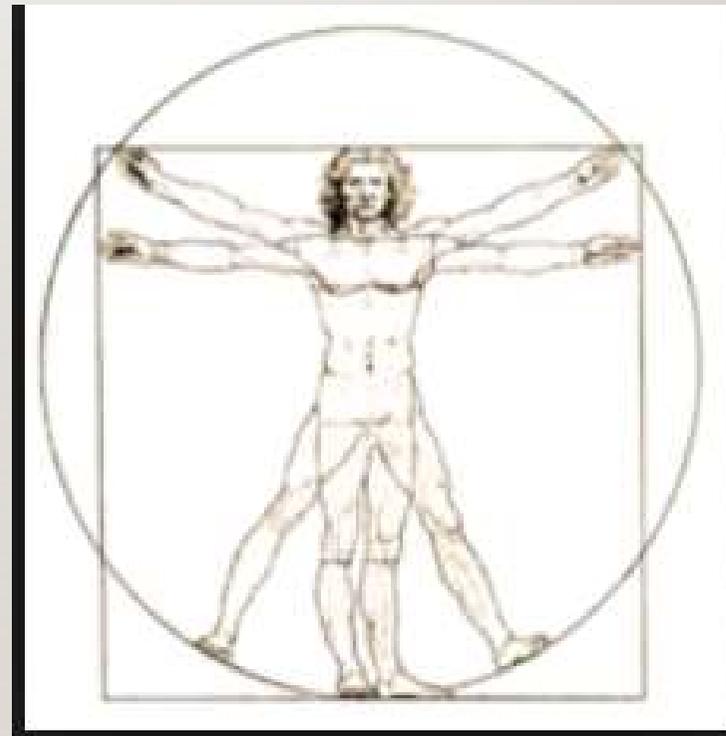


INTRODUCTION TO ANATOMY AND PHYSIOLOGY SEASON I EPISODE I

SMBE 2017

SEASON 1 EPISODE 1

MEDICAL TERMINOLOGY AND ANATOMICAL POSITION



SO WHY THE HECK WOULD WE WANT TO DO MEDICAL TERMINOLOGY AND ANATOMICAL POSITION FIRST?

- Because we need a common language to communicate about health topics
- Because saying that the electrodes are placed north, east, south and west just doesn't work



Because we need to start somewhere

MEDICAL TERMINOLOGY CAN'T KNOW THEM ALL

- Two major categories of medical terms:
 - Descriptive – describing shape, colour, size, function, etc,
 - cyanosis (
 - Eponyms - literally “putting a name upon”
 - honouring those who first discovered or described an anatomical structure or diagnosed a disease or first developed a medical instrument or procedure
 - fallopian tubes (Gabriello Fallopio) and eustachian tubes (Bartolommeo Eustachii)

MEDICAL TERM COMPONENTS

- **Word Root:** Fundamental meaning of a medical term. A term usually derived from a source language- Greek or Latin and it usually describes a body part.
- **Prefix:** Attached to beginning of a medical term to modify its meaning, by giving additional information about the location of an organ, the number of parts or time involved.
- **Suffix:** Attached to end of a medical term root word to add meaning, such as a condition, disease process or procedure.
- **Combining Vowel:** Used to ease pronunciation - usually an “o” (e, i, or u)

FOR EXAMPLE

Myocarditis

(prefix)

myo = muscle

(root)

card = heart

(suffix)

itis =

inflammation

ROOT WORD FOR HEART (CARDIO) DOESN'T CHANGE

PREFIX CHANGE:

SUFFIX CHANGE:

<u>myo</u> carditis	= muscle layer of heart inflamed	cardi <u>ologist</u>	= a physician specializing in the heart
<u>peri</u> carditis	= outer layer of heart inflamed	cardi <u>omyopathy</u>	= damage to heart muscle layer
<u>endo</u> carditis	= inner layer of heart inflamed	cardi <u>omegaly</u>	= enlargement of the heart

ROOTS

- Blood= haem or hem
- Blood Vessel= angi(o) (Greek Root) or vascul (Latin Root)
- Stomach= gastric
- Eye= ophthalm (Greek Root) or Ocul (Latin Root)
- Mouth (Latin Root)= Oro
- Upper Throat (Greek Root)= Pharyng
- Lower Throat (Greek Root)= Laryng
- Heart (Greek Root)= Cardi

PREFIX

- An / A- = without / lack of
- Dys- = bad/difficult
- Endo- = inside
- Hyper- = excessive/ above/ high
- Hypo- = under/ below/ low
- Tachy- = fast
- Brady- = slow

SUFFIX

- -aemia = condition of blood
- -ectomy = removal
- -itis = inflammation
- -ology = study of
- -phasia = speech
- -phagia = eating / swallowing

COMBINING VOWEL

- **Combining Vowel:** Used to make pronunciation easier - usually an “o” (e, i, or u)

Try it for yourself...

