

# NCCSA CSA EXAM STUDY GUIDE

The NCCSA exam is written by tenured CSA's and verified by physicians. A psychometrician then checks exam for form. We have worked with several of the NCCSA approved Surgical Assisting Programs to develop questions that coincide with their curriculum.

**SURGICAL ANATOMY: Anatomy is one of the most important components of this examination.** Approximately one-third of the questions on this exam refer to the Anatomy Diagrams listed in our references at the end of this study guide.

This study guide reviews each section of the exam.

## STUDY GUIDE

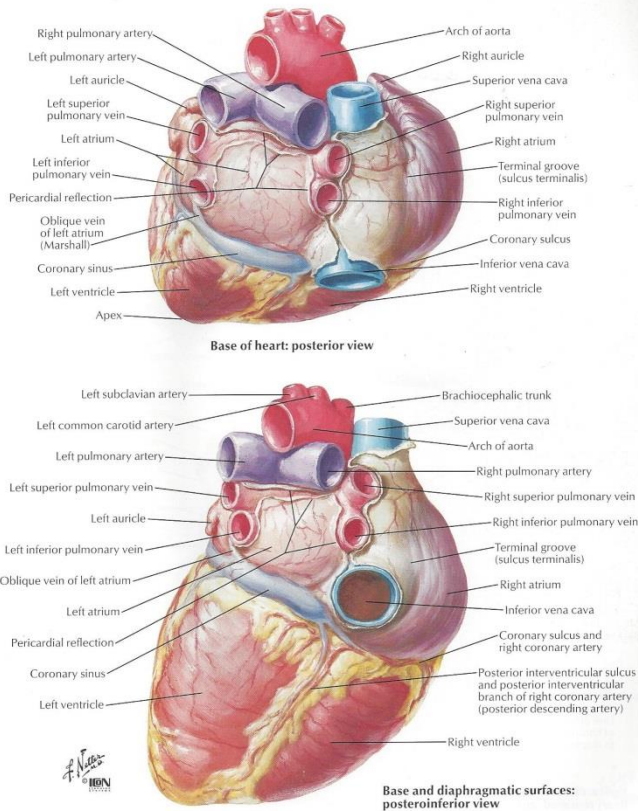
### 1. ANATOMY-HEART: Base and Posteroinferior

Suggestions: To study for this section, review heart anatomy using plate number 210 of Netter's (ref.1), or any Netter's edition with the plate for Heart: Base and Postero-inferior. This section is not an inclusive category of the heart or thorax. It is important to note that this section does not focus on procedures. It is strictly identification of the various parts of the Heart: Base and Posteroinferior.

**[IMPORTANT]** Know all detailed anatomy as is shown on this plate. Each question has four answers with only one most correct. Anatomy only. As is with most of the CSA exam, the most correct answer is about surgical anatomy.

**[IMPORTANT]** Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: What is the best answer for an important nerve to be avoided in the next layer of dissection?

*Heart: Base and Diaphragmatic Surfaces*



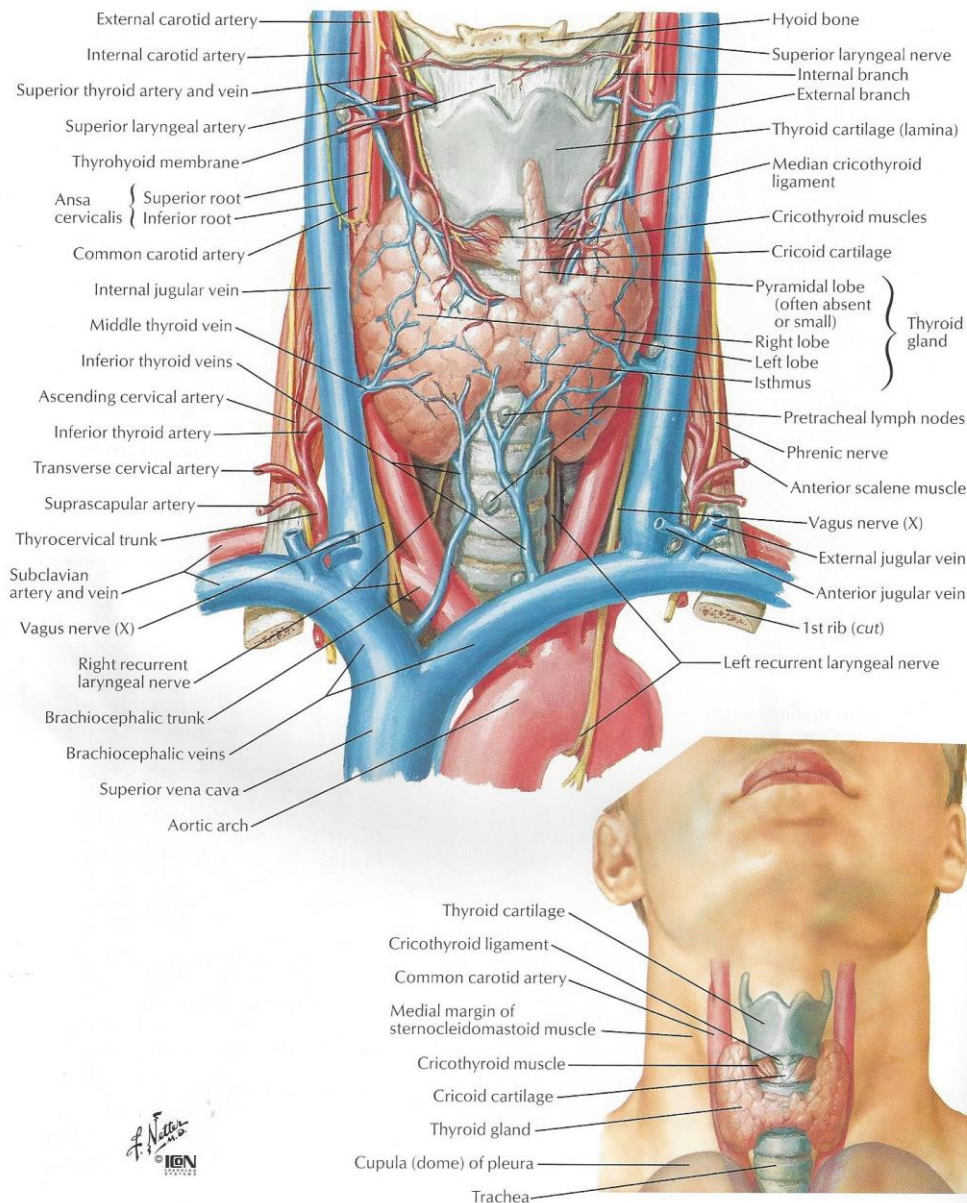
## 2. ANATOMY-THYROID and ANTERIOR VIEW Head and Neck

