

The Language of Anatomy

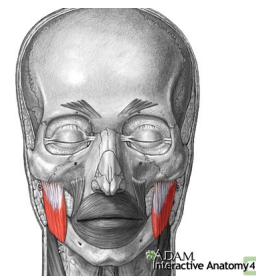
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When new students start learning about anatomy and physiology one of the overwhelming complaints is 'I just can't remember all those words – they make no sense'. While its true that some of them are pretty long / complicated / hard to spell / foreign they usually do make some sort of sense – if you know where the sense comes from. Here are a few to amuse you.

Terms are usually descriptive, from Latin, Greek or other old languages, and correspond to shape, size, location or function. Sometimes they are named after the person who found them, though many of these are being replaced by more 'modern' terms. However, changing established terminology can take a long time, for a number of reasons: people have a tendency to hang on to the terms they first learnt for things, text books vary in their thoroughness of updated uses and some of the new terms are – well – a lot longer. For example, while 'Eustacian tube' does not particularly slip off the tongue (back of the throat, in fact... sorry!), the 'pharyngotympanic tube' has double the syllables and half the familiarity.

Straightforward Translations?

Some terms in anatomical usage are direct translations of the old word: a 'hallux' was a Roman's big toe; the mid-bones in the hands and feet, metacarpals, comes from 'meta' = 'beyond' the 'carpal' = 'wrist'; masseter, one of the jaw's muscles, is from the Greek verb 'maseter' for chewing. A close look at one of the skull's sutures will show how these joints do indeed appear 'sewn' together. 'Orchitis' is used today to describe inflammation of the testicles, as 'orchis' means testicle in Greek. Yet why the men among us have ended up with testicles and not orchids, but cannot be inflicted with testiculitis I'm not too sure.

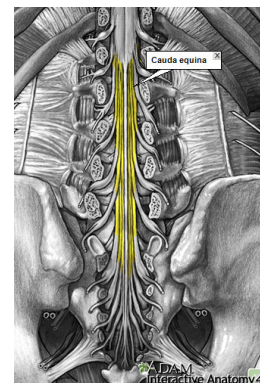


Other terms have undergone small modifications: 'gloutos' (Gr) meant buttocks and gives us the 'gluteal' muscles; 'ligament' is from the Latin 'ligare', to bind. The Latin hammer or 'malleus', gives us the 'malleoli' - the two prominent ankle bones they perhaps thought could be used for bashing things into place. 'Risorius' is a small muscle that curls the edge of the mouth upwards; 'risor' was 'one who laughs' in Roman times.

Descriptions: the thing is like...

There are some interesting correlations that we may or may not quite see ourselves. 'Iris' is the Greek for rainbow. Fair enough. 'Acetabulum' is from the Latin meaning 'vinegar cruet' as this socket part of the hip bone was thought to resemble the shape of the vinegar cup of the era (the resemblance being the key, as I doubt hip bones were ever actually a part of the era's crockery). You probably know that the atlas, the top cervical vertebrae, is so named after the Greek god who held the world on his shoulders. But did you know that 'carotid' comes from the Greek term 'to put to sleep'? How did this get chosen for the key artery supplying the head and brain? Apparently, putting pressure on the corresponding arteries of goats caused early shepherds much mirth as they would just fall over. (The goats, not the shepherds that is.) The poor old goats were reliant on this vessel for the main blood supply to the head, as the vertebral arteries that give us a second source of blood are not nearly as generous in these animals.

Following the animal theme, the 'cauda equina' is rather more obvious – where do we have a structure resembling a 'horses' tail in the body? Below L2 when the spinal cord is no longer sheathed in a tight meningeal bundle and the nerves start to splay out like a horses tail. To what would you compare the small bones of the coccyx if you had to name them for the first time? For the Greeks apparently the beak of the cuckoo sprang to mind as 'kokkyx' is Greek for cuckoo. As I said, some interesting correlations...



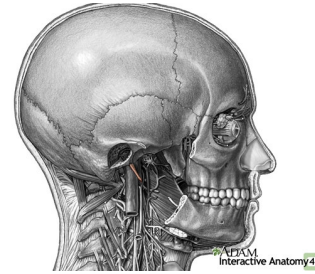
Another good one is the muscle 'soleus', named as when you peel it off from around the back of the leg it has the shape of the sole flat fish. (Not the taste thankfully, though I hasten to add I have never tried.)

