

Thea just started up running again. She is having problems with inversion of her right ankle. Which of the following structures could possibly be a problem.

- a. Lateral malleolus
- b. Medial malleolus**
- c. Fibula
- d. Calcaneofibular ligament
- e. Talus bone

Steve was playing catch in the backyard with his brother without a glove on. He knocked his left fourth digit out of place at the place where the metacarpal meets the proximal phalange. What type of joint did he injure?

- a. Fibrous
- b. Hinge
- c. Saddle
- d. Condylloid**
- e. Pivot

Which of the following carries deoxygenated blood?

- a. Brachial Artery
- b. Femoral Artery
- c. Pulmonary Artery**
- d. Pulmonary Vein
- e. Descending branch of the aorta

After a day of bouldering, Cliff is unable to press his shoulder blade towards his spine. Which nerve is most likely impinged?

- a. Dorsal Scapular nerve**
- b. Accessory nerve
- c. Thoracodorsal nerve
- d. Anterior rami of lower cervical nerves
- e. Posterior rami of lower cervical nerves

After being impaled by a piece of his car during an accident, Jim no longer has the ability to use the superficial muscle that covers the majority of the inferior part of his back. Which of the following would Jim not be able to do?

- a. Elevate Scapula
- b. Flex humerus
- c. Extend humerus**
- d. Depress ribs
- e. Abduct humerus

Which of the following muscles would arise from the hypomere?

- a. Splenius Capitis

- b. Rhomboid major**
- c. Intertransversari
- d. Levatores costarum
- e. Multifidus

While looking over you day, your preceptor tells you that Edna, a 89 year old patient with osteoporosis will be coming in for her 6 month checkup. He tells you that she has an abnormal posterior curvature to her spine and asks which one of these would you expect to see?

- a. Excessive Cervical Lordosis
- b. Excessive Thoracic Kyphosis**
- c. Excessive lumbar lordosis
- d. Excessive Sacrococcygeal Kyphosis
- e. Contralateral Scoliosis

A patient presents to your office with complaints of weak flexion of the forearm and fingers. They are unable to feel when you touch their pinky. Before running any tests, what is your differential diagnosis?

- a. Damage to the flexor pollicis
- b. Fracture of the Ulna
- c. Damage to the Radial nerve
- d. Herniated C7/T1 disc**
- e. Herniated C5/C6 disc

Deficits of sensation along the fifth manual digit progressing over time indicate a slipped disc at which intervertebral joint

- a. C4/C5
- b. C7/T1**
- c. T3/T4
- d. T12/L1
- e. L4/L5

## 1 - Anatominamedical Terminology and Overview of Bodily Systems

Which of the following planes would best be used to split the body into cranial and caudal halves?

- A. Sagittal
- B. Median
- C. Coronal
- D. Transverse**
- E. Frontal

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

With the body in anatomical position which terms could best be used to describe the relationship of the phalanges of the hand in relation to olecranon process of the ulna?

- A. Proximal
- B. Deep
- C. Distal**
- D. Inferior
- E. Palmar

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

A 22 year old female patient presents to the ED by ambulance following a car accident. She complains of pain in both her right knee and right shoulder. What term would best be used to describe the relationship of the sites of her pain?

- A. Unilateral
- B. Bilateral
- C. Ipsilateral**
- D. Contralateral
- E. Multilateral

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Extension and flexion are commonly referred to as movements in the sagittal plane around a transverse axis. Extension is usually in a posterior direction and flexion in an anterior direction. Movement in which joint is an exception to this rule?

- A. Neck
- B. Knee**
- C. Elbow
- D. Hip
- E. Shoulder

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following systems is primarily responsible for the transport of various substances throughout the body?

- A. Circulatory**
- B. Alimentary
- C. Respiration
- D. Skeletal
- E. Integumentary

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

## 2 - Extrinsic Back Muscles

Which of the following is an extrinsic back muscle?

- A. Serratus posterior inferior
- B. Teres Minor
- C. Iliocostalis
- D. Rhomboid Major**
- E. Subscapularis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After a traumatic accident you image a patient to find that their Levator Scapulae has been torn from its insertion. Where has it been torn from?

- A. Transverse processes of upper cervical vertebrae
- B. Transverse processes of lower cervical vertebrae
- C. Spinous processes of upper cervical vertebrae
- D. Superior angle of the Scapula**
- E. Inferior angle of the Scapula

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After a clot forms in the dorsal scapular artery (deep branch of the transverse cervical artery) you begin to notice ischemic damage in which of the following muscles?

