



## Guidance document for processing PM-JAY packages

### Dural Arteriovenous Malformation

Procedures covered: 2

Specialty: Interventional Neuroradiology

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)
Dural AVMs / AVFs	Dural AVMs (per sitting) with glue	S900003	IN001A	70,000
Dural AVMs / AVFs	Dural AVMs (per sitting) with onyx	S900004	IN001C	1,50,000

**ALOS:** 5 days

**Minimum qualification of the treating doctor:**

**Essential:** DM/Equivalent (in Interventional Neuroradiology), MCh/DNB/Equivalent in (Neurosurgery)

**Special empanelment criteria/linkage to empanelment module:** Care at Tertiary Hospital with facilities for interventional neuroradiology

**Disclaimer:**

For monitoring and administering the claim management process of **Dural AVMs**, 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:**

- Dural arteriovenous malformation (DAVM) consists of pathological shunting within the dural leaflet, with secondary involvement of the cerebral venous circulation.

- These AVMs, with direct connections between the arterial and venous system without intervening capillaries, usually are found adjacent to the venous channels found between layers of the dura mater, but can be found elsewhere too.
- The vast majority of these lesions are acquired in nature; with possible causes including trauma, surgery, dural venous thrombosis and hypercoagulability.
- The optimal treatment plan for each patient involves careful review of medical history, physical exam and diagnostic studies.
- The Borden/Djindjian/Cognard (Appendix 1) classifications are the most well-known classification systems used for predicting the aggressiveness of DAVMs.

## Symptoms

- Clinical manifestations of DAVMs are highly variable and related to the lesion location, arterial supply, and venous drainage. Symptoms can be sudden or slowly progressive.
- Common symptoms include ringing in the ear, headache, visual and gaze abnormalities, and swelling of the optic nerve head.
- Some dural AVMs involve bleeding. Dural AVMs are more likely to bleed if a portion of their drainage goes through vessels on the surface of the brain.
- Retrograde leptomeningeal drainage portends more aggressive behavior, including hemorrhage, focal neurologic deficits, and seizures. There is high risk of rebleeding from DAVMs that have hemorrhaged previously.

## Treatment

- Selection of specific treatment modality or combinations of it depends on symptom presentation, lesion location, and the presence or absence of leptomeningeal venous drainage.
- Treatment options include transarterial or transvenous embolization, microsurgical resection and disconnection, and stereotactic radiosurgery.
- Endovascular embolization, a minimally invasive procedure designed to close off blood flow to the AVM, is the treatment of choice. The use of flow-guided catheters increased experience with particle, glue and liquid embolic materials and the control of polymerization time has greatly improved the safety and efficacy of this technique.
- Some AVMs with a high risk of bleeding or those that are difficult to access via angiography catheters may require surgical removal.
- Some dural AVMs lacking symptoms or anatomical predisposition to hemorrhage can be tracked without treatment.

### 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	Dural AVMs (per sitting) with glue	Dural AVMs (per sitting) with onyx
<b>i. At the time of Pre-authorization</b>		
Clinical notes including evaluation findings, indication of procedure, and planned line of treatment	Yes	Yes
CT/MRI Brain/Spine	Yes	Yes
Digital Subtraction Angiography (DSA)	Yes	Yes
<b>ii. At the time of claim submission</b>		
Detailed Indoor case papers (ICPs)	Yes	Yes
Detailed Procedure / operative notes	Yes	Yes
Intra-operative photographs (optional)	Yes	Yes
Post procedure Check Angiogram	Yes	Yes
Invoice/barcode of onyx/glue used	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, indication for procedure, and planned line of treatment, and advice for admission?
- Did clinical presentation and imaging 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 line of treatment?
- Are the detailed procedure / Operative Notes available?
- Was the imaging indicative of surgery?
- Was invoice/barcode of glue/onyx used submitted?
- Is the discharge summary with follow-up advise at the time of discharge?

### **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, severity, and imaging indicative of surgery? Yes

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

### **References**

1. James C. Grotta, et al. Stroke: Pathophysiology, Diagnosis, and Management (Sixth Edition), 2016. Chapter 68: Dural Arteriovenous Malformations.
2. <https://www.uclahealth.org/neurosurgery/dural-arteriovenous-malformations>

### **Appendix 1**

Classification of Dural Arteriovenous Malformations			
Type	Djindjian	Cognard	Borden
I	Normal antegrade flow into dural sinus	Normal antegrade flow into dural sinus	Drains directly into venous sinus or meningeal vein
II	Drainage into venous sinus with reflux into adjacent sinus or cortical vein	a. Retrograde flow into sinus b. Retrograde filling of cortical veins only c. Retrograde drainage into sinus and cortical veins	Drains into dural sinus or meningeal veins with retrograde drainage into subarachnoid veins
III	Drainage into cortical veins with retrograde flow	Direct drainage into cortical veins with retrograde flow	Drains into subarachnoid veins without dural sinus or meningeal involvement
IV	Drainage into venous pouch (lake)	Direct drainage into cortical veins with venous ectasia >5 mm and 3x larger than diameter of draining vein	
V		Drainage to spinal perimedullary veins	

James C. Grotta, et al. Stroke: Pathophysiology, Diagnosis, and Management (Sixth Edition), 2016. Chapter 68: Dural Arteriovenous Malformations