



# LEIOMYOMA

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Leiomyoma describes a benign growth of smooth muscle tissue. These tumors can occur anywhere in the body where smooth muscle is found such as the skin, the eyes, the uterus (commonly called fibroids), the bladder, and the gastrointestinal and respiratory tracts. In the skin, leiomyomas are categorized based on 3 sites of origin: blood vessel walls (angioleiomyomas), muscles of the genitalia and erectile tissue of the nipple (dartoic/genital leiomyomas) and the arrector pili of the skin (pillar leiomyomas). Arrector pili are small muscles attached to hair follicles within the dermis. Involuntary contraction of these muscles occurs in response to cold or fear, causing the hairs to stand on end, commonly referred to as "goose bumps."

Tumors of the arrector pili muscles are well-circumscribed, smooth, firm, reddish-brown nodules ranging in size from 2-15 millimeters. The lesions can be solitary or multiple and usually involve the face, neck, trunk, and extremities. Pilar leiomyomas are the most common of the cutaneous types and the lesions are often multiple and painful. A burning or sharp, stabbing pain may occur spontaneously or can be provoked by touch/pressure and cold temperature. The cause of the pain is unclear and it is thought to be a result of either smooth muscle contractions or dense nerve fibers bundled within the tumor. Angioleiomyomas are only painful in about half of cases and usually are found on the lower legs, while genital leiomyomas are typically solitary and asymptomatic. Biopsy of the nodule can be performed to confirm the diagnosis.

Young to middle-aged adults are more likely to be affected and the incidence between men and women is about equal. In a woman with multiple leiomyomas a referral to a gynecologist may be necessary to rule out Reed's syndrome. In this inherited syndrome, individuals present with multiple cutaneous and uterine leiomyomas. In rare instances, these cases are also linked to an aggressive form of kidney cancer, a condition termed, hereditary leiomyomatosis and renal cell cancer (HLRCC).

Treatment of these lesions involves medical and surgical therapy. Although the tumors are noncancerous, the pain can be severe and necessitate treatment. Medications that may provide pain relief include calcium channel blockers (which work to inhibit smooth muscle contraction), muscle-relaxants, phenoxybenzamine (an alpha adrenergic blocker) and gabapentin. Surgical therapy includes excision of the lesion for either cosmetic concerns or as a curative choice for pain. Unfortunately, the growths generally recur after surgery and removal of large and multiple areas can be difficult and disfiguring. Therapies using botulinum toxin and carbon dioxide laser ablation are currently being investigated.

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