Suggestions: To study for this section, review the anatomy of the thyroid and head and neck using Netter plate number 70 (ref.1), or any Netter's edition with the plate for Thyroid and Anterior View Head and Neck. Questions in this section are inclusive of head and neck surgery.

Know all detailed anatomy as is shown on this plate. Each question has four answers with only one most correct. As is with most of the CSA exam the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified step by step in a surgical procedure.

EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### Thyroid Gland: Anterior View



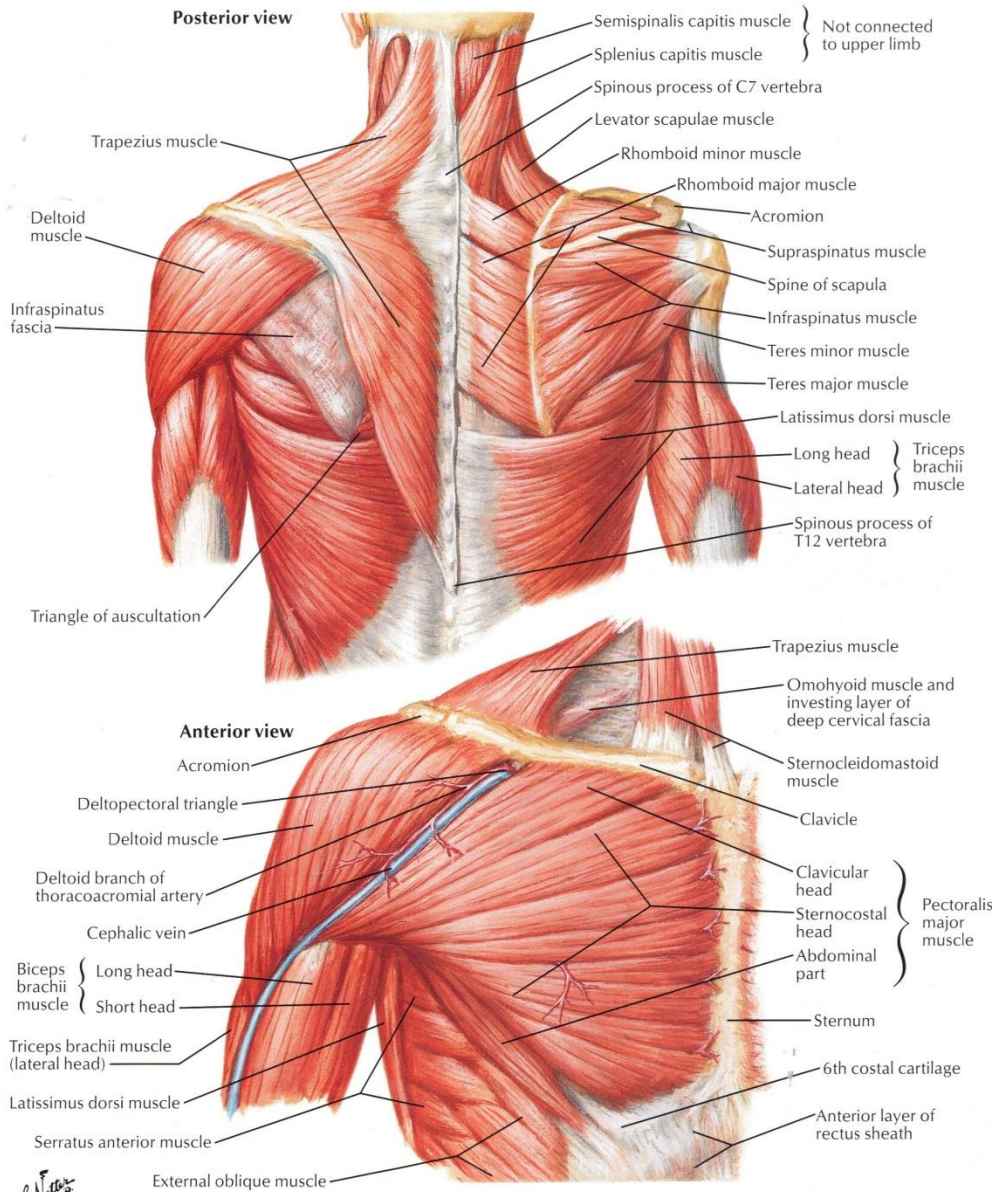
### 3. ANATOMY-MUSCLES of SHOULDER

Suggestions: To study for this section, review the detailed anatomy of the muscles of the shoulder using Netter (ref.1) plate number 407, or any Netter's edition with the plate for Muscles of Shoulder. This section is not inclusive of orthopedic procedures of the shoulder.

