



Anatomical terminology



Objective:

By the end of this lecture, student should understand :

- The terms used to precisely locate one part of the body relative to another

DIRECTIONAL TERMS

Directional terms are used to **precisely locate one part of the body relative to another** and to **reduce length of explanations.**

DIRECTIONAL TERMS

1. Superior / Cephalic /
Cranial

2. Inferior / Caudal

3. Anterior / Ventral

4. Posterior / Dorsal

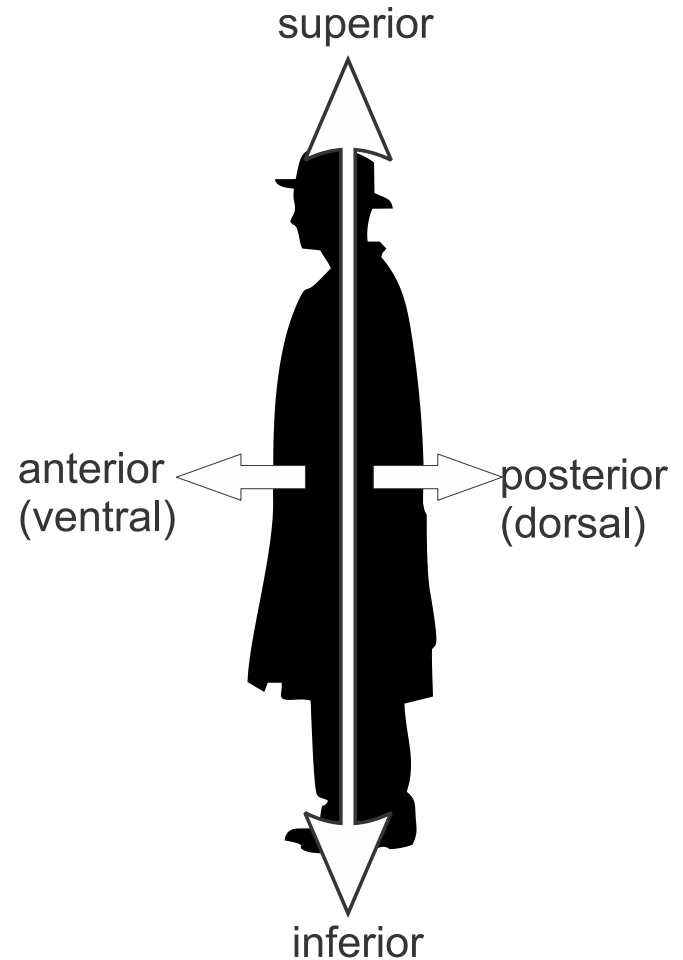
1. **Medial:** toward midline

2. **Lateral:** away from
midline

3. **Proximal:** near origin

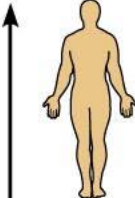
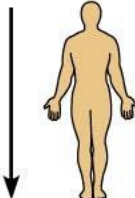
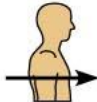
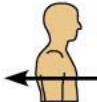
4. **Distal:** away from origin

| | |
|---------------------|---|
| superior | above; toward the head |
| inferior | below or in the direction away from the head |
| anterior or ventral | toward the front and away from the back of the body |
| posterior or dorsal | toward the back and away from the front of the body |



