a. Cholelithiasis
 - b. Cholecystitis
 - c. Cancer of the gallbladderAs you do so, explain how blockages in the pathway of bile may create or bear on current liver pathophysiologies.

21. Describe the two main functions of the pancreas, identify two functional units inside the pancreas, and state their respective functions.
22. Compare and contrast the clinical manifestations of, treatment for, and prognosis involved in all forms of pancreatitis, remembering that there are two forms of acute and two forms of chronic pancreatitis.
23. Identify high risk groups for contracting pancreatic cancer, and compare pancreatitis to pancreatic cancer. Discuss differences in pancreatic cancer based on location, and describe the surgical intervention used to treat pancreatic cancer.

Cholecystectomy-Related Objectives:

24. Distinguish between operative anatomical positions and “normal” in situ anatomy.
25. Trace the pathway of bile from the liver to the small intestine.
26. Compare and contrast the two different techniques for achieving pneumoperitoneum (Hasson method vs. Verres needle method).
27. Differentiate between the laparoscopic cholecystectomy patient’s position at induction of anesthesia and his or her position once all trocars have been placed, and explain the importance of the change in positions.
28. Identify anatomy of the abdominal wall encountered when placing trocars for laparoscopic cholecystectomy or incising the patient for an open cholecystectomy:
 - a. skin
 - b. subcutaneous fat
 - c. fascia (identify relevant muscles)
 - d. peritoneum

OB-GYN

1. Locate the anatomic structures of the female reproductive system.
2. List the functions of the female reproductive organs.
3. Describe the relationship of the female reproductive organs to other systems.
4. Identify the pathological conditions involving the female reproductive system.
5. List signs and symptoms for the various pathological conditions.
6. Describe the diagnostic tests common to the female reproductive system.
7. Describe the fundamental surgical procedures that are performed on the female reproductive system.
8. Compare diagnosis with surgical procedure.
9. Define cystocele, rectocele, and enterocele.
10. Define terms associated with pregnancy.
11. Describe abnormal events that can occur during pregnancy.
12. Identify five indications for C-section.
13. Explain the risks of a VBAC delivery
14. Explain the stages of labor.
15. Conclude which patient may deliver first using station, effacement, dilation, para and gravida information.
16. Identify common surgical instrumentation related to OB/Gyn surgery.
17. Describe a pfannensteil incision
18. Discuss instrumentation used to create a pfannensteil incision
19. Differentiate the four types of perineal lacerations.
20. Identify common laparoscopic instruments used in OB/Gyn surgery.
21. Predict what functions the specific instruments will be used for.
22. Summarize the surgical procedure for a C-section, including anatomy, instrumentation and medications.
23. Summarize the surgical procedure for a TAH, including anatomy, instrumentation and medications.
24. Identify the difference in procedure, anatomy, etc. between TAH and TAH-BSO.

25. Summarize the surgical procedure for a LAVH, including anatomy, instrumentation and medications.
26. Identify and discuss four methods of tubal sterilization procedures.
27. Discuss hysteroscopy, including definition, and indications.