With combining vowel - haematology

Without combining vowel – haematology

- arthr/o
- hepat/o
- ven/o
- oste/o

BASIC RULES

- When connecting two word roots, a combining vowel is usually used even if vowels are present at the junction
- Example: oste/o/arthr/itis
- Usually medical terms are defined by starting at the end of the term and going back to the beginning
- Example: oste/o/arthr/itis — inflammation
- of the joints and bone

SINGULAR VERSUS PLURAL RULES:

Terms that end in "a", for plural add an "e". Example: vertebra (singular), vertebrae (plural).

Rule Two:

Terms that end in "is", for plural change it to "es". Example: diagnosis (singular), diagnoses (plural)

Rule Three:

Terms that end in "ex" or "ix" for plural replace with "ices". Example: cervix (singular), cervices (plural)

Rule Four:

Terms that end in "on" for plural replace it with "a". Example: criterion (singular), criteria (plural)

Rule Five:

Terms that end in "um" for plural replace it with "a". Example: bacterium (singular), bacteria (plural)

Rule Six:

Terms that end in "us" for plural replace it with "i". Example: bronchus (singular), bronchi (plural)

Rule Seven:

Terms that end in "itis" for plural replace it with "itides". Example: arthritis (singular), arthrides (plural)

Rule Eight:

Terms that end in "nx" for plural replace it with "nges". Example: phalanx (singular), phalanges (plural)

Rule Nine:

Terms that end in "y" for plural replace it with "ies". Example: therapy (singular), therapies (plural)

Rule Ten:

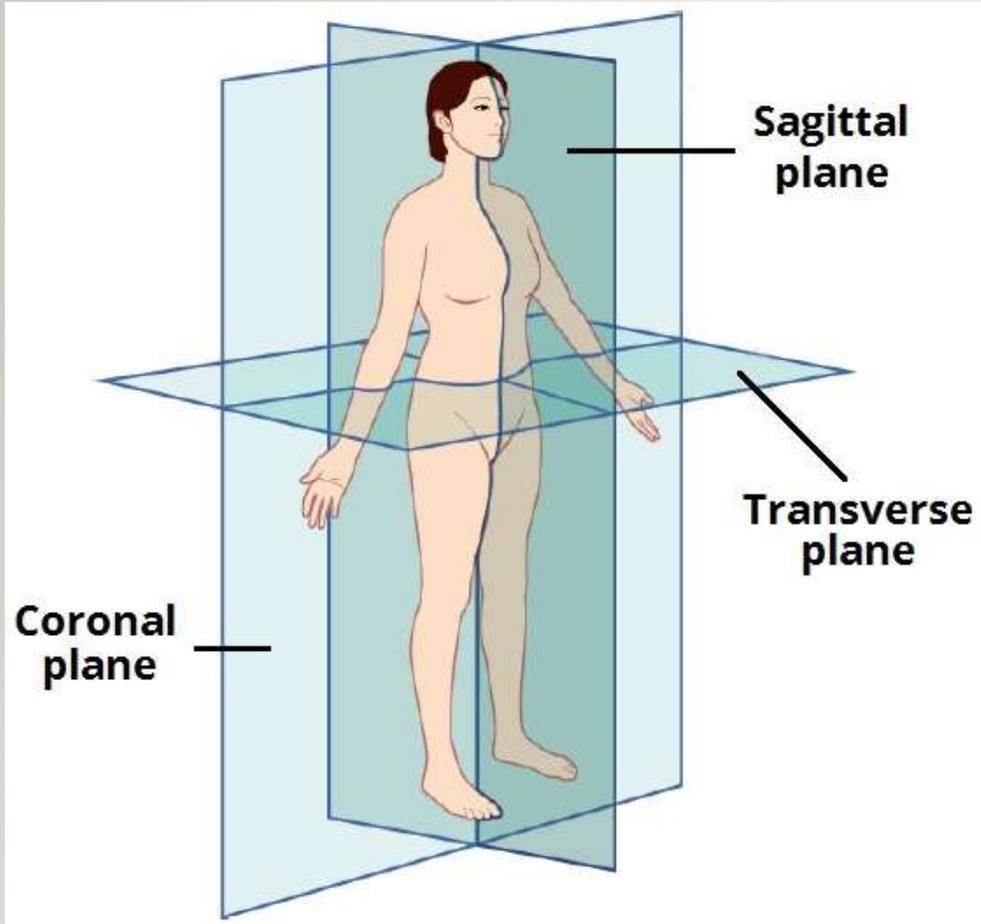
Terms that end in "x" for plural replace it with "ces". Example: thorax (singular), thoraces (plural)