Know all detailed anatomy as is shown on this plate. Anatomy only. Each question has four answers, with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

## Muscles of Shoulder

SEE ALSO PLATES 23, 167, 182, 183, 185, 186



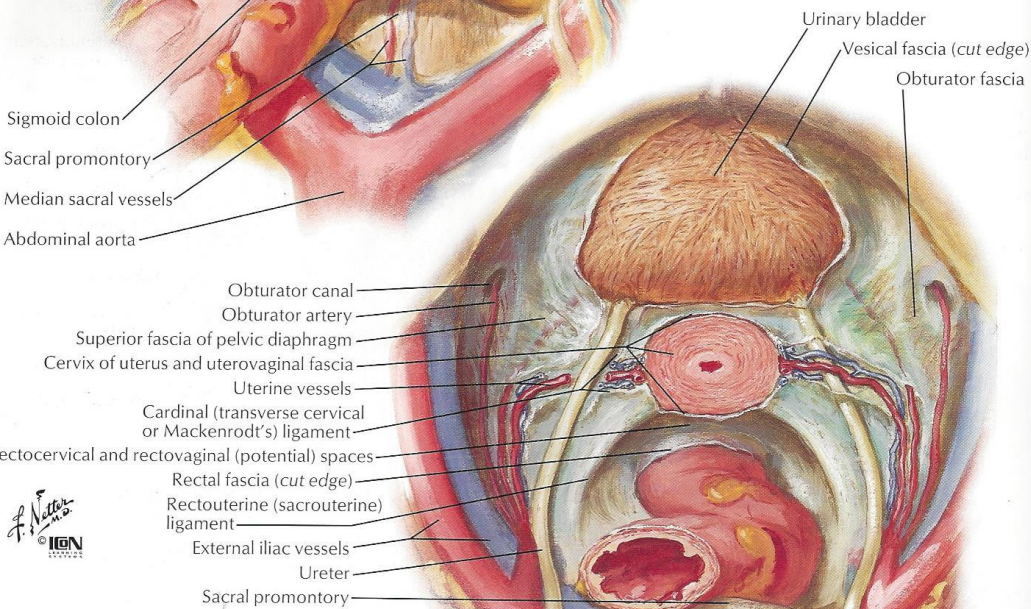
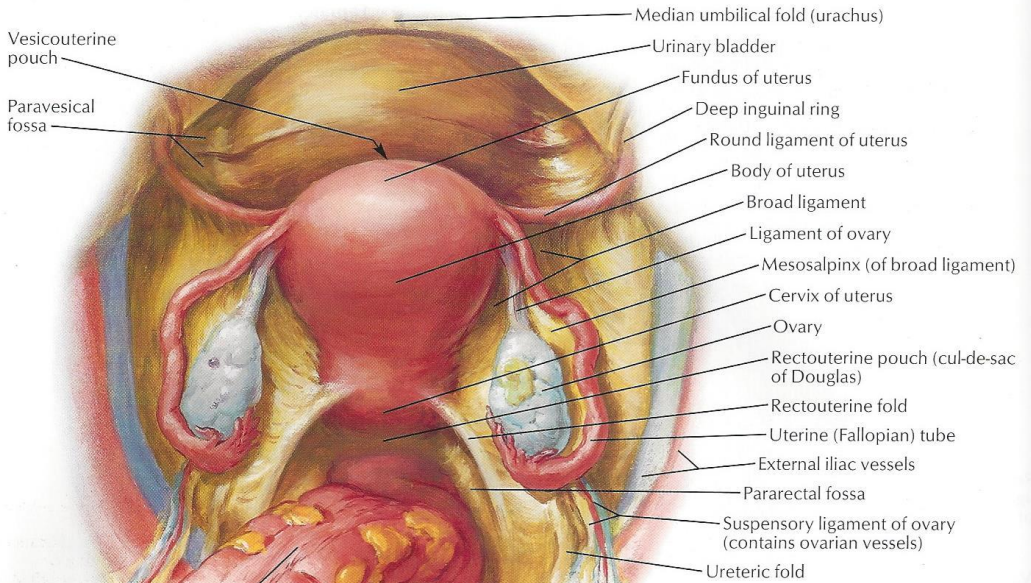
#### 4. ANATOMY-PELVIC VISCERA: FEMALE

Suggestions: To study for this section, review the detailed anatomy of the female pelvis using Netter (ref.1) plate number 354, or any Netter's edition with the plate for Pelvic Viscera: Female. Anatomy only.

Know all detailed anatomy, as is shown on this plate. Each question has four answers, with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### *Pelvic Viscera: Female*

#### Superior view with peritoneum intact



#### Superior view with peritoneum and uterus removed

## 5. CARDIAC Peripheral Vascular and Thoracic

Suggestions: To study for this section, keep in mind your training and experience. Review using Alexander's (ref.2), pages 360, 996, 1043, 1054, 1063, 1105, 1224, 1346. Review using Surgical Recall (ref.3) pages 3, 5, and all of chapters 59, 63, 64, and 65. (Note: if you are unable to obtain this specific version of Alexander's, please note the subject and study those areas within the edition you are able to obtain)

### SAMPLE QUESTIONS:

- 1) Where do dermoid cysts occur in the mediastinum?
  - a) Posterior
  - b) Anterior
  - c) Lateral
  - d) None of the above
  
- 2) When does most of the coronary blood flow take place?
  - a) During diastole (66%)
  - b) 80% systole
  - c) Never
  - d) SVR
  
- 3) What artery is most commonly occluded with subclavian steal syndrome?
  - a) Right subclavian
  - b) Left subclavian
  - c) Right carotid
  - d) Internal jugular

## 6. ORTHOPEDIC SURGERY

Suggestions: To study for this section, keep in mind your experience. Do not over study. Remember, orthopedic surgery, general surgery and cardiothoracic include a large percentage of your experience in surgery. Other sections cover detailed anatomy of the knee, hip, and spine. Review, as a general over view: Campbell's (ref.4). Review Surgical Recall (ref.3), all of chapter 66. Review Alexander's (ref. 2) 871, 896, 902, 215, 921. (Note: if you are unable to obtain this specific version of Alexander's, please note the subject and study those areas within the edition you are able to obtain)

### SAMPLE QUESTIONS:

- 1) Why do many orthopedic surgeons prefer the anterior approach to total hip surgery?
  - a) Looks nice
  - b) Easy to staple
  - c) Less dislocation
  - d) Facial ID
  
- 2) What is NOT used usually on a total hip post operatively?
  - a) Plaster
  - b) Abduction device
  - c) Knee immobilizer
  - d) None of above
  
- 3) Define Charcot's joint?
  - a) Tendinitis of lateral epicondyle
  - b) Joint arthritis due to peripheral neuropathy
  - c) Hyperextension of great toe
  - d) A special pediatric cast
  
