

## Guidance document for PM JAY packages

### Ventricular Septal Defect

**Procedures covered/ Procedure Count: 8**

**Specialty: Cardiology/ CTVS**

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price	ALOS
VSD Device Closure	VSD Device Closure	S1200015	MC008A	37,900+ Cost of implant	2 days
Surgical Correction of Category - II Congenital Heart Disease	VSD Closure	S1200015	SV002F	120,000+ Cost of implant	10 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Aortic procedure	New Package	SV003M	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Mitral procedure	New Package	SV003N	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Tricuspid Procedure	New Package	SV003O	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Pulmonary Procedure	New Package	SV003P	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Infundibular Repair	New Package	SV003Q	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	VSD Closure + Coarctation Repair	New Package	SV003R	150,000 + Cost of implant	12 days

**Minimum qualification of the treating doctor:**

**Essential:** DM/DNB/ equivalent (Cardiology) /M.Ch./DNB/ equivalent (Cardiothoracic Surgery)

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

Procedure name	Cardiac Catheterisation lab	CCU/ ICCU	Qualified cardiologist (DM/ DNB cardiology)	Qualified cardiothoracic surgeon (MCh/ DNB cardiovascular thoracic surgery)
VSD Device Closure	Yes	Yes	Yes	No
Surgical Correction - VSD Closure	No	Yes	No	Yes
VSD Closure + Aortic procedure	No	Yes	No	Yes
VSD Closure + Mitral procedure	No	Yes	No	Yes
VSD Closure + Tricuspid Procedure	No	Yes	No	Yes
VSD Closure + Pulmonary Procedure	No	Yes	No	Yes
VSD Closure + Infundibular Repair	No	Yes	No	Yes
VSD Closure + Coarctation Repair	No	Yes	No	Yes

### Disclaimer:

“For monitoring and administering the claim management process of **Ventricular Septal Defect**, 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:**

Ventricular septal defect (VSD) is the most common congenital cardiac anomaly in children and is the second most common congenital abnormality in adults, second only to a bicuspid aortic valve. An abnormal communication between the right and left ventricles and shunt formation is the main mechanism of hemodynamic compromise in VSD. While many VSDs close spontaneously, if they do not, large defects can lead to detrimental complications such as pulmonary arterial hypertension (PAH), ventricular dysfunction and an increased risk of arrhythmias

Ventricular septal defects especially small VSDs may be asymptomatic and detected incidentally. Common symptoms and signs of Ventricular Septal Defect are as follows.

### **a. Symptoms:**

- Dyspnea/ Breathlessness with feeding
- Failure to thrive
- Recurrent respiratory infections
- Palpitations
- Poor weight gain

### **b. Signs:**

- Pan-systolic best heard in the left lower sternal border
- Prominent parasternal pulsations
- Tachypnea
- Signs of Eisenmenger syndrome in cases of shunt reversal (cyanosis, increased pulmonary vascular resistance, dyspnea on exertion, syncope, and increased susceptibility to infection)

## **Management**

Approximately 85% to 90% of small isolated VSDs close spontaneously during the first year of life. Patients with small, asymptomatic VSDs with the absence of PAH have an excellent prognosis without any intervention. Otherwise, the management approach includes endocarditis prophylaxis and VSD closure.

**Indications and Timing of Closure** (Indian Guidelines for Indications and Timing of Intervention for Common Congenital Heart Diseases: Consensus Statement of the Working Group on Management of Congenital Heart Diseases).

- I. Small VSD: (No symptoms, normal PA pressure, normal left heart chambers, no cusp prolapse): (a) Annual follow-up till 10 years of age, then every 2-3 years; (b) Closure indicated if patient has an episode of endocarditis or develops cusp prolapse with

aortic regurgitation or develops progressive significant right ventricular outflow tract obstruction.

- II. Moderate VSD: (a) Asymptomatic (normal pulmonary artery pressure with left heart dilation): Closure of VSD by 2-5 years of age; (b) Symptomatic: If controlled with medications, VSD closure by 1-2 years of age;
- III. Large VSD: (a) Poor growth/congestive heart failure not controlled with medications (furosemide/spironolactone or enalapril +/- digoxin): As soon as possible; (b) Controlled heart failure: By 6 months of age.

VSD with aortic cusp prolapse: Any VSD with cusp prolapse and directly related aortic regurgitation that is more than trivial: Surgery whenever aortic regurgitation is detected.

Percutaneous device VSD closure is reserved for those whom surgery is very risky due to severe PAH, multiple comorbidities, and those who had prior cardiothoracic surgery such as residual or recurrent VSD. Muscular VSDs are the main type amenable to this procedure, the proximity of other defects to the inlet valves makes performing this technique challenging in such cases.

### 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	VSD Device Closure	Surgical Correction of VSD Closure	VSD Closure +Aortic Procedure	VSD Closure + Mitral Procedure	VSD Closure +Tricuspid Procedure	VSD Closure + Pulmonary Procedure	VSD Closure + Infundibular Repair	VSD Closure + Coarctation Repair
<b>At the time of Pre-authorization</b>								
Clinical notes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Echo/Doppler report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>At the time of claim submission</b>								
Procedure / Operative notes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Post procedure stills of ECHO with report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Detailed Discharge Summary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Invoice/ barcode of	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

blade / device used								
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## 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	VSD Device Closure	Surgical Correction - VSD Closure	VSD Closure +Aortic Procedure	VSD Closure + Mitral Procedure	VSD Closure +Tricuspid Procedure	VSD Closure + Pulmonary Procedure	VSD Closure + Infundibular Repair	VSD Closure + Coarctation Repair
<b>Pre-auth processing Doctor (PPD)</b>								
Clinical notes - detailed history, signs & symptoms, indication for procedure	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the Echo/ Doppler report suggestive of Ventricular septal defect?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the Echo/ color Doppler suggestive of other heart defect along with VSD?	No	No	Yes	Yes	Yes	Yes	Yes	Yes
<b>Claims processing Doctor (CPD)</b>								

Are the detailed Procedure / Operative notes submitted?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Does the Post procedure still of ECHO show repair of the defect?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a Detailed Discharge Summary mentioning date of follow-up submitted?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is the Invoice/ barcode of blade / device used submitted?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

### PART III: GUIDELINES FOR TRANSACTION MANAGEMENT SYSTEM (TMS)

**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 patient Echo/Doppler report showing Ventricular Septal Defect? Yes

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

#### References

1. Dakkak W, Oliver TI. Ventricular Septal Defect. [Updated 2019 Mar 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan.
2. Saxena, A., Relan, J., Agarwal, R., Awasthy, N., Azad, S., Chakrabarty, M., Dagar, K.S., Devagourou, V., Dharan, B.S., Gupta, S.K. and Iyer, K.S., 2020. Indian Guidelines for Indications and Timing of Intervention for Common Congenital Heart Diseases: Revised and Updated Consensus Statement of the Working Group on Management of Congenital Heart Diseases. Abridged Secondary Publication. Indian Pediatrics, 57(2), pp.143-157.