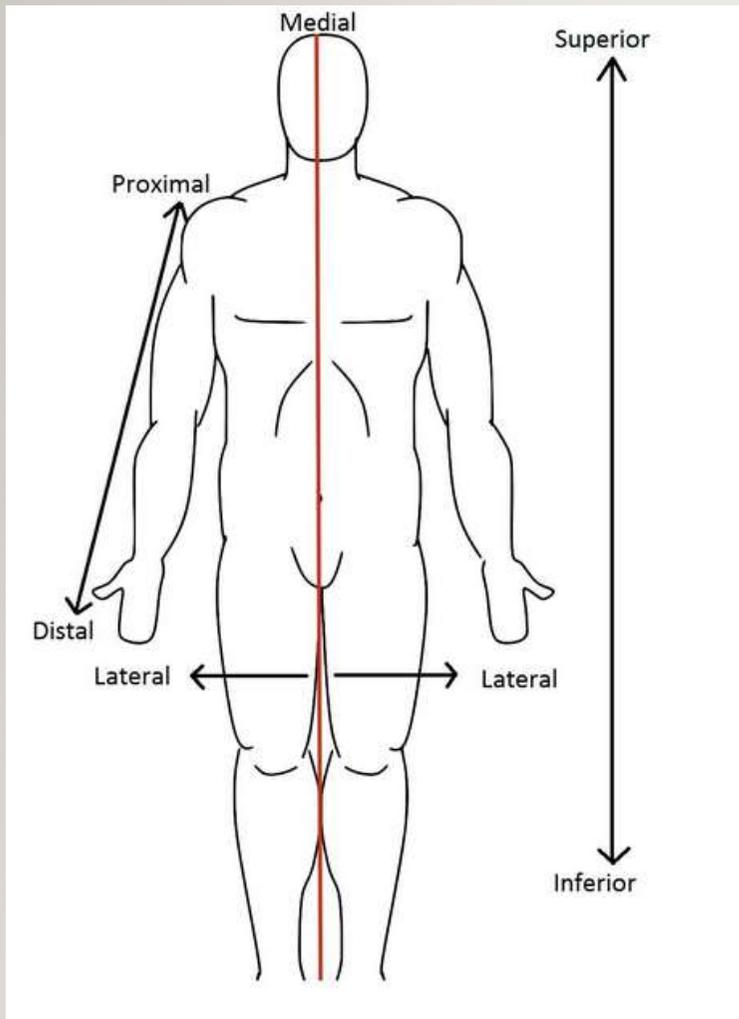
MEDICAL TERMINOLOGY AND ANATOMICAL POSITION

- Anterior/Ventral-
- Posterior/Dorsal-
- Supine-
- Prone-
- Lateral-
- Semi-Recumbent-
- Trendelenburg-
- Toward the front of the body.
- Toward the back of the body.
- Body is lying face up.
- Body is lying face down.
- Body is lying on the side, either left or right.
- Reclined position. Lying down, propped up at waist.
- Lying down, face up, legs elevated.

ANATOMICAL PLANES



- Sagittal plane – a vertical line which divides the body into a left section and a right section. AKA midsagittal plane, the median plane or midline.
- Coronal plane – a vertical line which divides the body into a front (anterior) section and back (posterior) section. AKA frontal plane
- Transverse plane – a horizontal line which divides the body into an upper (superior) section and a bottom (inferior) section.



