

Guidance document for processing PM-JAY packages

Intramedullary Spinal Tumors

Procedure covered: 2

Specialty: Neurosurgery

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)
Spine - Intramedullary Tumor	Spine - Intramedullary Tumor	S800038	SN043A	50,000
Spine - Intramedullary Tumor	Spine - Intramedullary Tumor with fixation	S800039	SN043B	50,000 + Implant cost

ALOS: 7 days

Minimum qualification of the treating doctor:

Essential: MCh/DNB/Equivalent (in Neurosurgery); MS/DNB/Equivalent (in Orthopedics)

Special empanelment criteria/linkage to empanelment module: Care at Tertiary Hospital

Disclaimer:

For monitoring and administering the claim management process of **Spine - Intramedullary Tumor**, NHA shall be following these guidelines. This document has been prepared for guidance of PROCESSING TEAM and TRANSACTION MANAGEMENT SYSTEM of AB PM-JAY for the claims of procedures mentioned above. The hospitals can also refer to this document so that they have the insight on how the claims will be processed. However, this document doesn't provide any guidance on clinical and therapeutic management of patient. In that respect the hospitals and physicians may refer to any other relevant material as per the extant professional norms.

PART I: GUIDELINES FOR CLINICIANS AND HEALTHCARE PROVIDERS

1.1 Objective:

The purpose of this section is to act as a guidance & a clinical decision support tool for the clinicians in deciding the line of treatment, plan clinical management of patient and decide referral of cases to the appropriate level of care (as required) for treatment of patients under PMJAY and selection of corresponding Health Benefit Package.

It will also serve as a tool for hospitals to determine and submit the mandatory documents required for claiming reimbursement of health benefit package under PMJAY.

1.2 Clinical key pointers:

- Spinal tumors occur with an incidence of 1.1 case per 100,000 persons. Intramedullary spinal tumors comprise approximately 2-4% of all Central Nervous System neoplasms.
- The most common kinds of intramedullary tumors are ependymomas, cavernoma, astrocytomas, hemangioblastomas and miscellaneous.

- In adults, ependymomas are the most common tumor type, accounting for 40-60% of all intramedullary spinal tumors, and the mean age of presentation being 35-40 years.
- In children, astrocytomas are the most common tumor type, accounting for around 60% of all intramedullary spinal tumors, and the mean age of presentation is 5-10 years.

Clinical features

- Because of the slow-growing nature of many of these tumors, symptoms precede diagnosis an average of 2 years. Patients with malignant or metastatic spinal cord tumors present in the range of several weeks to a few months after symptoms develop.
- Pain and weakness are the most common presenting symptoms of intramedullary spinal cord tumors. Pain is often the earliest symptom, classically occurring at night when the patient is supine. The pain is typically local over the level of the tumor but may radiate.
- Progressive weakness may occur in the arms (cervical tumors) or legs (cervical, thoracic, conus tumors). Impaired bowel, bladder, or sexual function often occurs early. Patients may have poor balance. Rarely, symptoms of subarachnoid hemorrhage may be present.
- Intra-tumoral hemorrhage can cause an abrupt deterioration, a presentation most often associated with ependymomas.

Tumor-specific characteristics

Ependymomas are associated with the following:

- Mean age at presentation of 43 years
- Slight female predominance
- Pain localized to the spine (65%)
- Pain worse at night or upon awakening
- Dysesthesia pain (burning pain)
- Long history of symptoms
- Myxopapillary variant (mean age of presentation of 21 y; slight male predominance)

Astrocytomas are associated with the following:

- Equal male and female prevalence
- Pain localized to spine
- Pain worse at night or upon awakening
- Paresthesia (abnormal sensation)

Hemangioblastomas are associated with the following:

- Onset of symptoms by the fourth decade of life, 80% symptomatic by age 40 years
- Familial disorder (ie, von Hippel-Lindau syndrome) present in a third of patients

- Decreased posterior column sensation
- Back pain localized over lesion

Physical examination findings

Sensory findings include the following:

- Decreased touch, pain, and/or temperature sensation
- Hyperesthesia's
- Decreased proprioception (inability to localize limbs in space)
- Abnormal sensation below the level of lesion
- Abnormal sensation only at level of lesion (suspended level)

Hyperreflexia findings include the following:

- Hoffman sign for cervical lesions
- Clonus
- Extensor plantar response (Babinski sign)

Other findings include the following:

- Motor weakness (late finding)
- Spasticity
- Increased tone
- Muscle atrophy (late finding)