- 4) Children-fractures: Define Salter II
  - a) Through physeal plate only
  - b) Involves physis and metaphysis
  - c) No fractures but "false" fracture
  - d) Green stick type

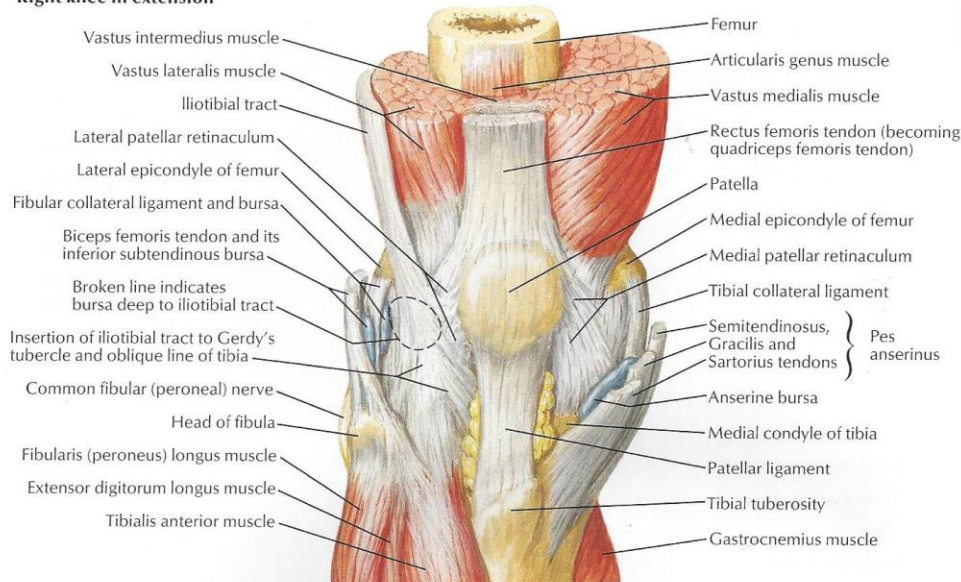
## 7. ANATOMY-KNEE: Anterior Views

Suggestions: To study for this section, review the detailed anatomy of the knee, using Netter (ref.1) plate number 489, or any Netter's edition with the plate for Knee: Anterior Views)

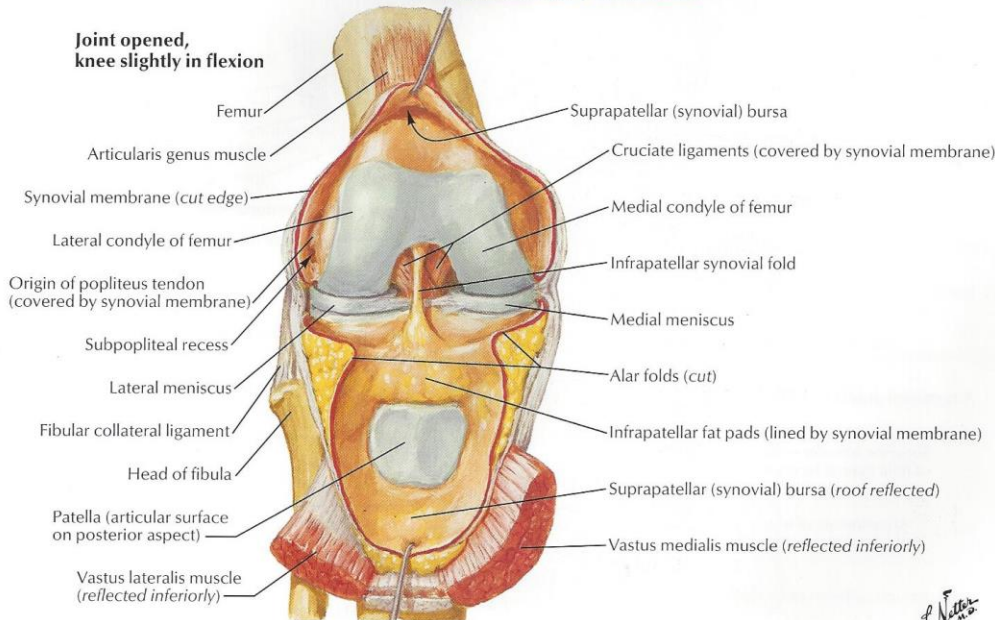
Know all detailed anatomy as is shown on this plate. Anatomy only. Each question has four answers with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### Knee: Anterior Views

#### Right knee in extension



#### Joint opened, knee slightly in flexion



*F. Netter*  
M.D.  
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## 8. PHYSIOLOGY-WOUND HEALING

Suggestions: To study for this section, review in Alexander's (ref.2) page 281 and review in Surgical Recall (ref.3) chapters 11, 19, 21, and 23. Do not over study. Surgical anatomy is the emphasis in assisting.

### SAMPLE QUESTION:

- 1) How long until a sutured wound epithelializes?
  - a) 10 days
  - b) Postoperative day 4
  - c) Postoperative day 7
  - d) 48 hours

Summary: Use your training/education in physiology, as well as proper care and handling of tissues is covered in this section.

## 9. PHYSIOLOGY-Lab Values

Suggestions: To study for this section, review in Alexander's 13<sup>TH</sup> Edition pages 31, 303, 304, 985, and 1173, (If you cannot obtain this particular edition of Alexander's, please study the chapter(s) on Physiology-Lab Values) and in Surgical Recall (ref.3) chapters 13, 14, 16, and 58.

### SAMPLE QUESTION:

- 1) What is the 35-45 Rule of blood gas values?
  - a) pH 7.35-7.45 Pco 35-45
  - b) pH 7.35-7.45 Pco 35-45
  - c) pH 7.35-7.45 Pco 35-45
  - d) Pco 35.45

Summary: Remember that while this section is important to the total practice of a CSA, surgical anatomy is the most important.

## 10. GENERAL SURGERY

Suggestions: To study for the General Surgery section, review all of Zollinger (ref.5). Also review General Surgery of Alexander's (ref. 2). Review Surgical Recall (ref.3) Section II and chapters 3, 7, 8, 9, 11, 15, and 26. Remember, as you review the General Surgery section of the exam, note that it covers many subjects, including pre op and post op care, trauma, burns, endosurgery, VS, head and neck, and plastic surgery, as well as many other procedures.