- A. Trapezius
- B. Splenius Capitis
- C. Rhomboid Minor**
- D. Deltoid
- E. Longissimus thoracis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After an upper back injury you notice your patient has trouble breathing and getting a full breath. Which nerve(s) was damaged in the injury?

- A. Thoracodorsal Nerve
- B. Axillary Nerve
- C. Anterior rami of T2-T5**

- D. Dorsal Scapular Nerve
- E. Dorsal Rami of lower Cervical Nerves

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

On a patient with asthma in an attempt to get a clear sound of their lungs you find the triangle of auscultation on their back. Which of the following makes up a boarder of the triangle?

- A. Medial border of the trapezius
- B. Superior border of the scapula
- C. Inferior border of the rhomboid major
- D. Lateral border of the latissimus dorsi
- E. **Medial border of the scapula**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

### 3 - Vertebral Column

Which of the following number is vertebrae is correct?

- A. 8 Cervical
- B. 11 Thoracic
- C. **5 Lumbar**
- D. 4 fused Sacral
- E. 1-2 unfused coccygeal

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Excessive bending of the thoracic vertebrae is “hunchback” is more properly called \_\_\_\_\_?

- F. **Severe kyphosis**
- G. Severe lordosis
- H. Scoliosis

- I. Spondylosis
- II. J. Spondylolisthesis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Thoracic vertebrae are easily identified by their \_\_\_\_\_?

- A. Transverse foramina
- B. **Costal facets**
- C. Large vertebral bodies

- D. Fusion to their superior and inferior vertebrae
- E. "Moose" like shape

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.*[/showhide]

One of the common symptoms of meningitis is the inability to turn one head or rotation. Which joint is responsible for this movement?

F. Atlantooccipital

G. **Atlantoaxial**

H. Atlantogeorgial

I. Zygapophyseal

J. Interspinous

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.*[/showhide]

The Vertebra Prominens is the superficial landmark created by the spinous process of which vertebrae?

K. C6

L. **C7**

M. C8

N. T1

O. T2

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.*[/showhide]

If the sclerotomal cells fail to develop correctly and close properly a pathology called \_\_\_\_\_ can occur.

P. Scoliosis

Q. Throckmorton syndrome

R. Herniation

S. **Spina bifida**

T. Spondylosis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.*[/showhide]

#### 4 - Intrinsic Back and Suboccipital Triangle

The intrinsic back muscles develop from which embryological layer?

A. Hypomere

B. Hypermere

C. **Epimere**

- D. Epomere
- E. Meremere

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following muscles attaches on the mastoid process?

- OO. Spinous capitis
- PP. **Longissimus capitis**
- QQ. Splenius cervicis
- RR. Rectus capitis posterior major
- SS. Obliquus capitis superior

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following intrinsic back muscles is innervated by more than just posterior rami?

- TT. Levatores costarum
- UU. Interspinalis
- VV. **Intertransverarii**
- WW. Semispinalis
- XX. Rotatores

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following muscles is NOT involved in the suboccipital triangle?

- YY. **Rectus capitis posterior minor**
- ZZ. Rectus capitis posterior major
- AAA. Obliquus capitis superior
- BBB. Obliquus capitis inferior
- CCC. Semispinalis capitis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following are needed to be diagnosed with a 3rd degree strain?

- DDD. Pain
- EEE. Weakness
- FFF. Loss of function
- GGG. **All of the above**
- HHH. None of the above

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

## 5 - Medical Imaging Technology

Which of the following tissues/substances would be the least radiopaque on an X-ray?

- A. **Air**
- B. Fat
- C. Muscle
- D. Bone
- E. Metal Implants

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

If an X-ray is over exposed, what does this mean?

- A. Not enough X-rays hit the film so it is too dark
- B. **Not enough X-rays hit the film so it is too light**
- C. It is the correct exposure
- D. Too many X-rays hit the film so it is too dark
- E. Too many X-rays hit the film so it is too light

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

Which of the following would be most appropriate to use to visualize a heart to assess for low ejection fraction?

- F. X-ray
- G. CT
- H. **Ultrasound**
- I. MRI
- J. PET scan

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

Which of the following would be most appropriate to use to visualize a soft tissue injury on a pregnant female?