TABLE

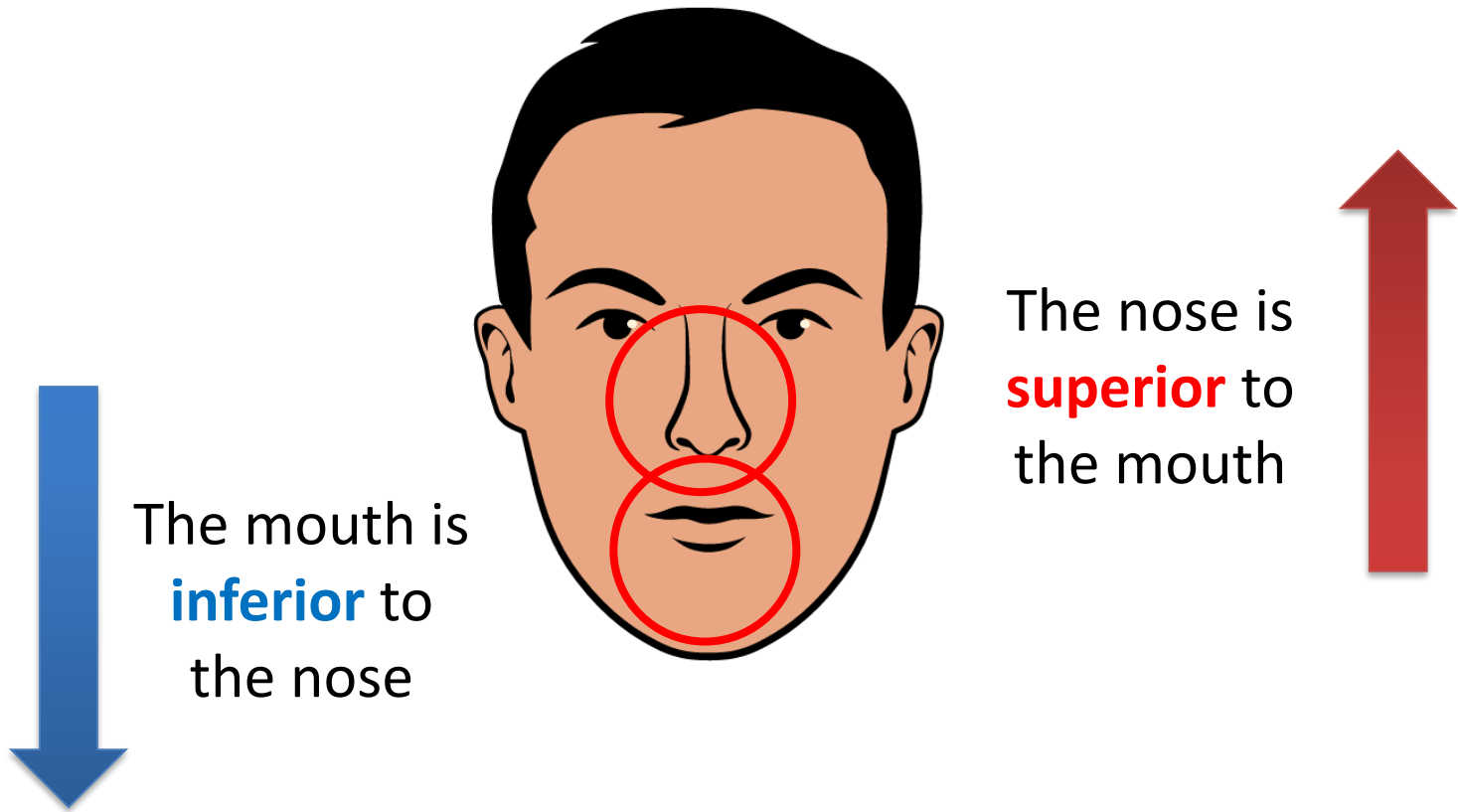
1.1 Orientation and Directional Terms

| Term | Definition | | Example |
|---------------------|---|--|---|
| Superior (cranial) | Toward the head end or upper part of a structure or the body; above |  | The head is superior to the abdomen. |
| Inferior (caudal) | Away from the head end or toward the lower part of a structure or the body; below | |  |
| Anterior (ventral)* | Toward or at the front of the body; in front of |  | The breastbone is anterior to the spine. |
| Posterior (dorsal)* | Toward or at the back of the body; behind |  | The heart is posterior to the breastbone. |

*Whereas the terms *ventral* and *anterior* are synonymous in humans, this is not the case in four-legged animals. *Ventral* specifically refers to the “belly” of a vertebrate animal and thus is the inferior surface of four-legged animals. Likewise,

although the dorsal and posterior surfaces are the same in humans, the term *dorsal* specifically refers to an animal’s back. Thus, the dorsal surface of four-legged animals is their superior surface.