The emphasis is on surgical anatomy and procedures. Use your experience and training to study for this section.

### SAMPLE QUESTIONS:

- 1) Tips for driving the camera during endosurgery?
  - a) Watch the nurse
  - b) Keep the camera centered on the action
  - c) Help pass instruments
  - d) Clean faster by touching the lens to bowel
  
- 2) What is a hernia through the linea semilunaris or a spontaneous lateral ventral hernia?
  - a) Spigelian hernia
  - b) Internal Visceral hernia
  - c) Grynfeltt's hernia
  - d) Big hernia
  
- 3) Which muscle crosses the common carotid proximally?
  - a) Superior thyroidal
  - b) Omohyoid
  - c) Facial
  - d) Digastric

- 4) How often does ultrasound detect cholelithiasis?
- Never
  - 20% of the time
  - More than 90% of the time
  - 50% of the time
- 5) What is proper care of tissues and good assisting?
- Knowing the differences in handling skin, bowel, fascia
  - Helping pass instruments
  - Not washing op site
  - Talking

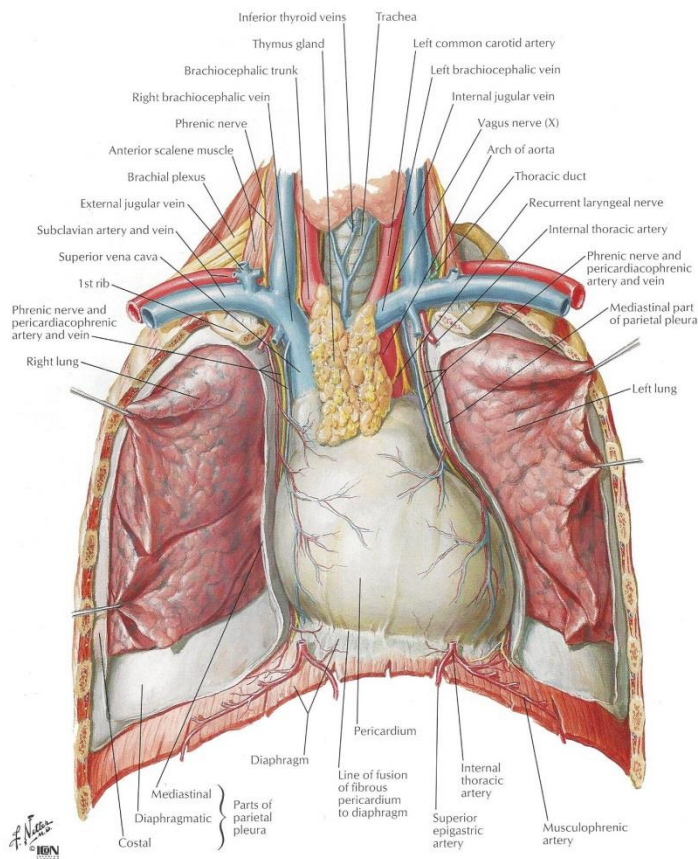
Summary: Note that detailed general surgery anatomy questions using structures shown in Netter's (ref.1) are in other sections.

## 11. ANATOMY- HEART IN SITU

Suggestions: To study for this section, review Netter (ref.1) plate number 207, or any Netter's edition that includes the plate for Heart in Situ. If you are proficient in hearts, then do not over study. If you do not do hearts, then indeed, review all in detail of Netter's (ref.1) plate 207. Anatomy only.

Know all detailed anatomy as is shown on this plate. Anatomy only. Each question has four answers with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### Heart In Situ





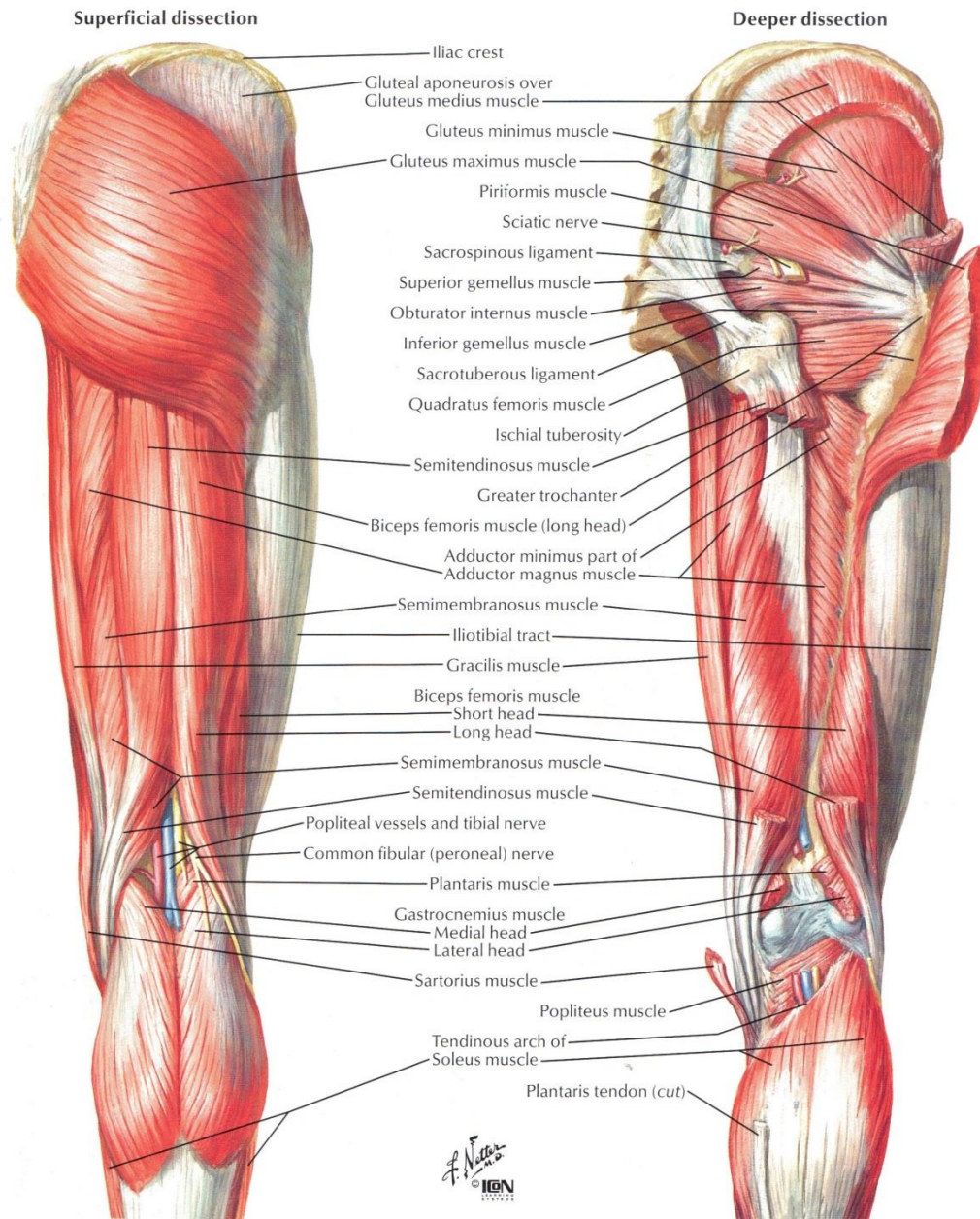
## 12. ANATOMY-MUSCLES of the HIP and THIGH: POSTERIOR VIEW

