

PHYLUM
CHORDATA
-SUBPHYLUM
UROCHORDATA

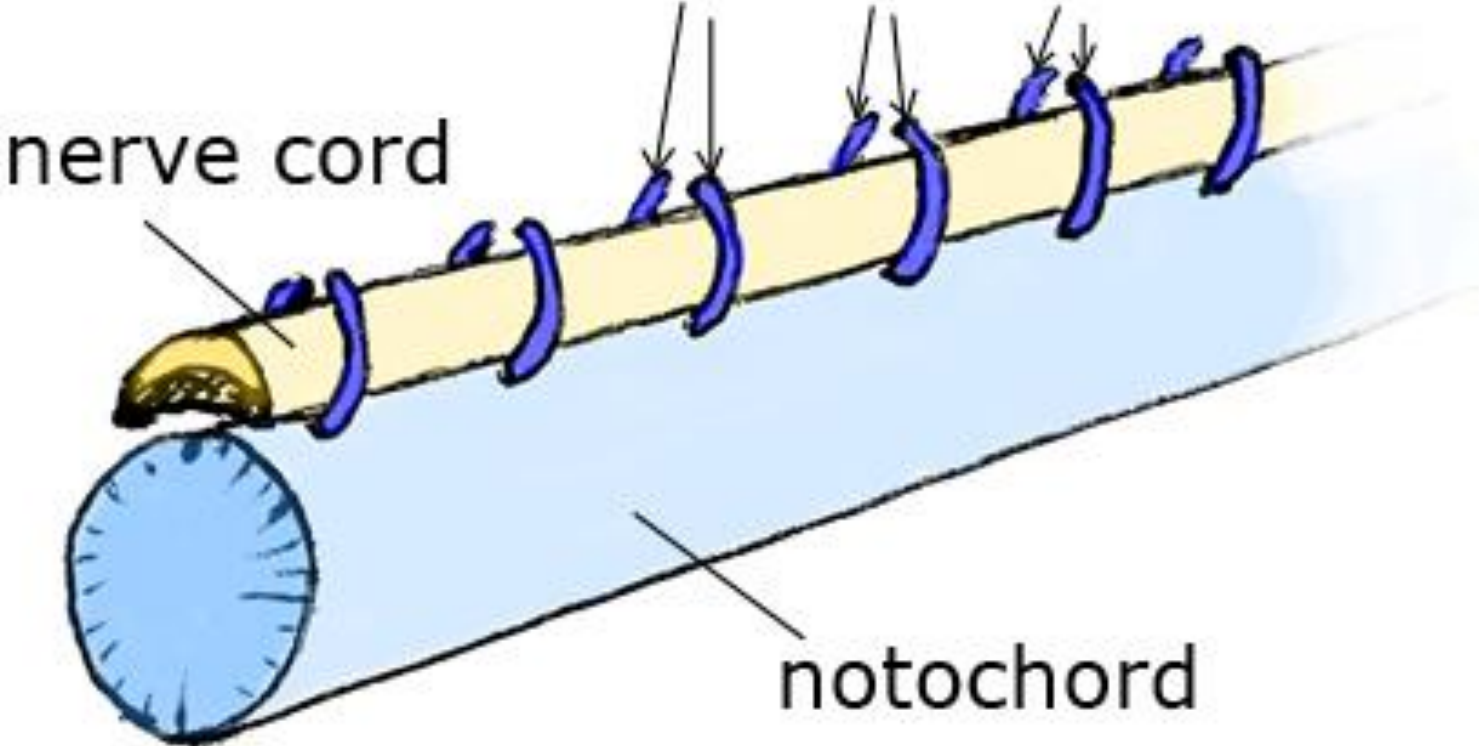
Invertebrate
Chordates

▣ Phylum Chordata includes all the vertebrates and two groups of invertebrates

General Characteristics

- ▣ Have a notochord
 - Stiff, flexible rod located under the dorsal nerve cord