Example

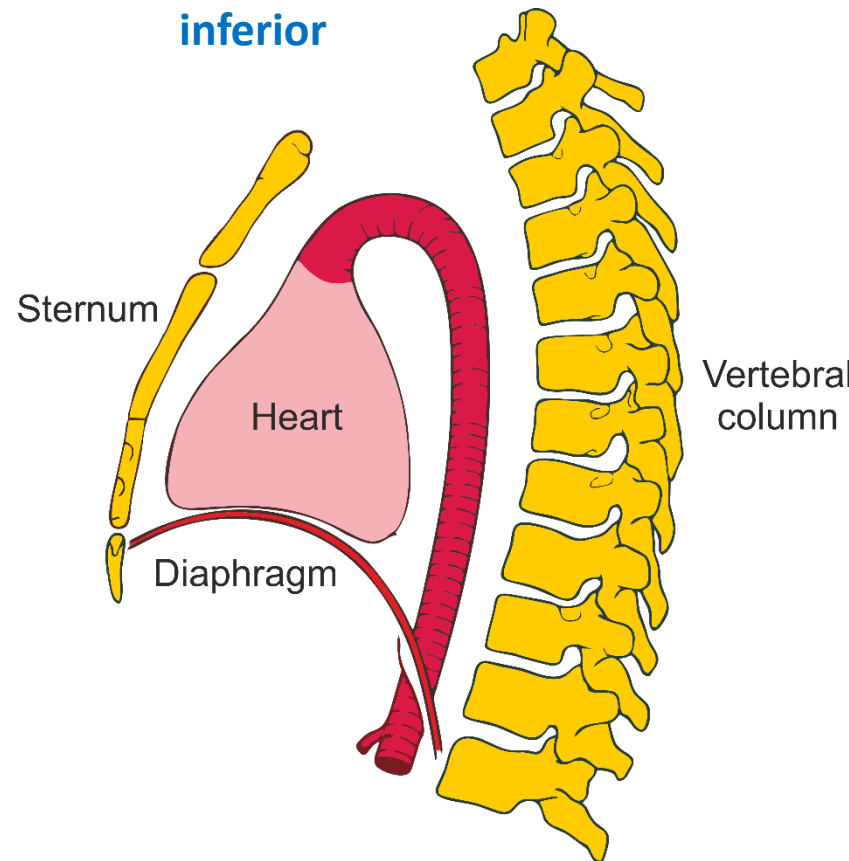
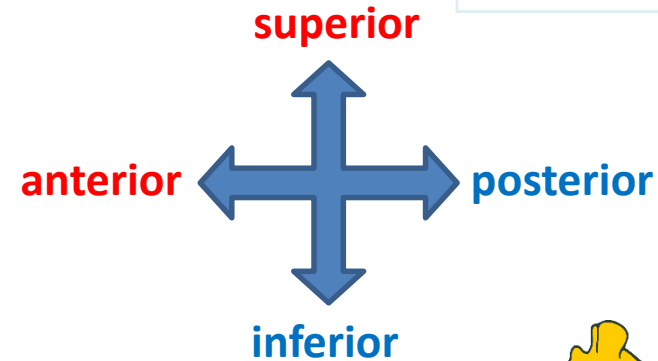


