



1. Perineal nerves (Superficial; Deep)
2. Inferior anal (rectal) nerves
3. Pudendal nerve
4. Perineal nerve
5. Superficial and deep branches of perineal nerve
6. Dorsal nerve of penis (continuation of pudendal nerve supplying muscles on superior aspect of perineal membrane)

**Comment:** The pudendal nerve and its branches innervate the skin and skeletal muscles of the male perineum. The nerve arises from ventral rami of S2, S3, and S4 spinal cord levels. After emerging from the pudendal (Alcock's) canal, the pudendal nerve divides into inferior anal (rectal) nerves, the perineal nerve, superficial and deep branches of the perineal nerve (which also supply the scrotum), and the dorsal nerve of the penis.

Parasympathetic fibers arise from the S2-4 levels, travel in pelvic splanchnic nerves to the inferior hypogastric plexus and prostatic nerve plexus, and stimulate the release of nitric oxide from the nerve endings and endothelial cells of the erectile tissues, which relaxes smooth muscle tone and increases blood flow to permit erection.

**Clinical:** Erectile dysfunction is the inability to achieve or maintain penile erection sufficient for sexual intercourse. Nitric oxide released by the pelvic splanchnic parasympathetic nerve fibers and endothelial cells normally causes the dilation of the arteries supplying blood to the erectile tissues. When this mechanism is compromised, erectile dysfunction results. Drugs that are used to treat this disorder aid smooth muscle relaxation by augmenting the action of nitric oxide.