Lateral neural cartilages



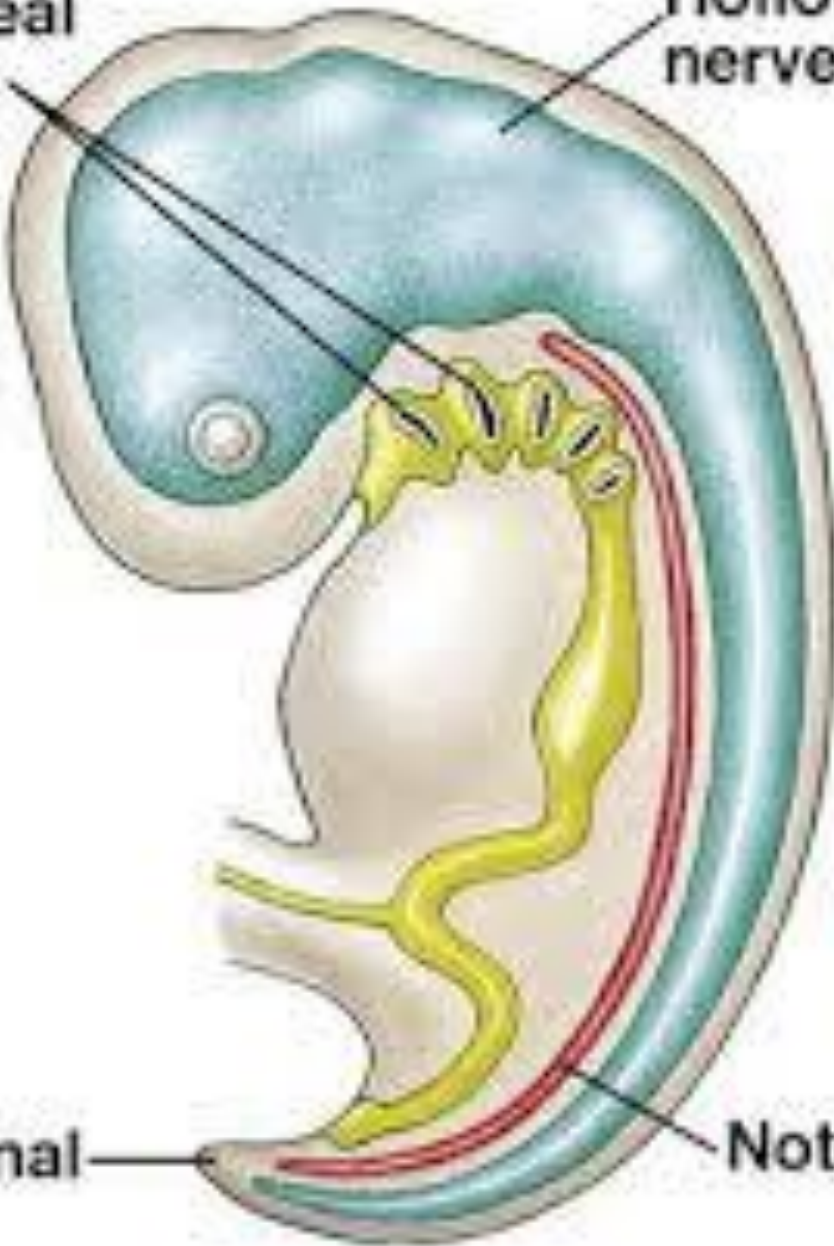
▣ Some chordates
retain notochord
throughout life

▣ Most vertebrates have notochord present only in embryos

■ In adult mammals, exists as small patches of tissue between bones of vertebral column

