

## Guidance document for processing PM-JAY packages

### Coarctation of Aorta

**Procedures covered/ procedure count:2**

**Specialty:** Cardiology/ Cardiothoracic Vascular Surgery

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price	ALOS
I. Balloon Dilatation	Coarctation of Aorta	S1200012	MC003A	38,600+cost of balloon	2 days
II. Surgical Correction of Category - I Congenital Heart Disease	Coarctation repair	S1300047	SV001G	100000+cost of implant	10 days

**Minimum qualification of the treating doctor:**

**Essential:** DM/ DNB/ equivalent (Cardiology)/ M.Ch. or DNB/ equivalent (cardiovascular thoracic surgery)

**Special empanelment criteria/linkage to empanelment module:**

Package name	Procedure name	Cardiac Catheterisation lab	CCU/ ICU	Qualified cardiologist (DM/ DNB cardiology)	Qualified cardiothoracic surgeon (MCh/ DNB cardiovascular thoracic surgery)
I. Balloon Dilatation	Coarctation of Aorta	Yes	Yes	Yes	No
II. Surgical Correction of Category - I Congenital Heart Disease	Coarctation repair	No	Yes	No	Yes

**Disclaimer:**



For monitoring and administering the claim management process of **Coarctation of Aorta & Coarctation repair**, 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 other relevant material as per the extant professional norms.

## **PART I: Guidelines for Clinicians and Healthcare Providers**

### **1.1 Objective:**

The purpose of this document 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:**

Coarctation of the aorta (C) is the sixth most common congenital lesion accounting for 4–6 per cent of live births with congenital heart disease. Although most patients have a discrete narrowing of the thoracic aorta at the insertion of the ductus arteriosus, the anatomical spectrum may vary from this discrete entity to tubular hypoplasia, with many variations in between these extremes. Despite these anatomical variations, the effect of the narrowing has the commonly shared features of increased afterload on the left ventricle, exposure of the upper body to hypertension, flow disturbance in the thoracic aorta, and decreased perfusion to the lower body. Common Signs and Symptoms of Coarctation of Aorta are as follows:

**a. Symptoms:** Coarctation of the aorta symptoms depend on the severity of the condition. Most people don't have symptoms. Children with serious aortic narrowing may show signs and symptoms earlier in life, but mild cases with no symptoms might not be diagnosed until adulthood. People may also have signs or symptoms of other heart defects that they have along with coarctation of the aorta.

Babies with severe coarctation of the aorta may begin having signs and symptoms shortly after birth. These include:

- Pale skin
- Irritability



- Heavy sweating
- Difficulty breathing
- Difficulty feeding

Left untreated, aortic coarctation in babies might lead to heart failure or death.

Older children and adults with coarctation of the aorta often don't have symptoms because their narrowing may be less severe. They may experience following symptoms

- Headache
- Muscle weakness
- Leg cramps or cold feet
- Nosebleeds
- Chest pain

b. **Signs:** Common Signs of Coarctation of Aorta are as follows:

- High blood pressure in the arms
- A blood pressure difference between the arms and legs, with higher blood pressure in the arms and lower blood pressure in the legs
- A weak or delayed pulse in the legs
- A heart murmur — an abnormal whooshing sound caused by faster blood flow through the narrowed area

### **Indications and Timing of Intervention**

The most widely accepted indication for intervention in children and adults is the presence of systemic arterial hypertension, with an upper and lower extremity systolic blood pressure difference  $\geq 20$  mmHg. Milder obstructions may also benefit from intervention by decreasing left ventricular diastolic pressure and preserving left ventricular function in the long term, especially in the presence of hypertension at rest, abnormal blood pressure response during exercise, progressive left ventricular hypertrophy, and in cases of complex heart disease particularly Fontan patients.

In 2008, The American College of Cardiology and American Heart Association (ACC/AHA) guidelines for adults with congenital heart disease recommended intervention for coarctation in the following settings:

- Peak-to-peak coarctation gradient  $\geq 20$  mmHg; which is the difference in peak pressure proximal and beyond the narrowed segment.
- Peak-to-peak coarctation gradient  $< 20$  mmHg with imaging evidence of significant coarctation and radiologic evidence of significant collateral flow. The resting gradient alone may be an unreliable indicator of severity when there is significant collateral circulation.

Infants with “critical” coarctation are at risk for developing heart failure and death when the ductus arteriosus closes. Identification of these patients is essential in order to maintain patency of the ductus prior to surgical repair by continuous intravenous infusion of prostaglandin E1.

Correction of coarctation should be performed in infancy or early childhood to prevent the development of chronic systemic hypertension as delayed repair after early childhood does not prevent persistence or late recurrence of systemic hypertension. If coarctation escapes early detection, repair should be performed at the time of subsequent diagnosis.

### 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	Coarctation of aorta	Coarctation repair
<b>i. At the time of Pre-authorization</b>		
a. Clinical notes	Yes	Yes
b. Echo/Doppler report and Stills	Yes	Yes
<b>ii. At the time of claim submission</b>		
a. Procedure/ Operation notes	Yes	Yes
b. Post Procedure Echo/Angiogram with report	Yes	Yes
c. Detailed discharge summary	Yes	Yes
d. Barcode of the balloon/implant, If used	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:**

Mandatory document	Coarctation of aorta	Coarctation repair
<b>i. At the time of Pre-authorization</b>		
a. Clinical notes - detailed history, signs & symptoms, indication for procedure	Yes	Yes
b. Is the Echo/Doppler report and Stills suggestive of Coarctation of Aorta	Yes	Yes
<b>ii. At the time of claim submission</b>		
a. Are the detailed Procedure/ Operation notes submitted	Yes	Yes
b. Does Post Procedure Echo/Angiogram stills with report show increase in diameter of the affected part of aorta?	Yes	Yes
c. Is there a Detailed Discharge Summary mentioning date of follow-up submitted?	Yes	Yes
d. Is the Invoice of blade/balloon/stent/graft used submitted?	Yes	Yes

### **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:**

1. Was the patient's Echo/angiogram stills report showing Coarctation of Aorta? Yes

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

### **References**

1. Hussam Suradi et al. Current management of Coarctation of Aorta. GlobCardiol Sci Pract. 2015; 2015(4): 44.



2. Warnes CA, Williams RG, Bashore TM, Child JS, Connolly HM, Dearani JA. ACC/AHA 2008 Guidelines for the Management of Adults with Congenital Heart Disease: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (writing committee to develop guidelines on the management of adults with congenital heart disease) Circulation. 2008;118(23):e714–e833. et al.
3. Marshall AC, Perry SB, Keane JF, Lock JE. Early results and medium-term follow-up of stent implantation for mild residual or recurrent aortic coarctation. American heart journal. 2000;139(6):1054–1060.
4. Seirafi PA, Warner KG, Geggel RL, Payne DD, Cleveland RJ. Repair of coarctation of the aorta during infancy minimizes the risk of late hypertension. The Annals of thoracic surgery. 1998;66(4):1378–1382.