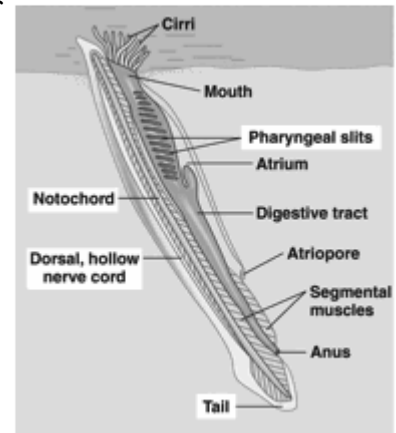


Chordata: Qualifications and Early Types

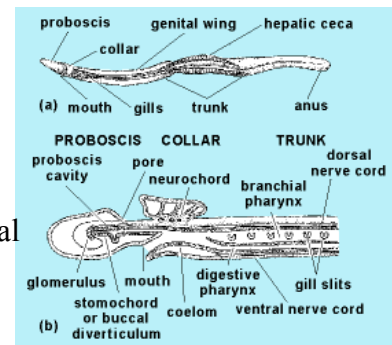
Qualifications

1. **Notochord.** This is a rod made of cartilage that supports the body of chordates. In humans it has become the discs between our vertebrae.
2. **Hollow Nerve Tube.** Close to the notochord is a tube of nerves. In many chordates, this is called the spinal cord. It is on the dorsal (back) side of the chordate.
3. **Pharyngeal Gill Slits.** All chordates have gills at one stage in their development. For the mammals, birds, and reptiles, this happened while an embryo, either in the parent or in the egg. The pharynx is the upper throat.
4. **Post-Anal Tail.** At one stage in their development, all chordates have a tail that extends past the anus. For humans, this happened while an embryo. It stopped growing and is your tailbone today. All chordates have or had a post-anal tail at one time.

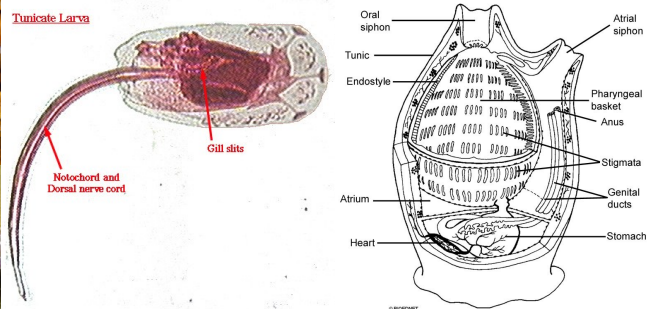


Early Types

Hemi-chordates: The acorn worm is not a chordate, yet shows some similarities. Some scientists consider it a link between invertebrates and chordates. It is worm-shaped, but shares features with echinoderms. It is a deuterostome, and has a neural tube. They also have a short post-anal tail and gills, but don't have a true notochord.



Tunicates: Members of the class *Tunicata* are better known as sea squirts. Tunicates are definitely chordates when a larva, but change as adults. The juvenile tunicate has all four qualifications, but when it reaches a suitable place to settle down in the ocean, it changes greatly. It loses its traits, and resembles something more like a sponge. They become sessile (non-moving) adults.



Amphioxus: – Lancelets are thought to be ancestors of all vertebrates. When you first see one, they resemble a worm, but as it is observed, it may appear more fish-like. It has no bones, but it does have a flexible cord that gives it shape. Strangely, lancelets don't breathe through their gills, but use them to gather food. They breathe through their skin.