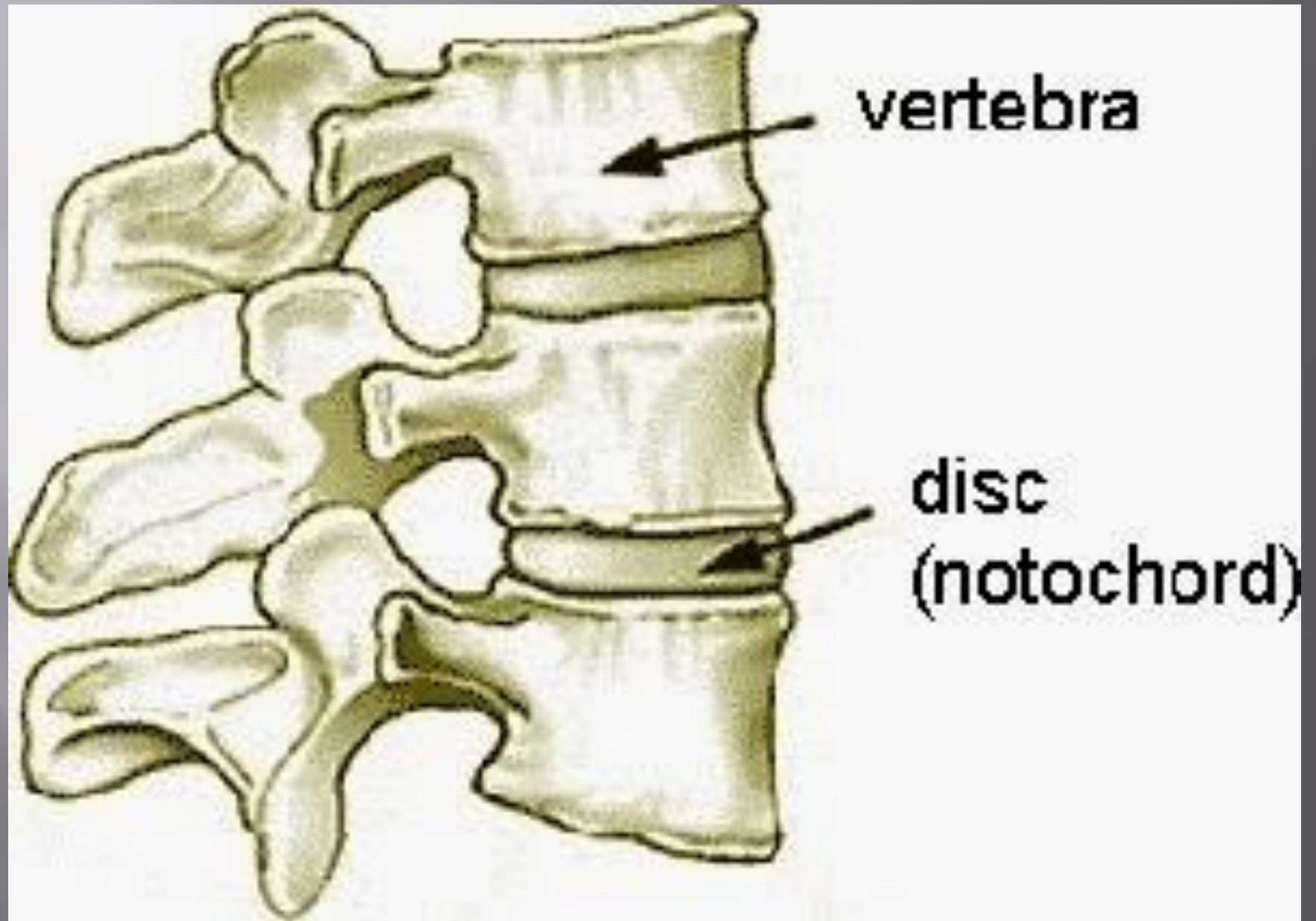
Pharyngeal
pouches

Hollow dorsal
nerve cord



Postanal
tail