- K. X-ray
- L. CT
- M. **Ultrasound**
- N. MRI

O. PET scan

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following would be most appropriate to use to visualize a growing tumor?

P. X-ray

Q. CT

R. Ultrasound

S. MRI

T. **PET scan**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

## 6 - Histology Methods

What is the major advantage for physical fixation of tissues over chemical fixation for light microscopy?

A. Ease

**B. Time**

C. Better preservation

D. Increased magnification

E. Decreased artifacts

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Place the following in the correct order of chemical fixation of tissues specimens.

1. Embedding

2. Fixation

3. Sectioning

4. Infiltration

5. Clearing

6. Dehydration

A. 3, 4, 5, 1, 6, 2

**B. 2, 6, 5, 4, 1, 3**

C. 2, 6, 1, 4, 5, 3

D. 2, 6, 1, 5, 4, 3

E. 2, 4, 5, 6, 1, 3

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Staining a specimen with Hematoxylin will turn \_\_\_\_\_ blue and \_\_\_\_\_ red.

- F. Carbs, proteins
- G. Collagen, phospholipids
- H. **Nucleic acids, proteins**
- I. Lipids, nucleic acids
- J. Proteins, nucleic acids

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.* [/showhide]

Which of the following stains would best be used to visualize carbohydrates?

- A. Hematoxylin
- B. Eosin
- C. **Periodic Acid-Schiff (PAS)**
- D. Toluidine Blue
- E. Masson's Trichrome

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.* [/showhide]

Which of the following means the minimum distance can be apart and still be viewed as two separate images?

- A. Magnification
- B. **Resolution**
- C. Contrast
- D. Refractive Index
- E. Numerical Aperture

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.* [/showhide]

## 7 - Spinal Canal Contents

The two enlargements of the spinal cord are the

- A. Cervical and thoracic
- B. Thoracic and lumbar
- C. Lumbar and sacral
- D. **Cervical and lumbar**
- E. Thoracic and sacral

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

*Lecture Name.* [/showhide]

In regards to the spinal nerve, the dorsal root contains \_\_\_\_\_ fibers and the ventral root contains \_\_\_\_\_ fibers

- F. **Sensory, motor**
- G. Motor, sensory
- H. Mixed, mixed
- I. Sensory, mixed
- J. Motor, mixed

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After suspecting a patient has meningitis, you lay the patient in a lateral decubitus position for a lumbar puncture between the L3 and L4 spinous processes into the lumbar cistern. After examination of the CSF you notice the appearance is clear, it is negative for xanthochromia, it has elevated WBCs (mostly lymphocytes), and normal levels of glucose. What is the most accurate description of the patients condition?

- K. Myelomeningocele
- L. Bacterial meningitis
- M. **Viral meningitis**
- N. Subarachnoid Hemorrhage
- O. Spondylolisthesis

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

The most popular choice for childbirth anesthetic is

- P. Spinal injection into the lumbar cistern
- Q. Thoracic epidural
- R. Lumbar epidural
- S. Sacral epidural
- T. **Caudal epidural**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

The roots of spinal nerves are directly supplied by which of the following?

- U. Vertebral arteries
- V. Anterior longitudinal artery
- W. Posterior longitudinal arteries
- X. Anterior segmental arteries
- Y. **Radicular arteries**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

## 8 - Introduction to Ultrasound

Which term best describes the reflection and propagation of sound waves through tissues?

- A. **Acoustic impedance**
- B. Piezoelectric
- C. Wavelength echoes
- D. Refraction index
- E. Resolution

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

In an attempt to visualize a growing fetus within a uterus, you would choose to use a \_\_\_\_\_ transducer that produces a \_\_\_\_\_ frequency.

- F. Linear, higher
- G. Linear, lower
- H. Curved, higher
- I. **Curved, lower**
- J. Phased, higher

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

Which of the following transducer movements would best be used in an attempt to differentiate between an artery and a vein?

- K. Sliding
- L. Tilting
- M. Rocking
- N. Rotation
- O. **Compression**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

In a B-mode ultrasound, glands will appear as

- P. Anechoic
- Q. Hypoechoic
- R. Hyperechoic
- S. **Isoechoic**

T. Honeycomb

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

In a B-mode ultrasound, hyaline cartilage will appear as

U. Anechoic

V. **Hypoechoic**

W. Hyperechoic

X. Isoechoic

Y. Honeycomb

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

## 9 - Shoulder Region

The superior transverse ligament spans the suprascapular notch. Which structure runs above the ligament and which run below it?