Example

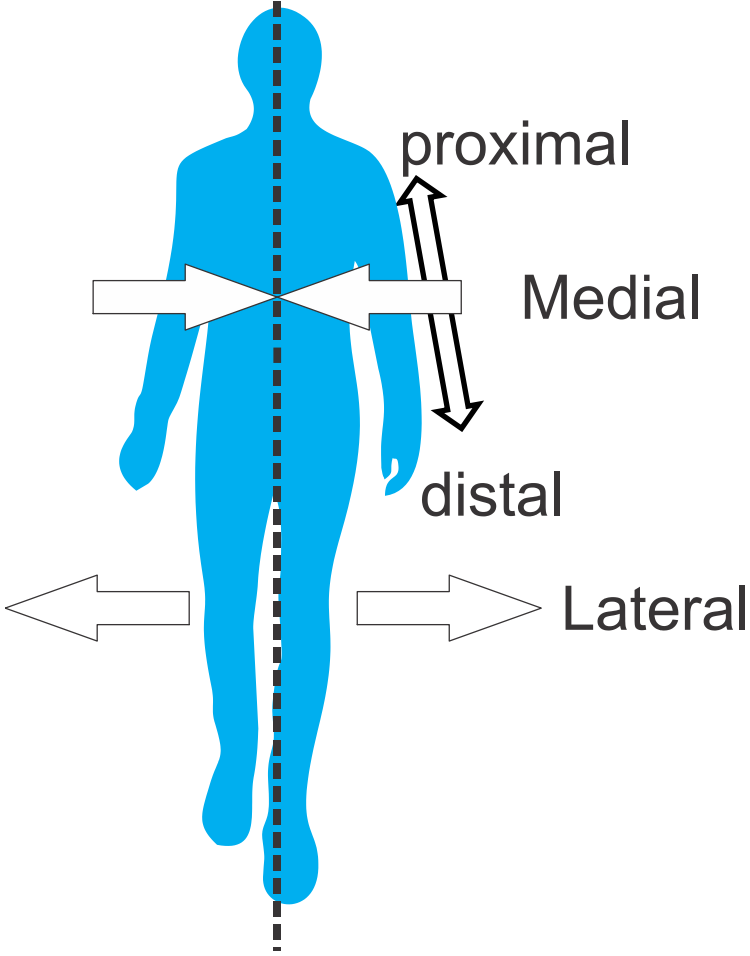
- The heart is **superior** ↑ to the diaphragm
- The diaphragm is **inferior** ↓ to the heart
- The sternum is **anterior** ← to the heart
- The heart is **posterior** → to the sternum

ABC

| | |
|------------------|---------------|
| heart | القلب |
| diaphragm | الحجاب الحاجز |
| sternum | عظمة القص |
| Vertebral column | العمود الفقري |



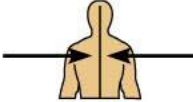
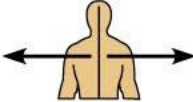
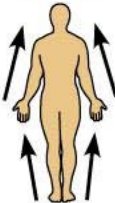

| | |
|----------|---|
| medial | toward the middle of the body |
| lateral | away from the middle of and toward the side of the body |
| proximal | toward the attachment point of a limb (arm or leg) |
| distal | away from the attachment point of a limb (arm or leg) |



TABLE

1.1

Orientation and Directional Terms

| Term | Definition | | Example |
|----------|---|--|-------------------------------------|
| Medial | Toward or at the midline of the body; on the inner side of |  | The heart is medial to the arm. |
| Lateral | Away from the midline of the body; on the outer side of |  | The arms are lateral to the chest. |
| Proximal | Closer to the origin of the body part or the point of attachment of a limb to the body trunk |  | The elbow is proximal to the wrist. |
| Distal | Farther from the origin of a body part or the point of attachment of a limb to the body trunk |  | The knee is distal to the thigh. |

