

Intradural extramedullary spinal tumor differential diagnosis

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- [Intramedullary Schwannoma in the Cervical Region: A Case Report](#)
- [Inflammatory myofibroblastic tumor in the intradural extramedullary space of the lumbosacral spine: a case report and review of the literature](#)
- [Unusual appearance of spontaneous spinal intradural hematoma mimicking a meningioma](#)

Intradural extramedullary (IDEM) spinal tumors are lesions located within the dura but outside the spinal cord parenchyma. The differential diagnosis includes:

Neoplasms

1. **Schwannoma** (most common)
2. **Neurofibroma** (often associated with NF1)
3. **Spinal Meningioma** (more common in middle-aged women)
4. **Ependymoma (myxopapillary subtype)** (typically in the conus/filum terminale)
5. **Paraganglioma** (rare, usually in the cauda equina)
6. **Hemangioblastoma** (often associated with von Hippel-Lindau disease)
7. **Solitary fibrous tumor / Hemangiopericytoma** (rare, dural-based)

2. Non-neoplastic Conditions

1. **Arachnoid cyst** (CSF-filled, non-enhancing lesion)
2. **Epidermoid cyst** (non-enhancing, restricted diffusion on MRI)
3. **Dermoid cyst** (may contain fat, calcifications)
4. **Lipoma** (often associated with tethered cord, hyperintense on T1)

3. Metastases

1. Drop metastases from intracranial tumors (e.g., medulloblastoma, germinoma, ependymoma)
2. Leptomeningeal carcinomatosis (breast, lung, melanoma)
3. Lymphoma (less common but possible)

Imaging Clues: - **Schwannomas & neurofibromas**: well-circumscribed, enhancing, “dumbbell-shaped” if extending through foramina. - **Meningiomas**: broad dural attachment, homogeneous enhancement, may show calcifications. - **Ependymomas**: more common in filum terminale, often show cystic components and hemorrhage. - **Arachnoid cysts**: CSF-like signal on all sequences, no enhancement. - **Dermoid/Epidermoid cysts**: Epidermoid shows diffusion restriction; dermoid may

contain fat.

Meningiomas are most common in the [thoracic spine](#) and show a strong [female](#) predilection and a clinical manifestation related to compression of the spinal cord or nerve roots.

Schwannomas typically are associated with radicular pain and other sensory symptoms.

Intradural extramedullary neoplasms are located outside the spinal cord but within the dural sheath.

[Schwannomas](#) are the most common intradural extramedullary spinal lesions (30% cases), followed by meningiomas (25% cases).

In the pediatric population, the most common intradural extramedullary neoplasms are leptomeningeal metastases resulting from primary brain tumours.

A full list includes:

benign tumours

spinal schwannoma

[Spinal meningioma](#).

spinal neurofibroma

spinal paraganglioma

myxopapillary ependymoma

cysts and other benign tumourlike masses

spinal lipoma

intradural spinal lipoma

spinal epidermoid cyst

spinal dermoid cyst

spinal neurenteric cyst

spinal arachnoid cyst

malignant tumours

spinal leptomeningeal metastases

Giant [spinal schwannomas](#) are defined as [intradural extramedullary spinal tumors](#) that span >2 [vertebral body](#) lengths.

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