A. Suprascapular nerve, suprascapular artery

B. Dorsal scapular artery, dorsal scapular nerve

C. Subscapular artery, subscapular nerve

D. Circumflex scapular artery, suprascapular nerve

E. **Suprascapular artery, suprascapular nerve**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

Which of the following acromion morphologies is associated with an increased incidence of shoulder impingement?

A. Flat

B. Curved

C. **Hooked**

D. Convex

E. Longitudinal

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

Which of the following muscles does NOT attach to the greater tubercle of the humerus?

A. Supraspinatus

B. Infraspinatus

C. **Subscapularis**

- D. Teres Minor
- E. They all attach to the greater tubercle of the humerus

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

A patient presents with difficulty abducting their arm. They are able to slightly but not after a certain point. Which nerve is likely damaged?

- A. Upper Subscapular nerve
- B. Lower Subscapular nerve
- C. Suprascapular Nerve
- D. Dorsal Scapular Nerve
- E. **Axillary Nerve**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

A patient presents to the ED with severe pain in their middle aspect of their humerus after falling off their bike. An x-ray reveals that they suffered a spiral fracture along the shaft of the humerus. Which of the following nerves would you be concerned about also being damaged?

- A. Axillary
- B. **Radial**
- C. Ulnar
- D. Median
- E. Musculocutaneous

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

Which of the following muscles is the most commonly injured during repetitive use of the upper limb above the horizontal plane?

- A. Deltoid
- B. Biceps Brachii
- C. Trapezius
- D. **Supraspinatus**
- E. Teres Minor

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

## 10 - Pectoral Region

If a patient presents with a tear in their pectoralis major, what action should they have greater difficulty performing on exam?

- A. **Medial Rotation**
- B. Lateral Rotation
- C. Flexion
- D. Extension
- E. Abduction

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

The pectoralis minor is pierced by which of the following nerves?

- A. medial pectoral nerve
- B. **lateral pectoral nerve**
- C. upper pectoral nerve
- D. lower pectoral nerve
- E. long pectoral nerve

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

A patient presents with a “winged scapula”, which nerve has been damaged?

- A. medial pectoral nerve
- B. lateral pectoral nerve
- C. axillary nerve
- D. **long thoracic nerve**
- E. lower subscapular nerve

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

The lateral mammary branches most directly originate from which of the following arteries?

- A. Axillary artery
- B. **lateral thoracic artery**
- C. internal thoracic artery
- D. posterior intercostal artery
- E. Superior thoracic artery

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

A patient with breast cancer is most likely to develop the cancer in which quadrant of the breast and is most likely to spread where next?

- A. Superomedial, axillary
- B. Superolateral, subscapular
- C. **Superolateral, axillary**
- D. Inferolateral, subscapular
- E. Superomedial, pectoral

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

## 11 - Intro to Human Development

The first hematopoietic organ of a human is which of the following?

- A. Liver
- B. Spleen
- C. **Umbilical vesicle (yolk sac)**
- D. Red bone marrow
- E. Yellow bone marrow

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After completion of S phase in Interphase, a cell is said to have which of the following pertaining to its chromosomes?

- A. haploid, 2N
- B. haploid, 4N
- C. diploid, 1N
- D. **diploid, 2N**
- E. diploid, 4N

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

An apparent male patient presents with infertility issues and gynecomastia. After running a karyotype it is discovered that the patient has Klinefelter Syndrome. What was the cause of this disease?

- A. Nondisjunction of autosomes
- B. **Nondisjunction of sex chromosomes**
- C. Unequal crossing over
- D. failure of X chromosome inactivation
- E. Deficiency in hypothalamic hormone production

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

There is an increase in the incidence of chromosome abnormalities to children born from mothers over the age of 35. One hypothesis to why this is, is that the female gametes remain in which phase of mitosis from birth till ovulation?

- A. **Prophase I**
- B. Prophase II
- C. Metaphase I
- D. Metaphase II
- E. Anaphase I

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

If primordial germ cells (PGCs) fail to migrate from the yolk sac to the region that will form the gonads and instead migrate to another area, what may form from these PGCs?

