

# Module 5

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## Writing a Sentence

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*Multiple words / short phrases / complex terms will be defined with a sentence*

- Important notes for defining with sentence:
  - Use grammatically accurate, properly punctuated, and idiomatic English
  - Use lay terms (e.g. "brain" instead of "encephalon")
  - The context of the sentence can be made up, as long as the sentence conveys the medical / biological meaning
- Punctuation of prompt:
  - *Terms separated by comma*: treat as unit or separately
  - *Terms not separated by comma*: must treat as unit

## Anatomical Roots: The Nervous System

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- *cerebell-, cerebr-, encephal-*
  - Latin: *cerebrum* = "brain" and *cerebellum* = "little brain"; *cerebellum* is a diminutive of *cerebrum*
  - Greek: *encephalon* = "in your head"
  - Greek philosophers were extremely interested in cognition
    - Plato argued (based on theoretical ideas) that cognition resided in the brain
    - Aristotle argued (based on physiological observations) that cognition resided in the heart
    - Human brain was first dissected and described in early [3rd cen. BC](#) by anatomist Herophilus
- *cortic-*
  - In the context of the nervous system there are a number of cortices, but most often "cortex" refers to the cerebral cortex
- *dendr-*
  - Greek: *dendron* = "tree"
- *gangli-, ganglion-*

- Greek: comes from "knot"
- *gli-*
  - Greek: *glia* = "glue"
  - English word "glue" is related to *glia*
- *hypothalam-, thalam-*
  - Greek: *thalamus* = "inner room"
  - Galen gave the thalamus its name because it's tucked deep inside, under the cerebrum, as if it were an 'inner room'
- *medull-, myel-*
  - Latin: *medulla* = core or substance of any biological structure
  - Greek: *myel-* has the same semantic sense as Latin *medulla*, but is exclusively refers to bone marrow or spinal cord
- *mening-, meninge-, meningi-*
  - Meninges are composed of three membranes: *dura mater*, *arachnoid mater*, and *pia mater*; Latin: *mater* = "mother", emphasizing protective qualities
  - *dur-*
    - Latin: *dura mater* = "strong mother"
    - Term is a translation of one coined by Arabic physicians that first described it
  - *arachn-*
    - Latin: *arachnoid mater* = "web-like mother"; this layer is web-like
  - *pia-*
    - Latin: *pia mater* = "tender mother"; this layer is most delicate
- *neur-, nerv-*
  - Latin: *nervus* = "anything stretched or taut"
  - Greek: *neuron* = "anything stretched or taut"
    - Early Greek anatomists applied *neuron* to tendons, sinews, and nerves
    - Aristotle was the first to use the term exclusively for nerves

- After Galen started using the term, everyone used the term exclusively for nerves
- *poli-*
  - Greek: *poli* = "grey"
- *pont-*
  - Latin: *pont* = "bridge"
- *rhiz-, radic-, radicul-*
  - Generally mean any kind of root in a biological structure; however, in medicine it only refers to the root of a nerve (unless subject is plant)
- *ventricul-*
  - Latin: *ventricul-* = "little belly"; *ventricul-* is a diminutive of *ventri-*

## Roots for Cognition

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- *phob-, -phobe, -phobia, -phobic*
  - A phobia is more than a fear, rather a persistent fear that is out of proportion to any danger
  - Related terminations: root that the termination is attached to is the object of that persistent and irrational fear
- *phren-, psych-, ment-*
  - *phren-* and *ment-* have two meanings: can also mean "diaphragm" or "chin" respectively
  - Greek: *psyche* = "spirit or soul"
    - Breath of life personified as a goddess loved by Eros/Cupid

## Terminations

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- *-carcinoma*
  - Latin: *cancer* = "crab"
  - Greek: *carcinos* = "crab"
  - Galen thought cancer resembled a crab in that it has veins that extend outwards

- *-oma, -omata, -oncus*
  - Note: *-omata* is the plural form
  - Latin: *tumor* = "swelling"
  - When defining, do not assume these terminations indicate cancer, only "carcinoma" specifically points to cancer
- *-mania, -maniac*
  - Greek: comes from "madness"
  - Indicates "obsession", not necessarily "insanity"
- *-plegia*
  - When defining, it is better to say "paralysis of muscles controlling ..." than "paralysis of ..."