Suggestions: To study for this section, review Netter (ref.1) plate 477, or any Netter's edition that includes the plate for Muscle of the Hip and Thigh: Posterior view). This section is, indeed, orthopedic surgery service anatomy. Posterior view of hip and thigh. Muscles in detail.

Know all detailed anatomy as is shown on this plate. Each question has four answers with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### *Muscles of Hip and Thigh: Posterior Views*

FOR PIRIFORMIS AND OBTURATOR INTERNUS SEE ALSO PLATES 343, 344; FOR OBTURATOR EXTERNUS SEE PLATE 483



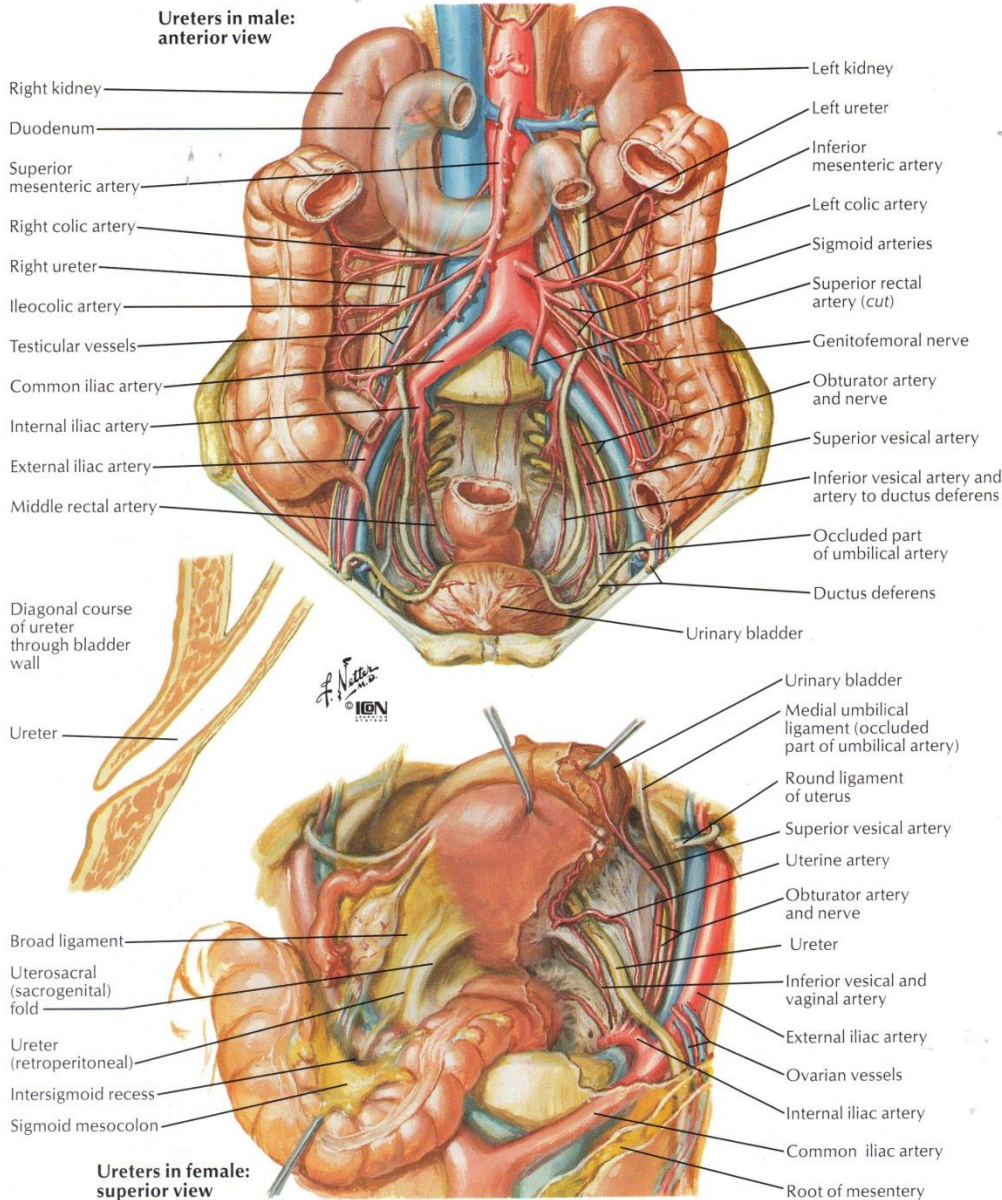
### 13. ANATOMY-URETERS

Suggestions: This section is detailed anatomy. To study for this section, review Netter's (ref.1) plate number 327, or any Netter's edition that includes the plate Ureters.