- A. Spina Bifida
- B. Additional gonads
- C. Nothing with develop
- D. Additional kidneys
- E. **Teratoma**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

## 12 - Cytoplasm

What possible chemicals can be used to fixate a specimen for electron microscopy?

- A. formalyn
- B. liquid nitrogen
- C. unpolymerized plastic
- D. **glutaraldehyde**
- E. Xylen

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

Which of the following organelles would be increased in cells that secrete a large amount of protein?

- A. **Rough Endoplasmic reticulum**
- B. Vesicles
- C. Lysosome
- D. Mitochondria
- E. Cytoskeleton

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following organelles would be increased in the liver?

- A. **Smooth Endoplasmic reticulum**
- B. Vesicles
- C. Lysosome
- D. Mitochondria
- E. Cytoskeleton

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following organelles are used to degrade extracellular structures and are increased in leukocytes?

- A. Rough Endoplasmic reticulum
- B. Vesicles
- C. **Lysosome**
- D. Mitochondria
- E. Cytoskeleton

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following organelles is responsible for cell shape and movement?

- A. Rough Endoplasmic reticulum
- B. Vesicles
- C. Lysosome
- D. Mitochondria
- E. **Cytoskeleton**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Which of the following organelles would be increased in virus infected cells?

- A. **Ribosomes**
- B. Vesicles
- C. Lysosome
- D. Mitochondria
- E. Cytoskeleton

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

### 13 - Axilla

Which of the axillary walls is NOT muscular?

- A. Anterior wall
- B. Posterior Wall
- C. Medial Wall
- D. **Lateral Wall**
- E. All 4 walls are muscular

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

A patient is stabbed in the upper right shoulder that caused the thoracoacromial trunk to sever. Which of the following muscles would not be affected.

- A. Pectoralis Major
- B. Pectoralis Minor
- C. Subclavius
- D. Deltoid
- E. **Serratus Anterior**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

Which of the following arteries is not included in the anastomosis that supplied the scapula?

- A. Dorsal Scapular Artery
- B. Suprascapular Artery
- C. Circumflex Scapular Artery
- D. Subscapular Artery
- E. **Lateral Thoracic Artery**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.* [/showhide]

What medical procedure is used to access the major venous system for long-term vascular access through the axillary artery?

- A. Lumbar Puncture
- B. Venous Graft
- C. Central Venous Catheterization
- D. Biopsy

- E. Standard intravenous placement

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

Which of the following axillary lymph node groups will receive lymph from all other axillary lymph node groups?

- A. **Apical**
- B. Central
- C. Pectoral
- D. Humeral
- E. Subscapular

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

#### 14 - Brachial Plexus

Which of the following numbers and features of the brachial plexus is wrong?

- A. 5 roots
- B. 3 Trunks
- C. **3 Divisions**
- D. 3 Cords
- E. 5 terminal Branches

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

Which of the following nerves is NOT one of the 4 supraclavicular branches?

- A. Dorsal Scapular
- B. Suprascapular
- C. **Subscapular**
- D. Nerve to the Subclavius
- E. Long Thoracic Nerve

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.

Lecture Name. [/showhide]

If C5 was severed which of the following nerves would continue to function unimpaired?

- A. Musculocutaneous
- B. Axillary
- C. Radial
- D. **Median**

- E. Lateral Pectoral

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

After a spiral fracture on the shaft of the humerus with concurrent nerve damage, which of the following actions would a person be unable to perform?

- A. flexion of the arm  
B. flexion of the forearm  
C. flexion of the hand  
D. extension of the arm  
E. **extension of the forearm**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

Sensory of which part of the upper limb is NOT provided by a nerve from the brachial plexus?

- A. medial aspect of hand  
B. lateral aspect of hand  
C. lateral aspect of forearm  
D. lateral aspect of arm  
E. **superior shoulder**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

## 15 - Arm and Cubital Fossa

Damage to the radial nerve distal to the radial groove with result in the inability or weakness to perform which of the following actions?

- A. flexion of the arm  
B. flexion of the forearm  
C. flexion of the wrist  
D. extension of the forearm  
E. **extension of the wrist**

[showhide type="Question#" more\_text="Reveal Answer" less\_text="Hide Answer" hidden="yes"] **Answer X.** Explanation.  
*Lecture Name.*[/showhide]

## 16 - Anterior Forearm

**17 - Nucleus**

**18 - Week 1 and 2 Embryology**