



KEMENTERIAN KESIHATAN MALAYSIA



PROTECTHEALTH

TAKLIMAT PENYUMBERLUARAN PESAKIT DARI HOSPITAL KKM KE KPJKS

8 FEBRUARI 2024

KOMPLEKS INSTITUT KESIHATAN NEGARA (NIH), SHAH ALAM, SELANGOR



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HOSPITAL SERVICES OUTSOURCING PROJECT: CARDIOTHORACIC

Presentation Outline



- Overview
- Scope of Work
- Requirement
- Others



Overview

Project Title

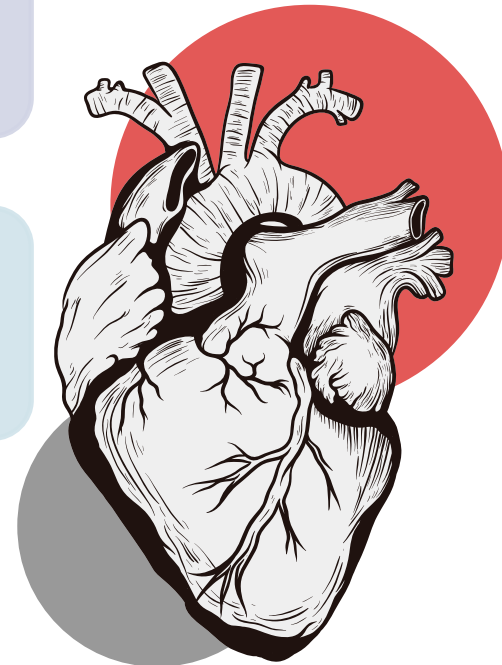
- Hospital Services Outsourcing for Cardiothoracic Surgery

Project Description

- General information on the procedure and brief information on the provider.

Project Timeline

- The project aims to have the first patient visit on April 2024.



ADULT CARDIOTHORACIC SURGERY



Scope of Work

- Detailed Description:
 1. Coronary artery bypass graft surgery
 2. Open Single Valve Replacement Surgery
 3. Double Procedures
- Potential Volume: up to 2,300 patients



Scope of Work: Patient Selection/Eligibility for the Service

1. Malaysian, focusing on elective/semi-urgent cases

	CABG	Single Valve Replacement	Double Procedure
Inclusion Criteria			
Low-mild risk, EuroSCORE <3.5%	i) age <75 years old ii) EF >40%		
Moderate risk, EuroSCORE 4%-8%	i. Age <80 years ii. EF >30% iii. eGFR > 50 iv. Co-morbid illnesses: COAD, Peripheral vascular disease, No neurological deficits v. NYHA II-III		
Exclusion Criteria			
	i. Age >80 yrs old ii. EF <30% iii. Liver disease iv. Previous Cardiac Surgery v. foreigner, Permanent resident		



Scope of Work: Pre-operative Care

- Pre-operative assessment by surgeon & anaesthetist
 - reviewing the patient's medical history, performing a physical examination, and conducting necessary tests by both surgical and anaesthetic team.
- Preoperative preparations require to be performed at referring MOH Facilities:
 - a) Recent Coronary angiogram
 - 3 coronary vessels involvement : the coronary angiogram validity must be within 24 months
 - 2 coronary vessels involvement: the coronary angiogram validity must be within 18 months
 - b) Recent CXR & echocardiogram : validity within 6 months
 - c) Blood tests: FBC, RP, LFT, Coagulation Profile
 - d) Biohazard screening : validity within 6 months
 - e) Lung function test report (for patients with Chronic Lung Disease) : validity within 1 year



Scope of Work: Post operative Care

- Post operative care encompasses the vigilant monitoring of the patient's recuperation following surgery.
- Post operative length of stay (LOS):

	Low Risk	Moderate risk
LOS (inclusive of ICU & readmission)	14 days	21 days
Readmission	within 6 weeks post-op needs to be managed by the operating Surgeon of the Private Hospital	

- Post operative care shall inclusive of perioperative care which includes (but not limited to):
 - a) post op rehabilitation: stockinet, chest hugger, spirometer
 - b) post op imaging: CXR, echocardiogram



Scope of Work: Post operative Care

- For all related expected prolonged length of hospital stay as a result of perioperative complications, the private hospital should alert respective referring MOH centre.
- Surgical and medical complications that can be addressed should be managed by the operating Surgeon or other respective doctor/specialist of the Private Hospital.
- Unexpected mortality and mortuary services
- Options for transfer to government hospital if patient remains
 - (a) on ventilation or (b) oxygen dependent (not suitable for home discharge) AND
 - the hospital stay exceeds 7 or more days



Scope of Work: Follow up

	Description
Follow up	Minimum one (1) post-op follow up at 6 weeks <ul style="list-style-type: none">• a) at operating Surgeon of the Private Hospital• b) inclusive of STO & Wound inspection
Medications	For 6 weeks of duration
Operative note summary	
Discharge summary	To also include list of medications
STO Memo	

(Hardcopy to be given to the patients and softcopy to referral hospital)