Investigations

- Part of surgical fitness work up: CBC, LFT, RFT, BT, CT, PT, INR, Serum Electrolytes, HIV, HBsAG, HCV etc
- Radiological investigation
 - X-ray
 - CT scan for bone details
 - MRI scan with contrast
 - Bone scan
- Metastasis workup
 - Chest X-ray
 - Mammography
 - Ultrasound of abdomen
 - Blood tests - PSA
 - CT/MRI of other regions if symptomatic

Functional status assessment of patients (modified McCormick Scale)

Grade	Modified McCormick scale
I	Intact neurologically, normal ambulation, minimal dyesthesia
II	Mild motor or sensory deficit, functional independence
III	Moderate deficit, limitation of function, independent W/external aid
IV	Severe motor or sensory deficit, limited function, dependent
V	Paraplegia or quadriplegia, even w/flickering movement

Treatment

A. Surgery

- The first-line treatment for intramedullary tumors is open surgical resection.
- Surgery is indicated for all symptomatic lesions.
- Small asymptomatic lesions may be followed clinically and radiographically because the majority of intramedullary tumors are relatively benign and slow growing.
- Aggressiveness with respect to resection depends on the histological diagnosis of a frozen section and the ability to find and maintain a surgical plane.
- The presence or absence of a clear surgical plane is usually the key determining factor in defining the surgical goal.
- If a diagnosis of ependymoma is perceived, a complete surgical resection should be attempted.
- If a diagnosis of astrocytoma is perceived, most clinicians advocate a more limited debulking of only the tissue that is clearly abnormal.
- Multiple levels can be decompressed, and multilevel segmental fixation can be performed if necessary.

B. Radiotherapy

- External beam radiation is generally reserved for disseminated ependymomas and infiltrative astrocytomas but remains an option whenever radiographic residual or recurrent ependymoma is found.
- Stereotactic radiosurgery for intramedullary tumors can be considered.

1.3 Mandatory documents- For healthcare providers

Following documents should be uploaded by the concerned hospital staff at the time of pre-authorization and claims submission:

Mandatory document	Spine - Intramedullary Tumor	Spine - Intramedullary Tumor with fixation
i. At the time of Pre-authorization		

Clinical notes including evaluation findings	Yes	Yes
CT/ MRI Spine	Yes	Yes
Optional Positron emission tomography (PET) scan Chest X-ray Bone scan Mammography Ultrasound of abdomen CT/MRI of other regions if symptomatic	Yes	Yes
Indication of implant requirement	No	Yes
Planned line of treatment	Yes	Yes
ii. At the time of claim submission		
Detailed Indoor case papers (ICPs)	Yes	Yes
Detailed Procedure / operative notes	Yes	Yes
Intra-operative photographs (optional)	Yes	Yes
Post-op CT Spine	Yes	Yes
Implant details (barcode/invoice)	No	Yes
Histopathological/Biopsy report	Yes	Yes
Detailed discharge summary	Yes	Yes

PART II: GUIDELINES FOR PROCESSING TEAM

2.1 Objective: To provide guidance to the pre-authorization and claims processing team in ascertaining the medical necessity of procedure carried out vis a vis the patient's medical condition as evidenced by supporting documents/investigation reports etc., in deciding the admissibility and quantum of claim and compliance with mandatory documents by the hospital.

2.2 Following mandatory documents to be diligently reviewed by the pre-auth / claims processing personnel:

2.2.1 At the time of pre-authorization processing- For pre-authorization processing doctor (PPD):

- Clinical notes - detailed history, signs & symptoms, evaluation findings, indication for procedure, and planned line of treatment?
- Did history, physical examination, and radiological investigations confirm the diagnosis?

2.2.2 At the time of claim processing- For claims processing doctor (CPD)

- Are the detailed ICPs with daily vitals and treatment details provided?
- Are the detailed procedure / Operative Notes available?



- c. Was the imaging indicative of surgery?
- d. Was post-op CT Spine report submitted?
- e. Invoice/Barcode of implant details if applicable
- f. Is the Discharge summary with follow-up advise at the time of discharge submitted?

PART III: GUIDELINES FOR IT

3.1 Objective: To enable setting up of cross check mechanisms / rule engines within the IT platform (TMS) to ensure compliance with STGs and to prevent fraud / abuse of the Health Benefit Package.

3.2 Below mentioned are the scenarios where a provision would be built in TMS for pop-ups:

- I. Was clinical presentation, and radiological investigations indicative of surgery? Yes

Till the time the functionality is being developed, the processing doctors shall check the above manually.

References

1. Standard Treatment Guidelines. Neuro-Surgery. Department of Health and Family Welfare. Government of Karnataka. Suvarna Arogya Suraksha Trust.
2. William C Welch, David Schiff, Peter C Gerszten. Spinal cord tumors - UpToDate. Last updated - September 2020.