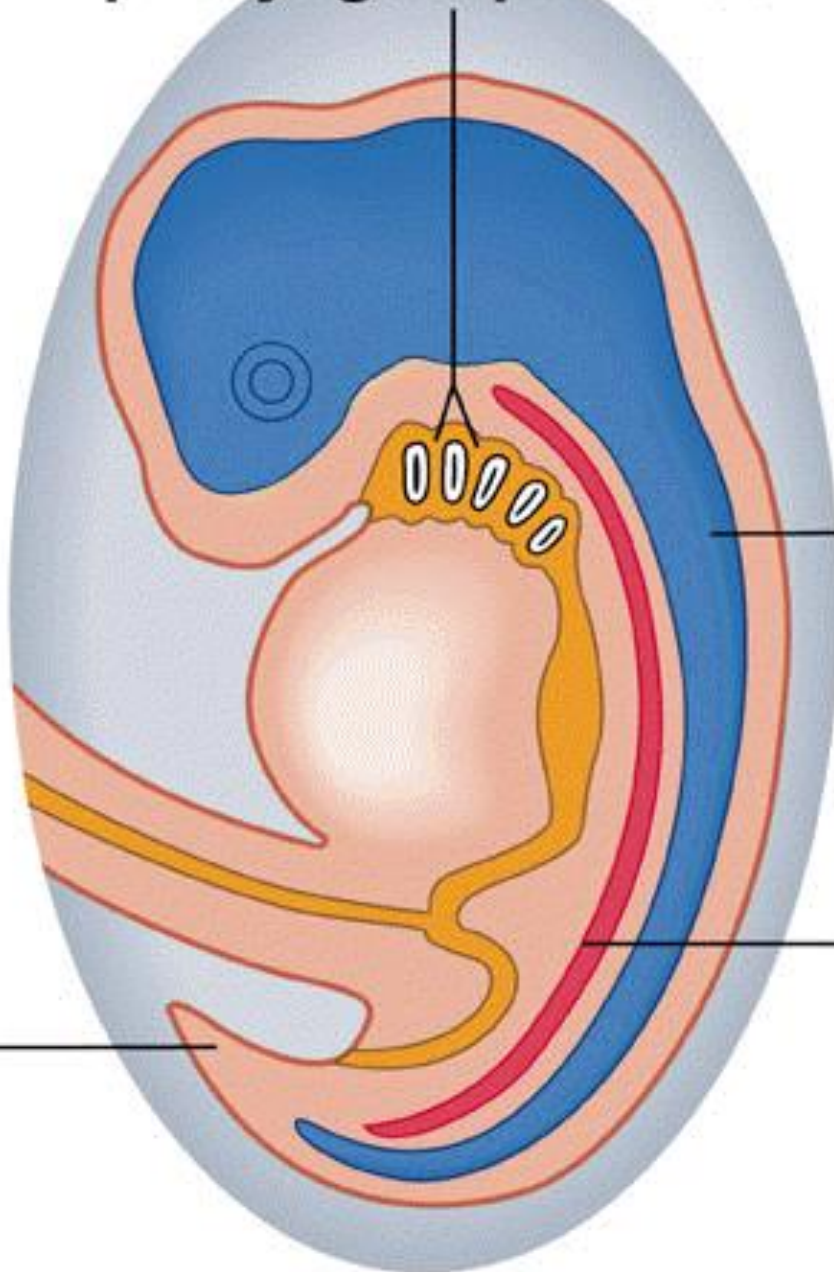
Notochord



▣ All chordates share the following characteristics during some stage of their life.