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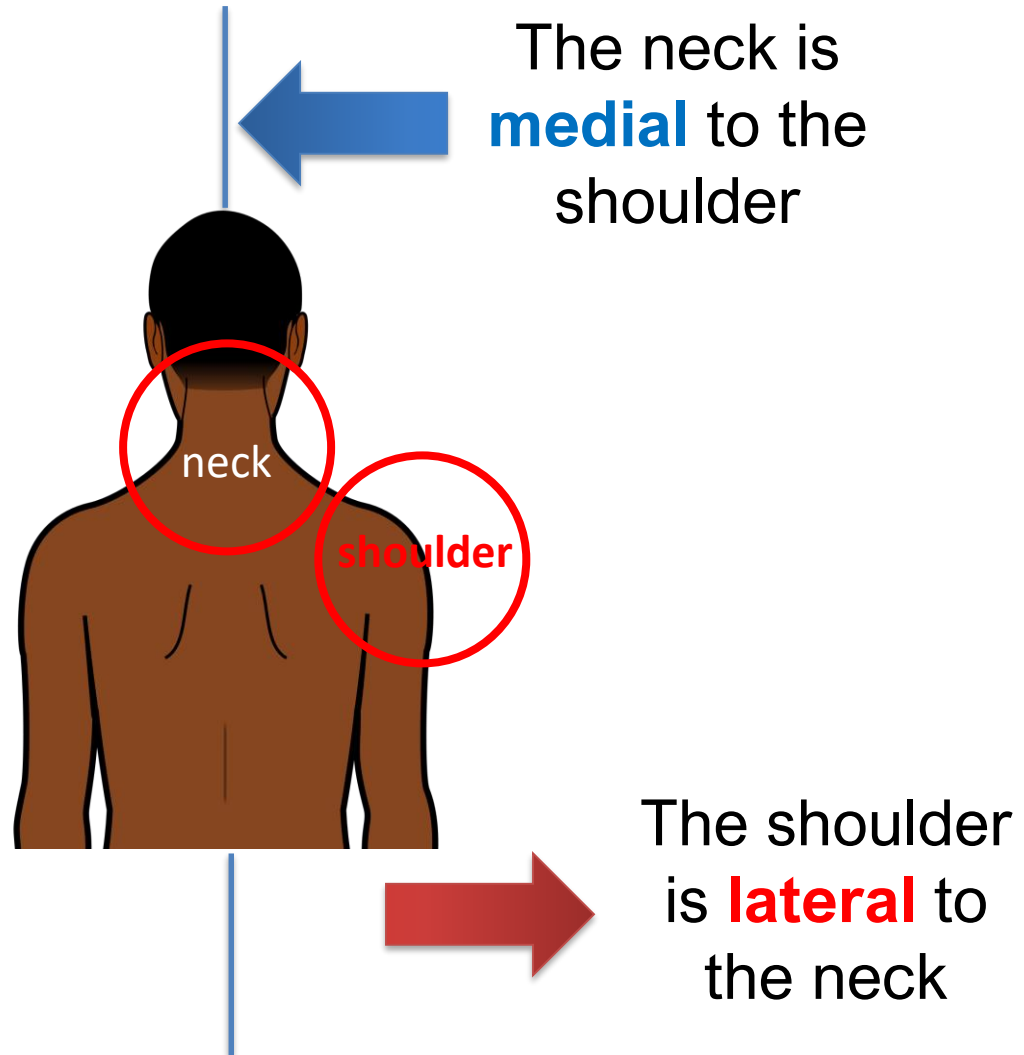
Example

The ankle is **distal** to the knee



The knee is **proximal** to the ankle

Example


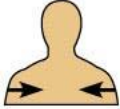




DIRECTIONAL TERMS

- ❖ Intermediate: between 2 points
 - ❖ Ipsilateral: same side
 - ❖ Contralateral: opposite side
1. Superficial(**External**) : toward surface
 2. Deep(**Internal**) : away from surface

TABLE

1.1 Orientation and Directional Terms

| Term | Definition | | Example |
|------------------------|---|---|--|
| Superficial (external) | Toward or at the body surface |  | The skin is superficial to the skeletal muscles. |
| Deep (internal) | Away from the body surface; more internal | |  |
| Ipsilateral | On the same side |  | The right hand and right foot are ipsilateral. |
| Contralateral | On opposite sides | |  |

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Thank
You!

