

Sharks and Rays: Myth and Reality

Week 4

Intestine Dissection

Dr. Marcelo Carvalho: Further posteriorly [towards the rear] in the GI tract, or gastrointestinal tract, we have the relatively short intestine of the shark. Sharks are carnivores; carnivores generally have shorter intestines than herbivores. If you compare the intestine of a shark, for example, with the intestine of a human being, you can see that it is proportionately much shorter. Well, sharks compensated for this apparent problem by having a spiral valve, or a scroll valve, inside the intestine to increase the absorptive surface of the intestine. So, I'm going to make a longitudinal cut now, exposing the spiral valve. Before we do that, though, please note the pancreas. Here is one lobe of the pancreas, and here is another lobe of the pancreas - very important for secreting digestive enzymes into the top of this short intestine.

In exposing the spiral valve, we want to make a longitudinal incision down the length of the intestine. You can picture the spiral valve similar to a spiral staircase running the length of the intestine. In this

manner, sharks increase the absorptive surface of the intestine

Here we can see some food items inside the intestine of the shark. The food items are this amber color or this yellowish color. The spiral valves are gray, and here is some of the food.