1. Notochord
2. Dorsal nerve chord
3. Pharyngeal pouches
4. Postanal tail

pharyngeal pouches



dorsal tubular
nerve cord

notochord

postanal
tail



Classification

- ▣ All are deuterostomes

▣ Phylum Chordata is divided into three subphyla

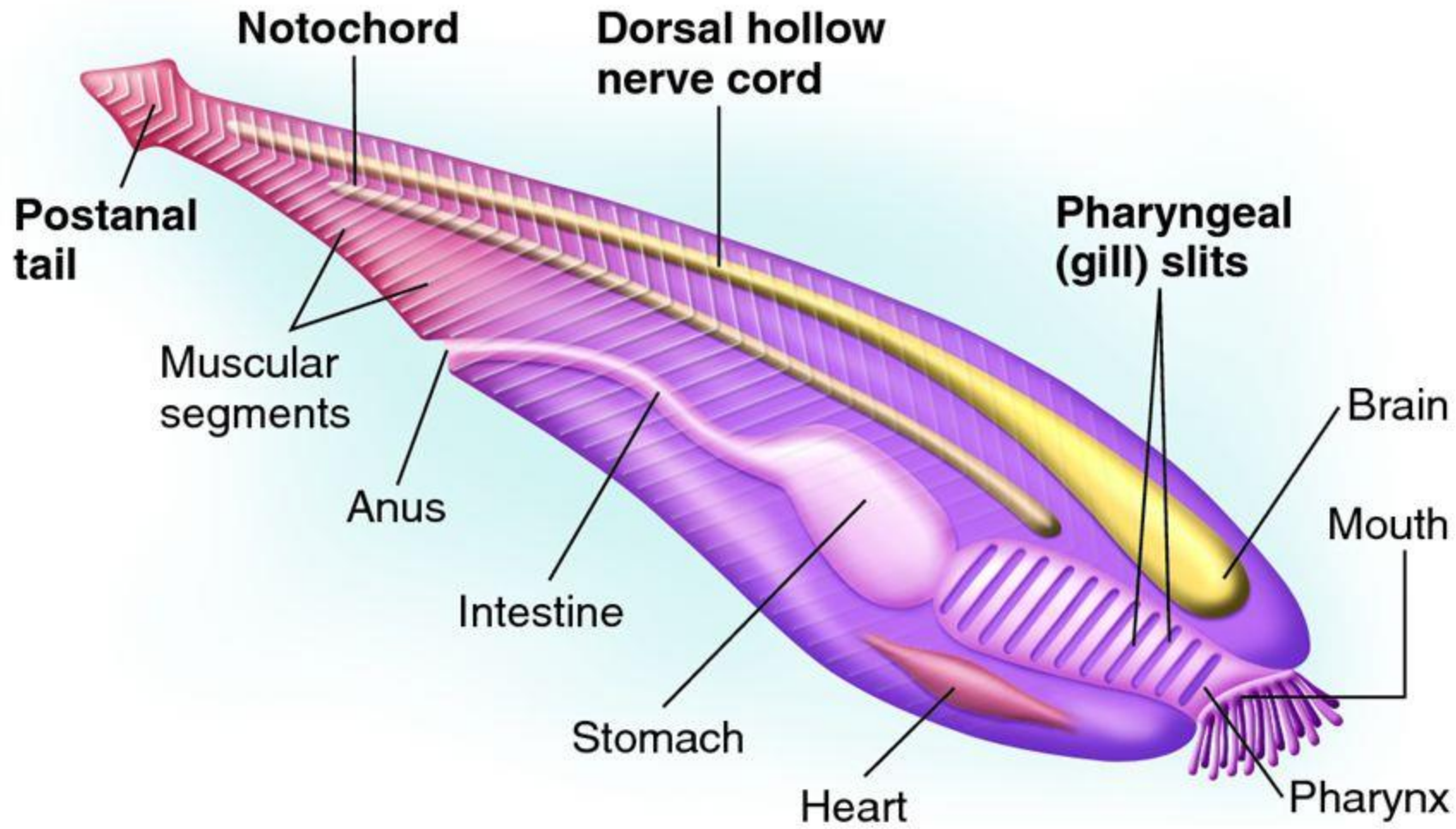
- Cephalochordata