Requirement – CABG and Open Valve Replacement

Equipment Needed

Heart-Lung Bypass Machine

Electrocardiogram (ECG)

Surgical Instruments

Stabilizing Device

Anaesthetic equipment

Laparoscopic Cameras

Transesophageal Echocardiogram (TEE)

Pulmonary Artery Catheter (PAC)

IABP

Staffing Requirements

Cardiothoracic Surgeon(s)

Anesthesiologist

Certified Perfusionist

Nursing Team

Surgical Assistant

Anesthesiologist Assistant

Physiotherapist

Supporting staff



Requirement – CABG and Open Valve Replacement

Facility

Operating Room

Requirements

Intensive Care Unit (ICU)

Hospital Ward

Medication

anti lipid

anti platelet

PPI

B blocker

pain killer

+/- anti failure when indicated

medications for underlying co-morbid



Requirement – CABG and Open Valve Replacement

Reporting Requirements

Discharge summary

Clinical summary, Diagnosis,
Echo findings,
Operating procedure,
Surgical outcome,
Post-op progress
post-op complications (if any)

Operative note

Diagnosis,
Operative procedure,
Complications if any,
Surgeon & Anaesthetist Name and NSR

Clinical note

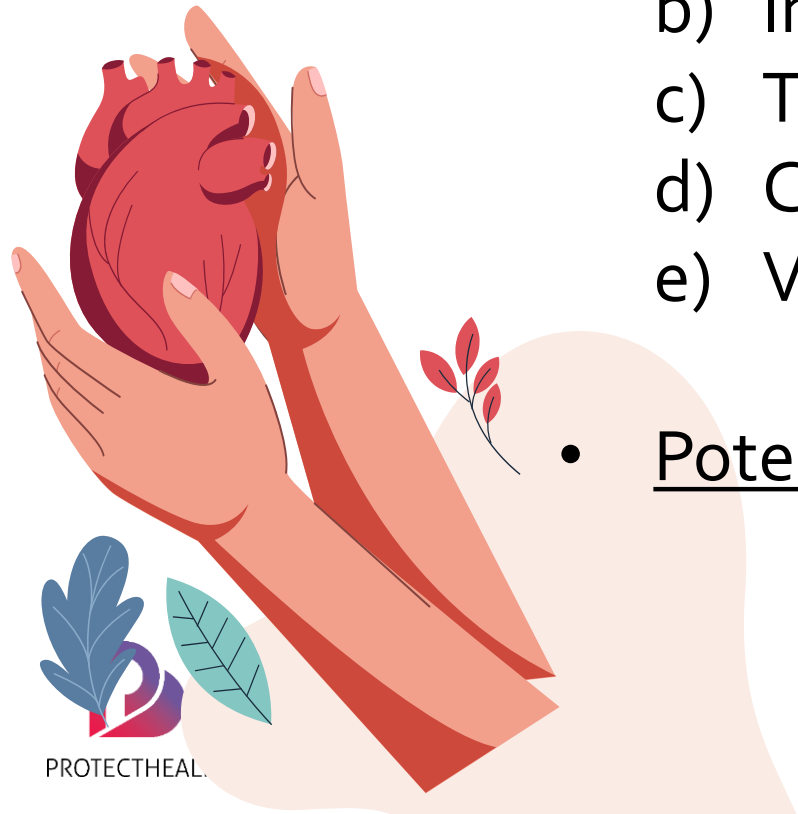
List of oral medications
(dose/frequency/duration)



PAEDIATRIC CARDIOTHORACIC SURGERY

Scope of Work

- Detailed Description:
 1. Open Paediatric Cardiac Surgery
 - a) Arterial Switch Operation
 - b) Interrupted Aortic Arch (IAA) Repair
 - c) Total Anomalous Venous Drainage (TAPVD) Repair
 - d) Coarctation of Aorta (CoA) Repair
 - e) Ventricular Septal Defect in (VSD) failure
- Potential Volume: 40-50 patients



Scope of Work: Patient Selection/Eligibility for the Service

Selection of patients shall fulfil these requirements:

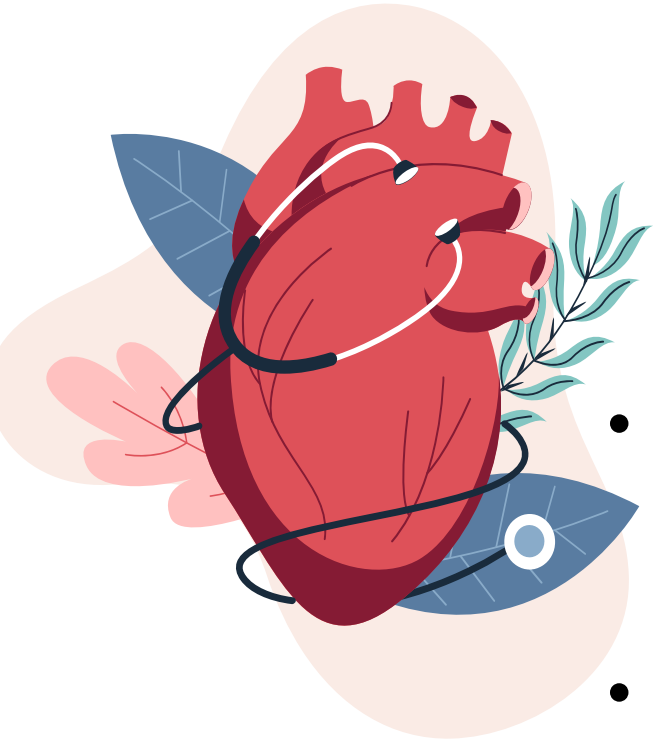
General:

- Malaysian with MyKid or Birth Certificate
- Neonates/paediatrics with Malaysian parents

Types of surgery	Specific Criteria
Arterial Switch Operation (ASO)	Inpatient
Interrupted Aortic Arch (IAA) Repair	
Total Anomalous Venous Drainage (TAPVD) Repair	
Coarctation of Aorta (CoA) Repair	For Inpatient or Ventilator Dependent Patients
Ventricular Septal Defect in (VSD) failure	



Scope of Work: Pre-operative Care



- Pre-operative assessment by surgeon & anaesthetist
 - reviewing the patient's medical history, performing a physical examination, and conducting necessary tests by both surgical and anaesthetic team.
- Blood investigations, serology screening and imaging will be performed in the referring MOH hospital.
- Additional blood investigations or imaging, if required, shall be performed at the receiving private hospital.



Scope of Work: Post operative Care

- During patient admissions to the ward:
 - Involves specialised paediatric cardiac intensive care
 - paediatric cardiology and
 - paediatric cardiac surgery
- High dependency unit and intensive care unit during post op recovery
- All discharge patients should receive:
 - Discharge Summary
 - Operative Notes
 - Medications supply for 6 weeks
 - Arrangements for clinic appointment date at the government clinic for follow-up within 6 weeks of discharge
 - Arrangements for STO date at nearby Government clinic, Klinik Kesihatan or Hospital within 2 weeks



Scope of Work: Post operative Care

- Surgical and medical complications that can be addressed should be managed by the operating Surgeon or other respective doctor/specialist of the Private Hospital.
- When expected prolonged length of hospital stay due to perioperative complications is anticipated, the private hospital should alert respective referring MOH centre.
- Unexpected mortality and mortuary services
- Options for transfer to government hospital if patient remains
 - (a) on ventilation or (b) oxygen dependent (not suitable for home discharge)
 - AND
 - the hospital stay exceeds 7 or more days



Scope of Work: Follow up

	Description
Follow up	Should be done at the government hospital
Medications	For 6 weeks of duration
Operative note summary	Diagnosis, Operative procedure, Complications (if any)
Discharge summary	Clinical summary, Diagnosis, Echo findings, Operating procedure, Surgical outcome, Post-op progress and post-op complications if any, list of oral post-op medications (dose/frequency/duration)
Make arrangements for clinic appointment date at the government clinic for follow-up within 6 weeks of discharge	
Make arrangements for STO date at nearby Government clinic, Klinik Kesihatan or Hospital within 2 week	



Requirement – OPEN PAEDIATRIC CARDIAC SURGERY

Equipment Needed

Heart-Lung Bypass Machine (congenital paediatric open heart surgery compatibility)

Electrocardiogram (ECG)

Transthoracic Echocardiogram (TEE) If available TEE

Arterial blood gases machine and Activated Clotting time machine

Surgical Instruments

Anaesthetic equipment & monitoring Underwater chest drain suction

ICU equipment & monitoring

Paediatric ward with equipment & monitoring

Holter machine

Staffing requirement(s)

Paediatric Congenital Cardiothoracic Surgeon(s) Consultant with extensive experience in paediatric congenital, NSR

Paediatric Cardiologist Consultant, NSR

Anesthesiologist (with Paediatric Congenital experience) Consultant, NSR

Paediatric Intensivist(if available) Consultant, NSR

Certified Perfusionist (with Paediatric Congenital experience)

Nursing Team (ward, ICU & OT) (with Paediatric Congenital experience)

Surgical Assistant

Anesthesiologist Assistant

Physiotherapist (with Paediatric experience)

Supporting staff



Requirement – OPEN PAEDIATRIC CARDIAC SURGERY

Facility Requirements

Operating Room with availability of cardiopulmonary bypass machine support

Intensive Care Unit (ICU) suitable intensive care management for paediatric congenital cardiac

Hospital Ward suitable intensive care management for paediatric congenital cardiac

Medication

Pre-op

Intra-op medication utilised for intra op and ICU care

Post-op discharge medication for at least 6 weeks

Reporting Requirements

Discharge summary Clinical summary, Diagnosis, Echo findings, Operating procedure, Surgical outcome, Post-op progress and post-op complications if any

Operative summary Diagnosis, Operative procedure, Complications if any

Discharge medication list List of oral medications (dose/frequency/duration)

STO memo Date of removal of sutures and wound inspection (to be done at Nearby MOH Facility)





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THANK YOU
