

Anal sphincter

The external anal sphincter (or sphincter ani externus) is a flat plane of muscular fibers, elliptical in shape and intimately adherent to the skin surrounding the margin of the anus.

The internal anal sphincter, IAS, (or sphincter ani internus) is a muscular ring that surrounds about 2.5–4.0 cm of the anal canal; its inferior border is in contact with, but quite separate from, the external anal sphincter.

It is about 5 mm thick, and is formed by an aggregation of the involuntary circular fibers of the rectum. Its lower border is about 6 mm from the orifice of the anus.

If a patient has the ability to contract the [anal sphincter](#) voluntarily or to feel a pinprick or touch around the anus, the injury is considered a [incomplete spinal cord injury](#).

The nerves in this area are connected to the very lowest region of the spine, the [sacral region](#), and retaining sensation and function in these parts of the body indicates that the spinal cord is only partially damaged. This includes a phenomenon known as [sacral sparing](#).

The [filum](#) is differentiated from [nerve roots](#) by presence of characteristic squiggly vessel on surface of filum. Also, under the microscope, the filum has a distinctively whiter appearance than the [nerve roots](#), and ligamentous-like strands can be seen running through it. NB: intra-op Electrostimulation and recording of [anal sphincter](#) EMG are more definitive.

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