- Vertebrata

- Urochordata

Subphylum Cephalochordata

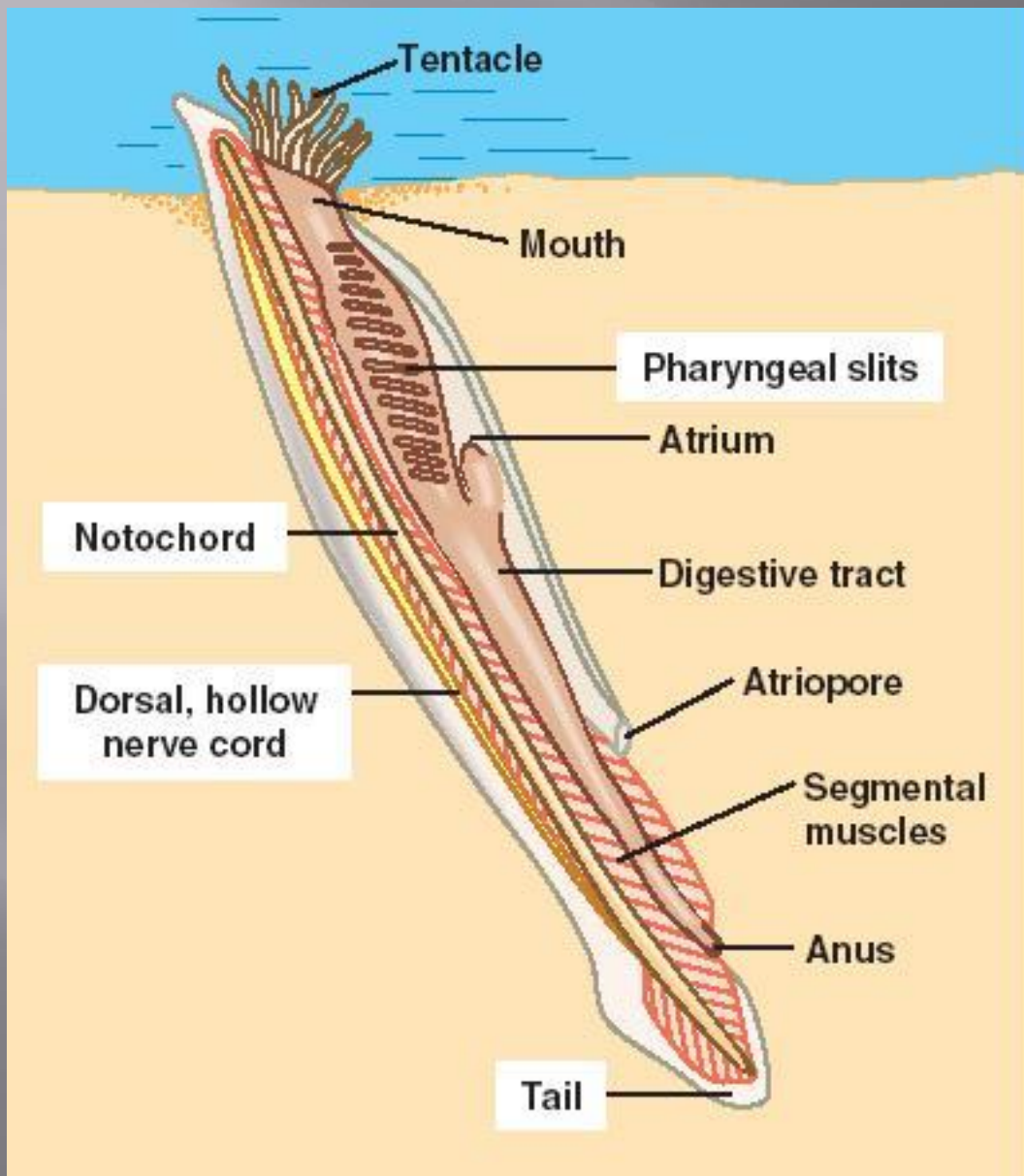
- ▣ Blade-shaped
animals: lancelets







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▣ Retain notochord,
dorsal nerve chord,
pharyngeal
pouches, and
postanal tail
throughout life