Phalanx, plural phalanges, were Greek soldiers 'in close order'. Does this refer to the 2/3 bones positioned lengthwise or the proximity of the digits to each other? Perhaps both – I am not familiar enough with Greek methods of war to be sure. Anyone know?

Resembling...

The suffix '-oid' means 'resembles' – thus the 'arachnoid' layer of the meninges resembles a spider's web in the manner it forms around the spinal cord. The 'cuboid' bone comes from 'kybos' in Greek meaning a cube, while the 'cricoid' cartilage, which circles the trachea below the thyroid cartilage, (itself from thyreos, a shield that in Ancient Grecian times was a figure of eight shape), originates from the Greek 'krikos' circle or ring. Sensibly enough, the far end of the digestive tube also takes a word meaning ring, due to its ringed musculature, but a Latin one, giving us an 'anus' rather than a 'cricus'. Anatomically superior (in position rather than action), just above this the sigmoid colon is a 'resemblance' to sigma, the Greek letter 'σ'. Interestingly, while this section of the colon certainly curves, our 'σ' shape would suggest it to be far more curvy than it actually is however, the old Greek 'σ' was written more like a 'c' = 'ς' if you see what I mean...

The styloid process of the temporal bone, a long, thin pointed projection, gets its name from the Greek 'stylos' or pillar, while the mastoid process, just above and outside the styloid on the same bone, comes from 'mastos' meaning breast or nipple. Arguably, not quite such an obvious parallel.



The ethmoid bone is named from the Greek 'ethmos' which means sieve (the old 'oid' resembling again). It is a very thin layered bone with a section of small holes between the cranium and upper nasal cavity. In fact, this holey area, the 'cribiform plate' was thought to be source of the runny-nose, the mucous being produced by the pituitary gland in the brain ('pituita' = mucous secreting) and dribbling through the tiny sieve-like holes. However, although we know now that the pituitary does a far more complex job than mucous secretion (with respect to the mucous secreting cells) it is interesting that at least part of it does in fact originate from the same embryological origins as the nasal mucous membranes.

A variety of terms have 'form' in the suffix that with a little understanding become quite obvious (as things do...) 'Cunneiform', the 3 bones in the foot, have the 'form' of wedges - 'cuneus' in Latin; piriformis is the shape of a pear – a 'pirum' in Latin, while pisiform comes from the Latin 'pisum' which is a pea, (these are the muscle deep to the gluteals and one of the carpal bones respectively). The 'vermiform' appendix seen alone does indeed have a worm-like, Latin 'vermis', appearance.

The coronary artery has even lead to the somewhat slang usage of having a 'coronary' which takes away from the original meaning which was wreath or crown: the coronary arteries are said to encircle the heart sort of as a crown would the head.

Action in words

Then you get a bit of action in anatomical terms. 'Ferre' is to carry in Latin so 'afferent' can be applied for example to nerves that carry information to the central nervous system while 'efferent' takes instructions away. (Not having been brought up on Latin I always found that the term 'eff-off' helped me remember the relative directions. Call me uncouth...) So how did the 'vas deferens' get its name? A 'vas' is a tube or duct and while usually applied to blood vessels (eg 'vasa vasorum' – the blood supply to the blood supply so to speak) and maybe the early anatomists were so impressed by the length of the structure (from the testes it comes up round the back and over the sides of the bladder before becoming the urethra within the prostate gland) they felt it deserved a title all by itself. It got the *deferens* part (de= away) as it was obviously taking fluid out of the body...

Misconceptions?

For a name that has stuck, somewhat incorrectly, look to the corpus luteum, or 'yellow body'. This refers to the remains of the follicle that at ovulation delivers the egg out of the ovary. It was first observed and named from the cow where it was indeed yellow. However, in human women and the females of all (to my knowledge) other mammals it is in fact red. Ah well.

And finally, one of the most unfair origins is that of the skeleton. It comes from the Greek 'skeletos' meaning 'dried up'. I can only presume that by the time they reached the skeleton in their dissection processes it had lost most of its 'liveliness'.