

## Guidance document for PM JAY package

### Senning Operation/ Mustard Operation

**Procedures covered/ Procedure Count: 2**

**Specialty: CTVS**

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)	ALOS
Surgical Correction of Category - III Congenital Heart Disease	Senning Operation	S1300037	SV003X	150,000 + Cost of implant	12 days
Surgical Correction of Category - III Congenital Heart Disease	Mustard Operation	S1300038	SV003Y	150,000 + Cost of implant	12 days

**Minimum qualification of the treating doctor:**

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

**Special empanelment criteria/linkage to empanelment module:** Cardiothoracic Surgery OT

**Disclaimer:**

For monitoring and administering the claim management process of **Senning Operation/ Mustard Operation**, 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:**

Transposition of great arteries (TGA) is the most common cyanotic CHD at birth, accounting for approximately 5% of all CHDs. Its prevalence is 2–3/10,000 live births. Boys are affected two to three times more as compared to girls. This anomaly is reported to be more common in infants born to mothers with diabetes, poor nutrition, or history of alcohol intake. In 70% of cases, there is no associated defect apart from ASD, PDA, or insignificant VSD; these cases are labeled as having simple TGA. Association of TGA with other defects such as large VSD and left ventricular outflow tract obstruction or coarctation is referred to as complex TGA. It is a serious disease and most patients with TGA present very early in life, within few days or weeks after birth. With the advent of improved surgical techniques and postoperative care, long-term survival is > 90% with very low reintervention rates.

Clinical assessment: In simple TGA, cyanosis is the dominant feature; no heart murmur is audible in most cases. Those with large VSD and/or PDA present with features of heart failure. Weak femoral pulses indicate associated CoA.

Senning and Mustard operations are type of atrial switch surgeries offered to patients with TGA where arterial switch operation is not feasible.

With the Senning surgical repair, a baffle – or conduit - is created within the atria that reroutes the deoxygenated blood coming from the inferior and superior vena cavae to the mitral valve and therefore to the pulmonary circulation. This is accomplished by creating a systemic venous conduit that channels deoxygenated blood from the superior and inferior vena cava towards the mitral valve. After this complex reconstruction using flaps from the right atrial tissue and the interatrial septum and lets the oxygenated pulmonary venous blood flow to the tricuspid valve and from there to the systemic circulation. The anatomic left ventricle continues to pump into the pulmonary circulation and the anatomic right ventricle will work as the systemic pump, in other words the ventriculo-arterial mismatch is left unrepaired. In the Senning's operation, atrial tissue is used to create the baffle. No prosthetic material is introduced.

In the Mustard procedure, the atrial septum is excised, and the atrial baffle is created by the placement of a single elephant trunk-shaped patch made of pericardial tissue or prosthetic patch.

#### Indications and type of surgery

TGA with intact ventricular septum presenting beyond 3–4 weeks of life with regressed left ventricle:

- a. Presenting between 1 and 2 months: ASO; extracorporeal membrane oxygenation (ECMO) support may be required in some cases (Class IIa)
- b. Presenting between 2 and 6 months: ASO with ECMO support or rapid two-stage ASO<sup>1</sup> or an atrial switch (if rapid two-stage or ECMO not feasible) (Class IIa)

- c. Presenting between 6 months and 2 years: Atrial switch operation (Senning or Mustard operation) (Class IIa). Rapid two-stage ASO<sup>1</sup> to be considered in select cases after detailed evaluation (Class IIb).

### 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	Senning Operation	Mustard Operation
<b>i. At the time of Pre-authorization</b>		
a. Clinical notes	Yes	Yes
b. Echo/Doppler report	Yes	Yes
<b>ii. At the time of claim submission</b>		
a. Indoor case papers	Yes	Yes
b. Procedure / Operative notes	Yes	Yes
c. Post procedure stills of ECHO with report	Yes	Yes
d. Detailed Discharge Summary	Yes	Yes
e. Barcode of implant, if used	Yes	Yes

## **PART II: GUIDELINES FOR PROCESSING TEAM**

### **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 the Echo/ Doppler report suggestive of Transposition of Great Arteries? Yes

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

### **References**

1. Saxena A, Relan et al 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. Ann Pediatr Card 2019;12:254-86



2. Kouchoukos NT, Blackstone EH, Hanley FL, Kirklin JK. Kirklin/Barratt-Boyes Cardiac Surgery: Expert Consult-Online and Print (2-Volume Set). Elsevier Health Sciences; 2012 Oct 26.
3. Mavroudis C, Backer C. Pediatric cardiac surgery. Blackwell Publishing Ltd; 2013 Feb 28.