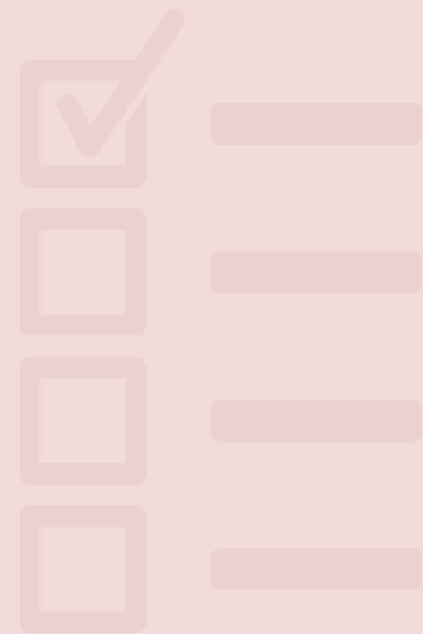
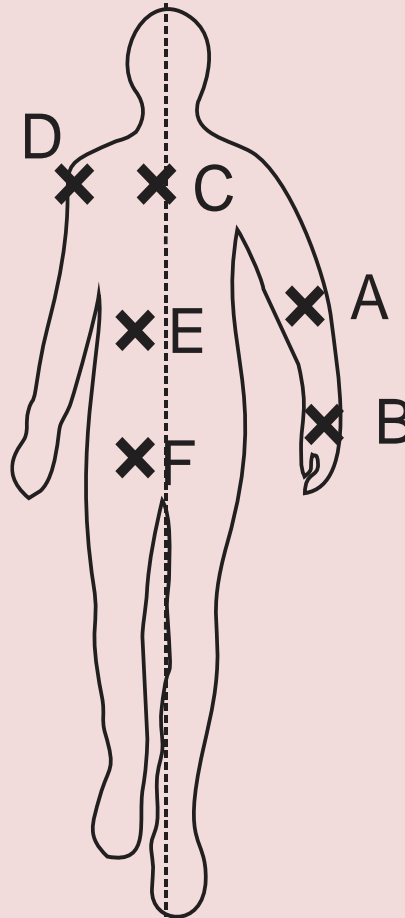


Complete the missing term

- The nose is _____ to the lips
- The ankle is _____ to the knee
- The skin is _____ to muscles
- The arm is _____ to the heart