Know all detailed anatomy as is shown on this plate. Each question has four answers with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

#### Ureters

SEE ALSO PLATES 349, 350, 354



#### **14. PHYSIOLOGY-Organ Systems**

Suggestions: To study for this section, remember your training and review Surgical Recall (ref.3) chapter 13, 19, 20, 27, 50, 58.

##### **SAMPLE QUESTION:**

- 1) What is Cushing's disease?
  - a) Staphylococcus
  - b) Active PHP in PVR
  - c) Cushing's Syndrome covered by excess of ACTH by anterior pituitary
  - d) Superficial infection of the breast

Summary: This section is included to insure a well-balanced exam.

#### **15. PHYSIOLOGY-BLOOD**

Suggestions: To study for this section, review Surgical Recall (ref.3) chapter 14.

##### **SAMPLE QUESTION:**

- 1) What electrolyte is most likely to fall with the infusion of stored blood?
  - a) Ionized Ca; the citrate preservative binds serum calcium
  - b) Hbg
  - c) K<sup>+</sup>
  - d) Factor VIII

Summary: This section requires that you have appropriate knowledge and training in chemistry and physiology.

#### **16. PHARMACOLOGY**

Suggestions: To study for this section, use your training and education, and review Surgical Recall (ref.3) chapters 13, 16, and 25.

##### **SAMPLE QUESTION:**

- 1) What do first-, second-, third-, generation cephalosporin refer to in regard to spectrum?
  - a) Gram negative activity
  - b) Atelectasis
  - c) Long term coagulation
  - d) Short term analgesia

Summary: A working knowledge of pharmacology is important.

#### **17. PHYSIOLOGY-ELECTROLYTES AND VOLUME REPLACEMENT**

Suggestions: To study for this section, review chapters 13, 20, and 25 of Surgical Recall (ref.3).

##### **SAMPLE QUESTION:**

1. What is a bolus?
  - a) A blood clot
  - b) A volume of fluid given IV in rapid manner
  - c) Slow injections
  - d) Fatty tumor

Summary: The properly trained surgical assistant should have knowledge and training in this area.

## 18. MEDICAL TERMINOLOGY

Suggestions: Medical terminology section includes questions related to Orthopedics, general medicine, General Surgery, physiology, embryology, anatomy, regional anatomy, surface anatomy, microbiology, cardiology, indications and contraindications for surgical procedures, , positioning the patient for surgery, anesthesia, surgical assisting, and medical and scientific terms! To study for this large section review Surgical Recall (ref.3) chapters 2, 3, 7, 8, 9, 12, 15, 17, 23, 25, 28 58 and those services mentioned here. Most of the chapters referenced here are short.

### SAMPLE QUESTIONS:

- 1) The synonym for side is?
  - a) Hetero
  - b) Lateral
  - c) Neuroblast
  - d) Medial
  
- 2) What is the most common indication for surgery with Crohn's disease?
  - a) ETOH
  - b) Small bowel obstruction (SBO)
  - c) Sigmoid volvulus
  - d) Tear of the spleen
  
- 3) What is Calot's node?
  - a) Cantlie's line
  - b) Lymph node found in Calot's triangle
  - c) Ilioinguinal nerve node
  - d) Node in heart
  
- 4) What is Atelectasis?
  - a) RPH
  - b) Calf pain
  - c) V-C scan
  - d) Collapse of the alveoli

## 19. ASEPSIS and MICROBIOLOGY

Suggestions: To study for this section, review Surgical Recall (ref.3) chapter 21, 22, 23, and 58.

### SAMPLE QUESTION:

- 1) What diagnostic tests are used for urinary tract infections (IRI)?
  - a) Urinalysis, culture, urine microscopy for WBC
  - b) Surgery
  - c) CTX
  - d) Central lines

Summary: It is important that you have a solid foundation in Asepsis and Microbiology

## 20. OBSTETRICS and GYNOCOLGY

Suggestions: Review Alexander's (ref.2) pages 497, 498, and 513. (If you cannot obtain this particular edition of Alexander's, please study the chapter(s) on Obstetrics and Gynecology

### SAMPLE QUESTION:

- 1) What ligament is not involved with the uterus?
  - a) Uterosacral
  - b) Cardinal
  - c) Broad
  - d) Lateral collateral

## 21. UROLOGY

Suggestions: Urology is very important in human physiology. The formation of urine is very critical to health. However, many procedures are done endoscopically. To study for this section, review Surgical Recall (ref.3) chapter 68.

### SAMPLE QUESTION:

- 1) What is Uysuria?
  - a) Urination more than usual
  - b) Urinating exactly 6 times a day
  - c) Varicocele
  - d) Painful urination

Summary: Also refer to URETTERS section of this Study Guide.

## 22. NEUROSURGERY-CRANIAL

Suggestions: To study for this section, review Surgical Recall (ref.3) chapter 67. Neurosurgery is a very specialized service.

### SAMPLE QUESTION:

- 1) What is intracerebral hemorrhage?
  - a) Bleeding into the spinal area
  - b) Cranial bone fissure
  - c) Spinal epidural abscess
  - d) Bleeding into the brain parenchyma

## 23. ENT

Suggestions: ENT is a very specialized service. However, many assistants are only called for head and neck procedures. Some of this service includes dental, oral, and facial surgery. To study for this section, review the section Thyroid Gland: Anterior view, plus review chapter 62 of Surgical Recall (ref.3)

### SAMPLE QUESTION:

- 1) What is a LeFort II?
  - a) Middle ear type II infection
  - b) Same as LaFort I
  - c) Tietze's syndrome
  - d) Fracture through frontal process of maxilla, orbital floor, and pterygoid plate

## 24. TRAUMA

Suggestions: Trauma is a very involved service with GS, VS, transplant, Ortho, Neuro, cardiothoracic, and more. However most "Trauma" surgeons are GS/VS and have many residents and fellows. To study for this section review Surgical Recall (ref.3) chapters 31 and 58 and review in Alexander's (ref.2) page 1346.