Anterior and Posterior

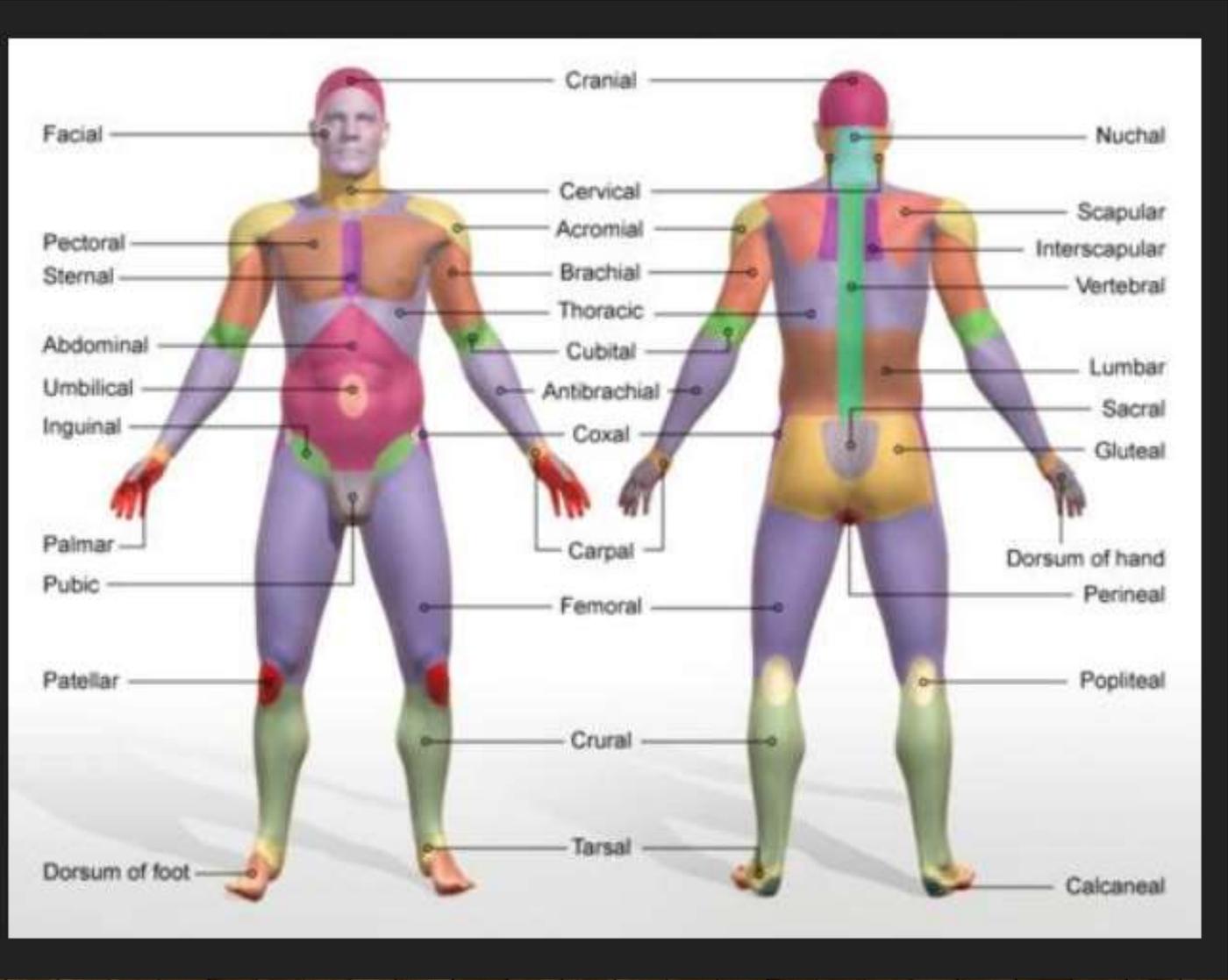
Anterior (ventral) refers to the 'front', and **posterior** (dorsal) refers to the 'back'.

Superior and Inferior

These terms refer to the vertical axis. **Superior** means 'higher', **inferior** means 'lower'.

Proximal and Distal

The terms **proximal** and **distal** are used in structures that are considered to have a beginning and an end (such as the an arm or leg or blood vessels). They describe the position of a structure with reference to its origin – proximal means closer to its origin, distal means further away.



IS ANATOMY AND PHYSIOLOGY OF USE TO THIS AUDIENCE?

- If no, absolutely no problem. This can be a one-off.
- If yes, what would be the preferred content for next year? Cardiac? Respiratory? Nervous system? Something else?