



Guidance document for processing PM-JAY packages

Chiari Malformation

Procedure covered: 1

Specialty: Neurosurgery

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)
Foramen Magnum Decompression	Foramen Magnum Decompression	S800072	SN026A	45,000

ALOS: 3 Days

Minimum qualification of the treating doctor:

Essential: Mch/DNB/Equivalent (in Neurosurgery)

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

Disclaimer:

For monitoring and administering the claim management process of **Foramen Magnum Decompression**, 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:

The primary indication for foramen magnum decompression is the presence of Chiari malformation. The operation has been historically considered to be the primary and gold standard operation for this condition.

The Chiari malformations are a collection of hindbrain abnormalities ranging from simple herniation of the cerebellar tonsils through the foramen magnum to complete agenesis of the cerebellum.

The Chiari Malformations

Chiari Type	Features
I	Tonsillar herniation >5 mm inferior to the plane of the foramen magnum (basion-opisthion line)
	No associated brainstem herniation or supratentorial anomalies
	Hydrocephalus uncommon
	Hydrosyringomyelia common
II	Herniation of the cerebellar vermis, brainstem, and fourth ventricle through the foramen magnum
	Associated with myelomeningocele and multiple brain anomalies
	Hydrocephalus and syringomyelia very common
III	High cervical or occipital encephalocele containing herniated cerebellar and brainstem tissue
IV	Hypoplasia or aplasia of the cerebellum and tentorium cerebelli

Youmans and Winn. Neurological Surgery. Seventh Edition. Elsevier

Clinical presentation

Type 1

Many people with Chiari I malformation have no symptoms. However, any of the following symptoms may occur, alone or in combination. Some of the symptoms are related to the development of a syrinx (a fluid filled cavity in the spinal cord).

- Severe head and neck pain
- An occipital headache felt at the base of the skull that is made worse by coughing, sneezing or straining
- Loss of pain and temperature sensation of the upper torso and arms (as a result of a syrinx)
- Loss of muscle strength in the hands and arms (as a result of a syrinx)
- Drop attacks – collapsing to the ground due to muscle weakness
- Spasticity
- Dizziness
- Balance problems
- Double or blurred vision
- Hypersensitivity to bright lights
- Sleep apnea
- In children and infants, the symptoms can be subtle and non-specific such as hypotonia, gross motor delay, swallowing/choking difficulties/failure to thrive and opisthotonus

Type II

The symptoms associated with a Chiari II malformation can also be caused by problems related to myelomeningocele and hydrocephalus. These symptoms include

- Alteration in the pattern of breathing, including periods of apnea (brief periods of cessation of breathing)
- Depressed gag reflex
- Involuntary, rapid, downward eye movements
- Loss of arm strength

Management

The goals of surgery for Chiari malformations are to decompress the craniocervical junction and restore the normal flow of CSF in the region of the foramen magnum. The purpose of foramen magnum decompression is to increase the volume of the posterior cranial fossa. Foramen magnum decompression essentially involves wide removal of the suboccipital bone and 'lax' duroplasty using graft. The most common procedure is posterior decompression via suboccipital craniectomy with or without duraplasty. Other procedures included anterior decompression of the foramen magnum by odontoidectomy and shunting.

- The management of Chiari malformations depends upon the nature of the malformation and the degree of associated neurologic impairments.
- Decompressive surgery is indicated for patients with CM-I who are clearly symptomatic with lower cranial nerve palsies, syringomyelia, myelopathy, cerebellar symptoms, severe neck pain, or occipital headache.
- Asymptomatic patients with an incidental diagnosis of CM-I who do not have syringomyelia can be managed conservatively with clinical and magnetic resonance imaging (MRI) surveillance
- Particularly for CM-II and CM-III, surgical interventions may include closure of open neural tube defects shortly after birth, treatment for hydrocephalus (most often by use of a shunt), and decompression of tight posterior fossa structures. Medical issues involve management of neurogenic bowel and bladder, neonatal feeding difficulties, respiratory failure, and apnea.

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	Foramen Magnum Decompression
i. At the time of Pre-authorization	
Clinical notes with signs, symptoms, indications, planned line of management and advice for admission	Yes
Clinical picture (optional) for associated conditions	Yes

MRI Brain and Spine	Yes
ii. At the time of claim submission	
Detailed Indoor case papers (ICPs)	Yes
Post-operative photographs (optional)	Yes
Post-op CT CVJ (craniovertebral junction)	Yes
Detailed Procedure / operative notes	Yes
Detailed discharge summary	Yes

PART II: GUIDELINES FOR PROCESSING TEAM

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:

- Was clinical presentation and imaging indicative of surgery? Yes

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

References

- Goel A. Can foramen magnum decompression surgery become historical?. *J Craniovertebr Junction Spine*. 2015;6(2):49-50. doi:10.4103/0974-8237.156037
- Chaouki Khoury. Chiari malformations – UpToDate. last updated: June, 2020
- Youmans and Winn. Neurological Surgery. Seventh Edition. Elsevier
- American association of Neurological Surgeons
<https://www.aans.org/Patients/Neurosurgical-Conditions-and-Treatments/Chiari-Malformation>