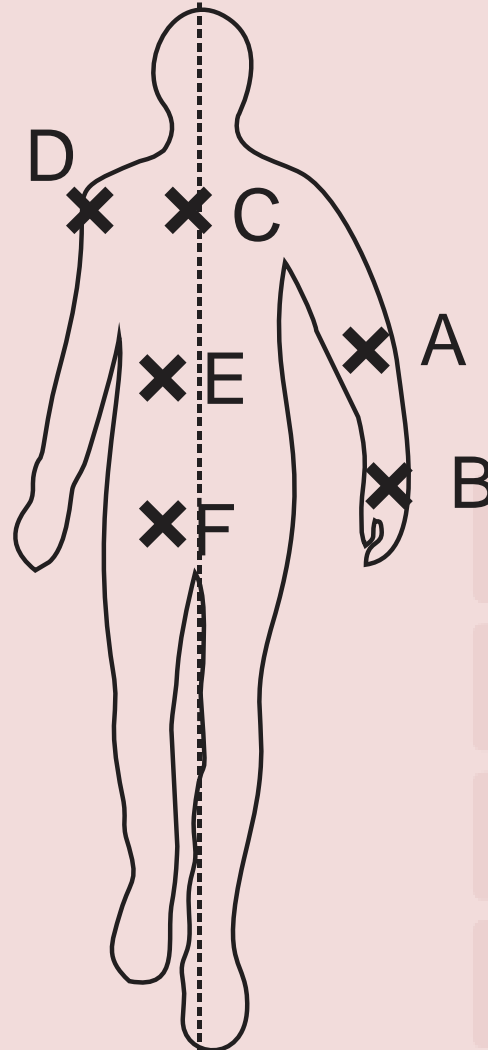
D is _____ to C

- A. medial
- B. lateral
- C. distal
- D. proximal
- E. superior
- F. inferior



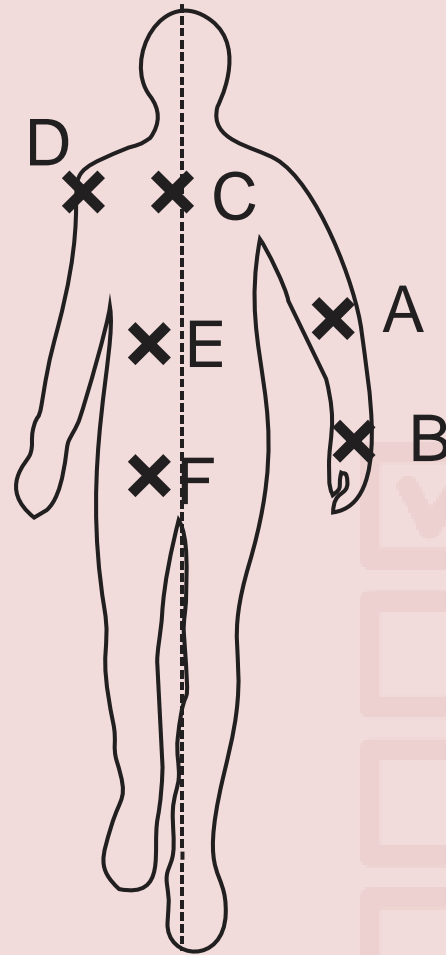
C is _____ to D

- A. medial
- B. lateral
- C. distal
- D. proximal
- E. superior
- F. inferior



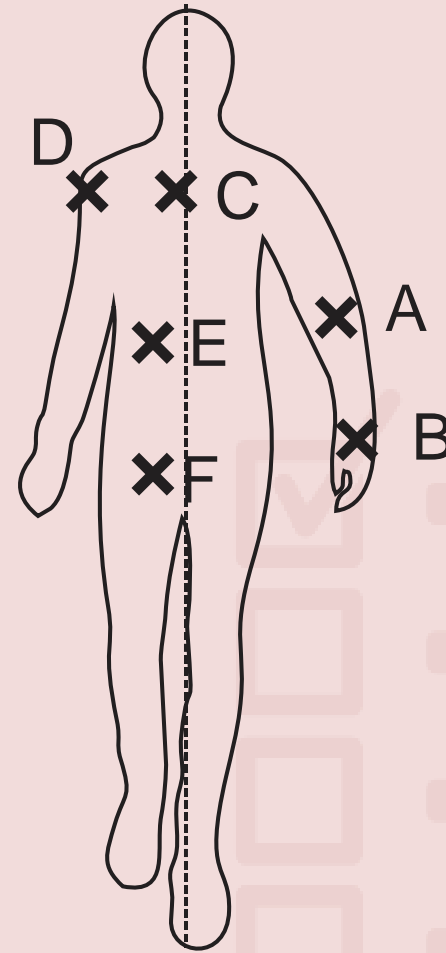
E is _____ to F

- A. medial
- B. lateral
- C. distal
- D. proximal
- E. superior
- F. inferior



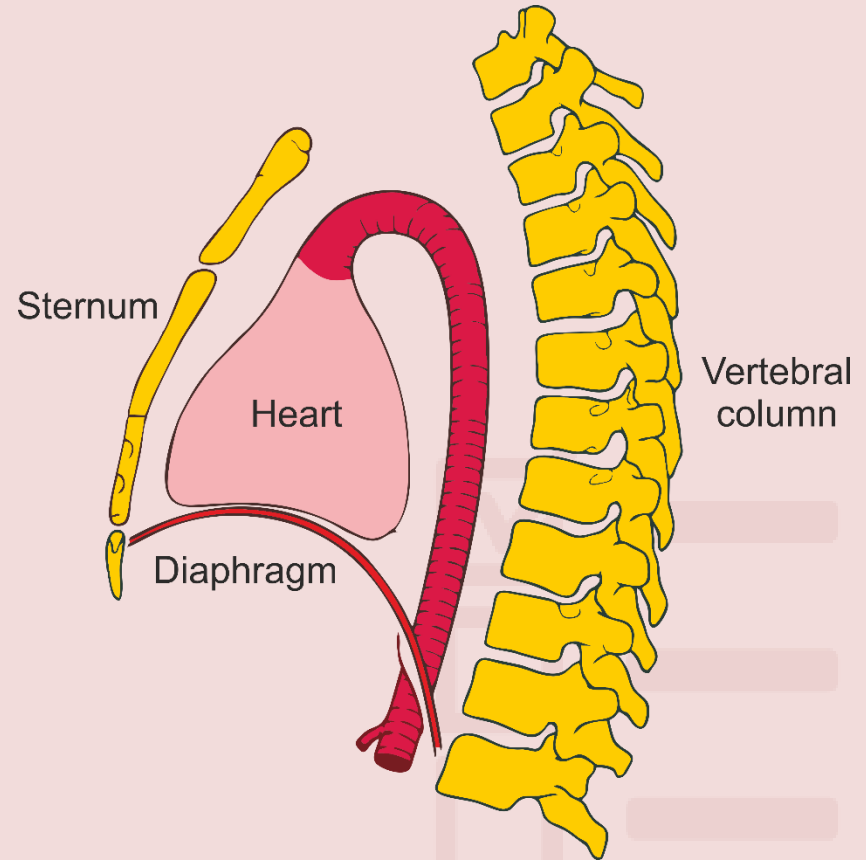
A is _____ to B