▣ Live in warm,
shallow waters

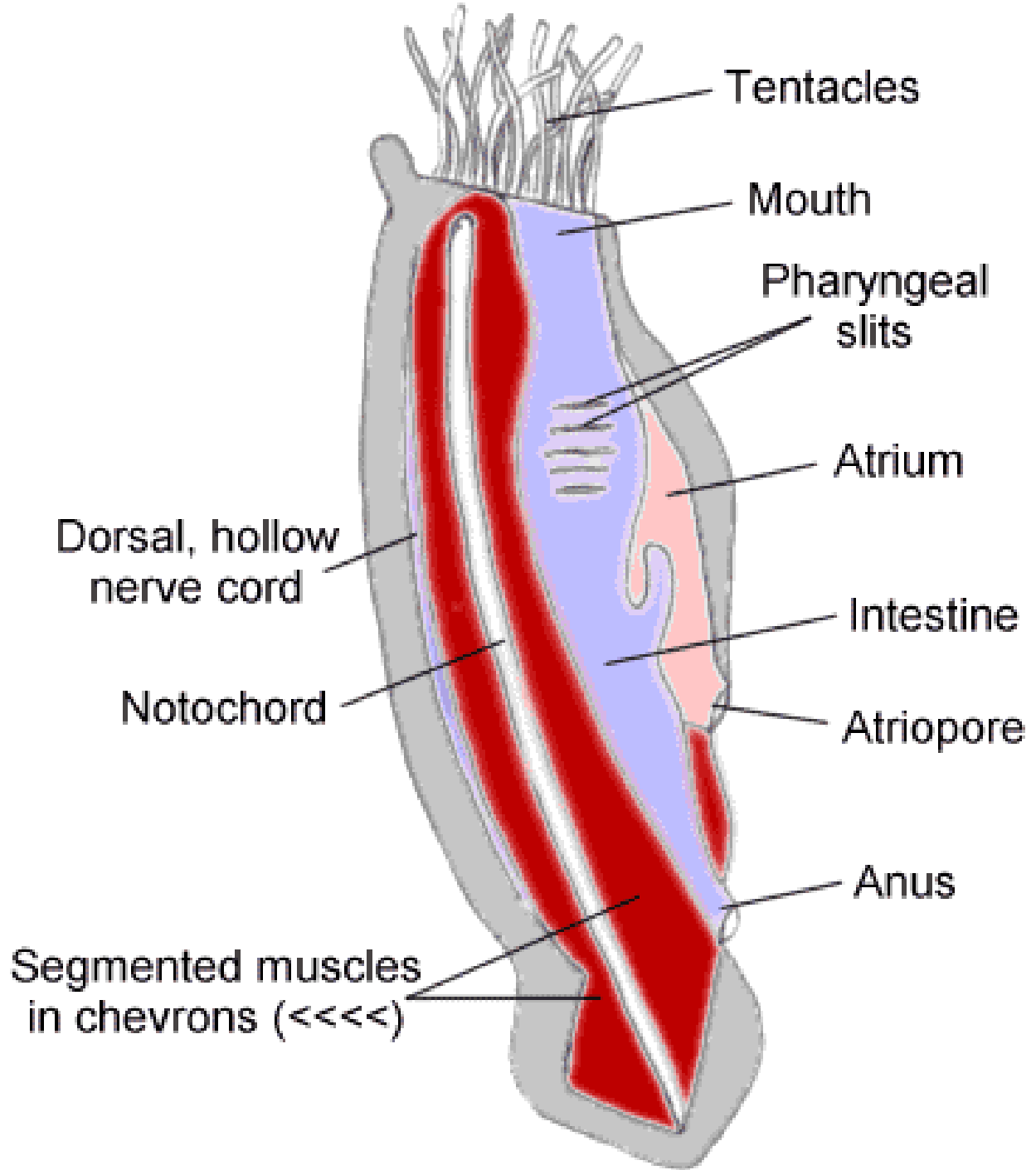
▣ Muscular tail used
to burrow into sand

Lancelet Feeding

- ▣ Cilia draws water into mouth and pharynx
- ▣ Food is filtered as it passes through slits in pharynx

▣ Water leaves
through atriopore

▣ Lancelet also called *amphioxus*.