Orthopedic Surgery

1. List and locate the basic skeletal regions and joints of the body. Be able to label the major bones in each region-giving special attention to the shoulder, hip and knee joints.
2. Given the instrumentation (visual) handout, be able to identify and distinguish between the various types of orthopedic instruments. Be able to compile a basic mayo set-up for a typical orthopedic procedure.
3. Be able to relate basic orthopedic equipment to the various orthopedic procedures where it is used (i.e.: pulse lavage, tourniquet, power equipment, positioning aides, etc.).
4. Define terms relating to the formation and structure of long bones, as well as, terms describing various anatomic body orientations, articulations, and directional movements.
5. Review and discuss basic bone composition and development. Explain the difference between cortical and cancellous bone.
6. Outline and describe the five stages of bone healing. Cite the origin of osteoblasts and osteoclasts and understand their functions in bone remodeling.
7. Compare the pathogenesis and manifestations of the following metabolic bone disorders: osteoporosis, osteomalacia, osteomyelitis, and Paget's disease.
8. Compare and contrast the characteristics of primary bone cancer vs. metastatic bone disease (metastasis). Be able to list and characterize the three most common forms of primary bone cancer. Summarize the general symptoms and primary goals for treatment of primary bone cancer.
9. Be able to identify and distinguish between the various types of fractures (from given handout). Differentiate between open (compound) and closed (simple) fractures and discuss the numerous options in fracture reduction and immobilization.
10. Define the acronym "O.R.I.F.". Briefly explain the basic concept of dynamic compression plating (DCP) as it relates to O.R.I.F. of a fracture. Be able to distinguish and illustrate the difference between cortical and cancellous screws.
11. Present a step-by-step procedural description of an *O.R.I.F. of the radius and ulna* Be able to discuss the following information relevant to the procedure: diagnostic testing and pre-operative preparation, positioning, special instrumentation and/or equipment, prep, draping, and possible complications.
12. Be able to identify and cite other procedural definitions (listed in the orthopedic section of the syllabus) relating to the upper extremity (hand, arm, and shoulder) and its relevant pathology.
13. Compare and contrast the two procedural options for O.R.I.F. of the hip. Summarize the factors influencing the decision to perform compression hip screw placement vs. femoral head replacement.
14. Present a step by step procedural description for both *compression hip screw placement and femoral head replacement*. Be able to discuss information relevant to the procedure: diagnostic testing, pre-operative preparation, positioning, special instrumentation and/or equipment, prep, draping and possible complications.
15. Briefly discuss the techniques and precautions involved when working with bone cement (methyl methacrylate).
16. Identify the various pathologies of the shoulder joint and relate them to these representative operative procedures performed on the shoulder joint: *rotator cuff repair, AC separation, recurrent anterior dislocations*.
17. Identify the various pathologies of the knee joint and relate them to these representative operative procedures performed: *arthroscopy-menisectomy, total knee arthroplasty*.
18. Discuss the relative instrumentation, equipment, and aspects of the set-up for basic arthroscopy procedures.
19. Compare and contrast the characteristics of the two main types of arthritis: rheumatoid vs. osteoarthritis. Explain the main objectives in treating arthritis surgically.

20. Explain the basic surgical technique involved in a total knee arthroplasty and list the seven “cuts” made during the procedure.

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1. Identify the principle anatomy and function of the urinary system, beginning with the kidney and ending at the urethra.
2. Describe the characteristics of normal urine. Discuss abnormal conditions of urine, and various diagnostics performed in urinalysis.
3. Discuss micturation and control of urine elimination.
4. Identify the various causes of urinary obstruction. Describe the effects of urinary tract obstruction on renal structure and function.
5. List the four types of kidney stones and explain their pathogenesis, describe the clinical symptoms they produce collectively, and the treatments available.
6. Define acute renal failure and compare prerenal, intrarenal, and extrarenal forms of the disorder and cite common causes of each.
7. Identify and discuss general considerations for urologic surgical procedures, including: diagnostic tests, positioning, anesthesia, prep, draping, instrumentation, and hemostasis .
8. Identify the principle anatomy of the male reproductive tract.
9. Describe the structure and function of the testes, scrotum, the genital ducts, accessory organs and the penis.
10. Trace the pathway of sperm in the male reproductive tract from its point of spermatogenesis to ejaculation.
11. Describe the various genitourinary disorders and discuss common treatments.
12. Discuss the gross pathological findings, diagnosis, treatment and spread of prostatic cancer and BPH.
13. Identify and discuss general considerations for genitourinary procedures including: diagnostic tests, positioning, anesthesia, prep, draping, instrumentation, and hemostasis.

Extra Credit Criteria:

Each type of extra credit is worth 10 points. A student can earn a maximum of 20 extra credit points in this class. More extra credit opportunities may arise during the semester (to be announced by the faculty).

Attendance incentive: students with one or less absences will be awarded 10 extra credit points.

Seton Mock Surgery: Students may sign up to attend the Seton Mock Surgery on _____, _____. More details and a sign up sheet will be provided as we receive more information. **Note:** you must complete an entire four hour to be eligible for extra credit for this event. This event is also worth 10 extra credit points.

Sonography volunteers: The ACC Sonography lab needs volunteers. Contact Sue Cornelius in Sonography at (512) 223.5945 to find out available times and dates. Once you have completed your volunteer screening, the sonography dept will issue you a proof that you have attended. Turn this in to a surgical technology instructor to receive 10 extra credit points. **NOTE: EXTRA CREDIT WILL NOT BE AWARDED TO STUDENTS WHO SCHEDULE A SONOGRAPHY APPOINTMENT DURING SURGICAL TECHNOLOGY CLASS TIME!**

REMINDER: As stated before, a student must have at least a 70% final average before **any** extra credit points are awarded.