- A. medial
- B. lateral
- C. distal
- D. proximal
- E. superior
- F. inferior



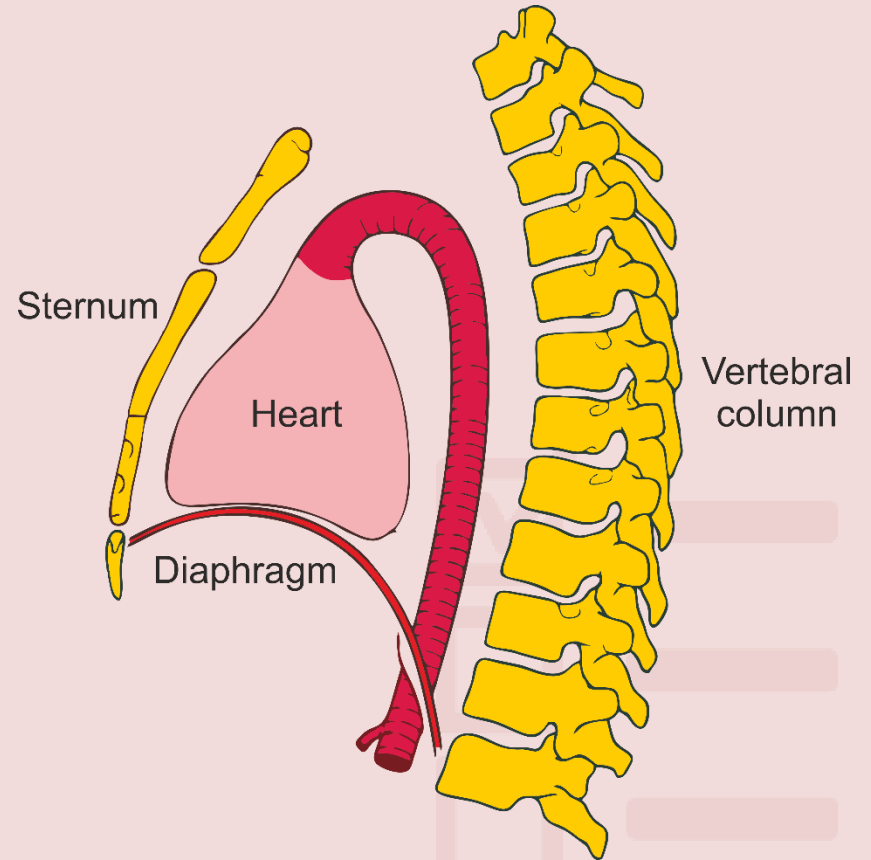
In this diagram, the heart is superior to

- A. Vertebral column
- B. Diaphragm
- C. Sternum
- D. Aorta



In this diagram, the heart is posterior to _____

- A. Vertebral column
- B. Diaphragm
- C. Sternum
- D. Aorta



In this diagram, the vertebral column is posterior to _____

- A. The heart
- B. The sternum
- C. The diaphragm
- D. A and B