### SAMPLE QUESTION:

- 1) What is the treatment for minor pancreatic injury?
  - a) Thoracic incisions
  - b) Open resection
  - c) Closed resection
  - d) Drainage ....., JP

Summary: If you are lucky to be a part of a trauma service, enjoy!

## 25. LEGAL, ETHICAL, SAFETY

Suggestions: To study for this section, review Alexander's (ref.2) (If you cannot obtain this particular edition of Alexander's, please study the chapter(s) on Legal, Ethical and Safety) on these issues and in Surgical Recall (ref.3) chapter 12.

### SAMPLE QUESTION:

- 1) Who is captain of the ship?
  - a) Chief of surgery
  - b) RN in charge
  - c) Operating surgeon
  - d) DON

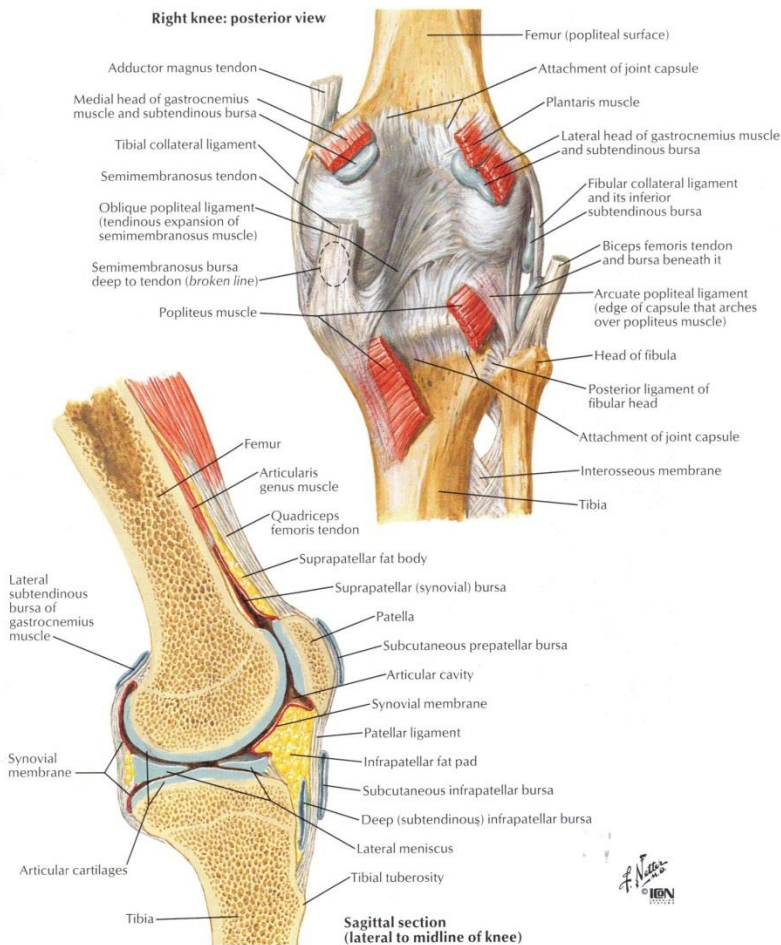
## 26. ANATOMY-KNEE: Posterior and Sagittal

Suggestions: Note that this section is detailed anatomy of the Knee, but is posterior and sagittal.

To study for this section, review Netter's (ref.1) plate number 493, or any Netter's edition that includes the plate for Knee: Posterior and Sagittal. Orthopedic surgical anatomy is involved.

Know all detailed anatomy as is shown on this plate. Each question has four answers with only one most correct. As is with most of the CSA exam, the most correct answer is about surgical anatomy. Surgical anatomy is such anatomy identified, step by step, in a surgical procedure. EXAMPLE: the best answer for an important nerve to be avoided in the next layer of dissection.

### *Knee: Posterior and Sagittal Views*



## SUMMARY of NSAA CSA EXAM STUDY GUIDE

**SURGICAL ANATOMY:** The role of the Surgical Assistant requires extensive knowledge of Surgical Anatomy. This exam reflects the importance of that knowledge.

Surgery is a “Hands On” art with science included. You have had hands on training that you have documented to NCCSA. The CSA exam is a test of some of that training.

The CSA has been recognized as the preferred Surgical Assistant Certification since the 1970’s. Be proud that you have been selected to sit for the CSA exam.

### REFERENCES

Reference 1 *“Atlas of Human Anatomy”* 2002, 3<sup>rd</sup> Edition, Frank H. Netter, MD, Saunders ISBN 10: 1929007116

Reference 2 *“Alexander’s Care of the Patient in Surgery”*, 2003, 12<sup>th</sup> Edition, Mosby ISBN 0323016227

Reference 3 *“Surgical Recall”* 1998, 2nd Edition, Dr. L. H. Blackbourne, MD, Lippincott ISBN-10: 0683301020

Reference 4 *“Campbell’s Operative Orthopaedics”*, 1987, 7<sup>th</sup> Edition, Mosby ISBN 0801610656

Reference 5 *“Atlas of Surgical Operations”*, 2010, 9<sup>th</sup> Edition, Zollinger, (Repair of Indirect Inguinal Hernia), 9<sup>th</sup> Ed. ISBN 0071602267.

### Sample Question Answers:

Section	Description	Section	Description
5	Cardiac & Peripheral Vascular and Thoracic	16	Pharmacology
	1)   b		1)   b
	2)   a	17	Physiology - Electrolytes
	3)   b		1)   b
6	Orthopedic Surgery	18	Medical Terminology
	1)   c		1)   b
	2)   a		2)   b
	3)   b		3)   b
	4)   b		4)   d
8	Physiology -Wound Healing	19	Asepsis and Microbiology
	1)   d		1)   a
9	Physiology - Lab Values	20	Obstetrics and GYN
	1)   b		1)   d
10	General Surgery	21	Urology
	1)   b		1)   d
	2)   a	22	Neurosurgery - Cranial
	3)   b		1)   d
	4)   c	23	ENT
	5)   a		1)   d
14	Physiology -Organ Systems	24	Trauma
	1)   c		1)   d
15	Physiology -Blood	26	Legal, Ethics & Safety
	1)   a		1)   c