Subphylum Urochordata

- ▣ Tunicates
- ▣ Bodies covered with tough covering, or tunic





▣ Also called sea squirts

▣ Squirt a stream of water, when touched

▣ May be solitary or colonial

▣ Filter feeders

- Water is propelled by cilia
- Enters body via incurrent siphon

- Water passes through slits in pharynx
- Exits through excurrent siphon
- Food moves to stomach (waste moves to anus)

anterior

oral/buccal siphon

tentacles (filter)

neural gland

endostyle

ganglion (brain)

atrial siphon

ventral

dorsal

anus

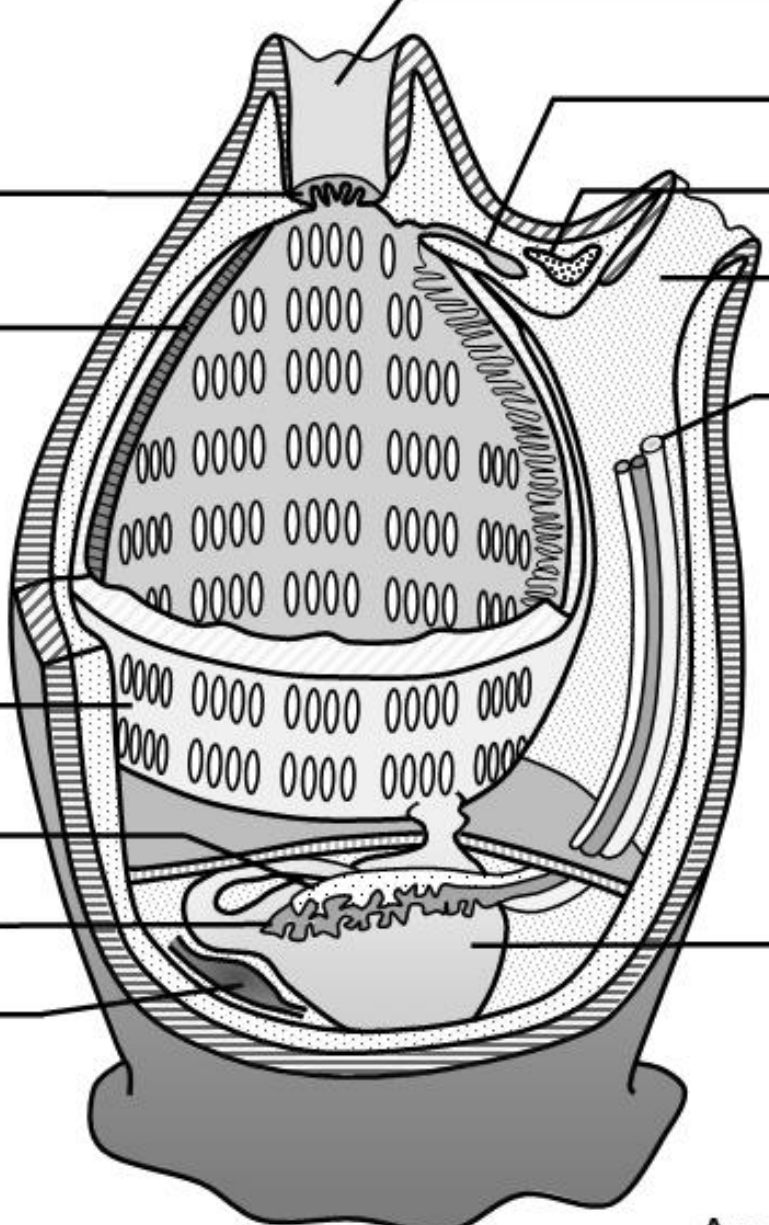
pharynx

testis

ovary

heart

stomach



Anatomy of a Sea Squirt

▣ Reproduction is
hermaphroditic

■ Eggs and sperm are
released through
excurrent siphon

▣ Adults have pharynx, but lack notochord, dorsal nerve chord, or postanal tail

▣ Larvae possess all of these attributes

