PCICU Fast Track Post Op Pathway

Introduction

This pathway is intended to guide post operative care for cardiac surgery patients in the pediatric cardiac intensive care unit (PCICU) who are expected to transition out of the ICU or discharge home by post operative day (POD) 2 or 3. The pathway is broken down by post operative day and includes a chart that has recommendations for plans of care and goals that are organized by organ system. The specific goals have a check box that can be marked when that goal is met. On the right side of the chart, there is a column that provides space to briefly explain why the patient was unable to meet the goal. This allows our team to identify aspects of our post operative care that need improvement.

Inclusion criteria

This pathway is only designed to be a guide and is not a required component of a patient's care. The PCICU and cardiac team should use their clinical judgment and discretion when considering which patients could have their post operative course guided by this pathway. Patients that might be considered include those undergoing repair of an ASD, VSD, TOF, CoA , and cases that do not require cardiopulmonary bypass (excluding PA band placement). Patients undergoing second or third stage palliations for single ventricle physiology (Glenn and Fontan) have certain unique needs in terms of post operative monitoring and care, but their general post operative course could be guided by this pathway- particularly given the goal of early extubation in these patients.

Exclusion criteria:

Infants < 3 months of age

Patient weight < 5 kg

Significant comorbidities (pulmonary disease, renal disease, etc.) - this includes a diagnosis of pulmonary hypertension

Need for mechanical ventilation or vasoactive support pre-operatively

Reasons to pause or leave pathway:

Generally, any significant clinical changes or complications in the post operative period would result in a patient deviating from this pathway. These complications include cardiac tamponade, arrhythmias, prolonged low cardiac output, pulmonary hypertension, need for reoperation within the first several days post op, delayed sternal closure, and any other significant clinical decompensation such as cardiac arrest or need for extracorporeal mechanical support. If a patient experiences a complication but improves quickly, it is reasonable to consider

returning to the pathway for guidance on the remainder of post op care (for example: a patient develops JET on the first post operative night and requires medication for rate control such as amiodarone, but by POD 1-2 they are able to wean off antiarrhythmics and are otherwise progressing clinically).

POD 0	**If goal not met, why?**
Respiratory: - **GOAL**: Extubation in OR or within 6-8 hours post op. ☐ CV: - Milrinone (for bypass cases) - Vasoactive support to maintain goal blood pressure - Colloid/crystalloid as needed for hypovolemia, blood products as needed FEN/GI: - Total fluids at 80% maintenance - PRN Zofran for nausea - Famotidine while NPO - **GOAL**: Advance diet to clears if on minimal respiratory support ☐ Renal: - **GOAL:** Start lasix IV q6-12 hours once BP stable and no signs of hypovolemia ☐ - Cardioprotective electrolytes with PRN orders Neuro/Pain: - IV Tylenol scheduled q6h (1st dose in OR) - Precedex infusion (can be initiated in OR), **GOAL:** discontinue by 6-8 hours post op (or if bradycardia/intolerance to medication) ☐ - PRN IV opioid - Start IV Toradol 6-8 hours post op if no concern for bleeding or renal dysfunction (patients ≥ 6 months of age or younger at team's discretion)	
Labs and imaging - CXR and EKG on admission - CMP, Mg, Phos, CBC with diff, ABG, DIC profile - Continue monitoring ABGs q1h x 2, q2h x2, and q4h for remainder of first night	
Activity - Sternal precautions (if applicable) for 6 weeks - PT/OT consult	
Lines and tubes: - CVL (R internal jugular preferred if possible) for bypass cases - At least 2 PIVs (especially if no CVL for non-bypass case) - Peripheral arterial line - Chest tubes - Foley catheter	

POD 1	If goal not met, why?
Patient management goals by systems: Respiratory: - Extubate in AM if not already extubated on POD 0 ☐ - **GOAL**: Continue weaning on respiratory support as tolerated to room air ☐ - Encourage incentive spirometry or blowing bubbles/pinwheel to prevent atelectasis CV: - **GOAL:** Wean and/or discontinue milrinone ☐ FEN/GI: - **GOAL:** Continue advancing diet to full regular diet ☐ - **GOAL:** Wean IVF to KVO/off ☐ - Discontinue famotidine if advancing on diet - PRN Zofran - Bowel regimen Renal: - Continue IV lasix, **GOAL:** net negative fluid balance ☐ - Cardioprotective electrolytes with PRN orders Neuro/Pain: - Transition Tylenol from IV to PO - IV Toradol q6h if not already started on POD 0 (patients ≥ 6 months of age or younger at provider's discretion) - Transition IV opioid to PO oxycodone q4h PRN if tolerating PO - PRN IV opioid - Discontinue Precedex in AM if not already discontinued on POD 0	
Labs and imaging - CXR and EKG in AM - CMP, Mg, Phos, CBC with diff, ABG, DIC profile, VBG for mixed venous O2 sat if internal jugular line in place	
Activity - **GOAL:** Sit up at edge of bed or OOB to chair in AM for ambulatory patients - **GOAL:** Ambulating in halls with PT/OT for ambulatory patients	
Lines and tubes: - **GOAL:** Discontinue foley catheter ☐ - Central line - Peripheral arterial line - PIV	

- Chest tubes and wires to remain in place unless otherwise directed by CT surgery team	

POD 2	**If goal not met, why?**
Patient management goals by systems: Respiratory: - **GOAL**: Continue weaning on respiratory support as tolerated to room air ☐ - Encourage incentive spirometry or blowing bubbles/pinwheel to prevent atelectasis CV: - Discontinue milrinone if not already stopped on POD 1 - Obtain echocardiogram to evaluate function and repair, identify residual defects and pericardial effusion FEN/GI: - **GOAL:** Tolerating regular diet ☐ - Discontinue famotidine if not already discontinued on POD 1 - PRN Zofran Renal: - **GOAL:** Transition IV diuretics to oral ☐ Neuro/Pain: - Continue PO Tylenol q6h scheduled - Transition IV Toradol to scheduled ibuprofen q6h (alternating with Tylenol) - Discontinue PRN IV opioid - Continue scheduled and/or PRN oxycodone q4-6 hours	
Labs and imaging - CXR in AM - BMP, Mg, Phos, CBC with differential, ABG - Echocardiogram	
Activity - **GOAL:** Ambulating in hall at least 2x with or without PT/OT for ambulatory patients	
Lines and tubes: - **GOAL:** Discontinue central line ☐ - **GOAL:** Discontinue arterial line by afternoon - **GOAL:** Discontinue chest tubes and pacing wires unless otherwise directed by CT surgery ☐	

POST OP GOALS- FAST TRACK PATIENTS	POD 0	POD 1	POD 2	POD 3	POD 4
CARDIOVASCULAR					
Milrinone discontinued					
Epinephrine/ vasopressors discontinued					
RESPIRATORY					
Extubated					
Weaned to room air					
FEN/GI					
Enteral nutrition started					
Goal enteral nutrition achieved					
IV fluids stopped/KVO					
GI ppx stopped					
Passing flatus/BM					
RENAL					
Diuretics transitioned to enteral					
PAIN/SEDATION					
Precedex stopped					
Pain controlled on enteral regimen					
MOBILITY					
Out of bed to chair/held					
Ambulating in/out of room (if applicable)					
LINES/TUBES					
Mediastinal CT d/c'd					
Pleural CT d/c'd					
Foley removed					
CVL removed					