



Clinical Pathway: Bidirectional Glenn

Path initiated on _____

(Date)

Expected length of stay: 6 days

Attending physician _____

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This pathway is a general guideline and does not represent a professional care standard governing provider's obligations to patients. Care is revised to meet the individual patient needs.

Eligibility Criteria - Age > 3 mos. Elective surgery. No significant comorbidities.

Timeline	Pre-op*	Day of Surgery*	Post-op Day #1
Unit/Dept.	SDS	OR/CICU	CICU
Date			
Assessment/Monitoring	Weight, Height, vital signs	Vital signs q 15"x2h, per routine	Vital signs per routine
Cardiac		CR monitor, atrial lines, A-line	CR monitor, atrial lines, A-line
Resp/Pulm.	Assess breath sounds, O ₂ sat.	✓ breath sounds, O ₂ sat, CT drng	✓ breath sounds, O ₂ sat, CT drng
Fluid status		Measure I&O. Foley. NG output.	Measure I & O.
Diagnostics	CXR-PA & lateral EKG, H&P CBC/diff, renal panel, UA, T&C +/- echo if none 4-6 wks prior	On arrival in CICU: CXR, EKG, CBC, PT/PTT, renal panel, Glu, Mg, Ca ⁺⁺ , ABG. CBC, K ⁺ , Ca ⁺⁺ , Glu, lactate, ABG q 4hrs	CXR in a.m. Labs: CBC, renal panel in am Ca ⁺⁺ , K ⁺ , Glu & ABG bid
Medications/ IV therapy		Antibiotic (cefazolin) (G11[B]) X 3 doses dopamine milrinone, +/- nipride morphine, midazolam IV maintenance fluids acetaminophen	D/C antibiotic D/C dopamine, milrinone furosemide +/- captopril/enalapril morphine, acetaminophen, ibuprofen prn ondansetron prn Saline well
Treatments/ Procedures		Bidirectional Glenn Ventilator wean and extubation per protocol.	Dressing check CPT qid prn (G12 [B])
Nutrition/GI	NPO after MN if >1 yr old; if <1 yr old, NPO for solids/full liquids 6 hrs prior to surgery. Clear liquids until 4 hrs prior to surgery.	NPO (NG → low continuous suction)	Clears when awake & alert, Advance diet as tolerated. D/C NG
Activity	Ad lib Bath in pm with antibacterial soap	Bed rest Head of bed elevated ≥30°	Bed rest Head of bed elevated ≥30°
Consults/referrals	Anesthesia		
Psychosocial	Psychosocial assessment, Emotional support.	Family updated re: patient status. Patient comfort measures.	Family updated. Patient comfort measures.
Education	Pre-op teaching re: monitors, ventilator, tubes, lines, etc. CICU tour.	Teaching re: CICU routines, care	Postoperative care.
Discharge planning			Education as above.

*order set





**Clinical Pathway: Bidirectional Glenn
EXPECTED OUTCOMES**

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Signatures/ Credentials												
Timeline	Pre-op	Day of Surgery			Post-op day #1							
Unit/Dept.	SDS	OR/CICU			CICU							
Date		D	E	N		D	E	N				
Physiologic	No signs of intercurrent illness. Pre-op tests completed.				Hemodynamic stability. Stable respiratory status. (Arrived in CICU _____) (Extubation time _____)				Hemodynamic stability. Patient is extubated with stable respiratory status. Extubation time _____ Chest tube removed without evidence of pneumothorax or effusion. No signs of infection.			
Psychosocial/ Comfort	Patient/family are prepared for surgery.				Family informed. Pain controlled.				Family/patient informed. Increased patient activity with adequate pain control.			
Educational	Parent/s informed. Consent signed.				Family informed.				Family informed.			
Other												
Outcome not met due to:	Fever Respiratory symptoms Parent anxiety Incomplete tests Other: _____				Arrhythmia Hypotension Decreased perfusion. Bleeding Inadequate pain control Other: _____				Arrhythmia Decreased perfusion. O ₂ saturation < 70% Pneumothorax Fever Nausea/vomiting Inadequate pain control Other: _____ Failed extubation due to: Sedation Pneumothorax Low O ₂ saturation Other: _____			

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* = not met (see progress notes)



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Eligibility Criteria - Age > 3 mos. No significant comorbidities.

Timeline	Post-op day #2	Post-op day #3	Post-op day #4
Unit/Dept.	CICU/A6C	CICU/ A6C	A6C
Date			
Assessment/Monitoring	Vital signs per routine	Vital signs q 4 hrs.	Vital signs q 4 hrs.
Cardiac	Cardiac monitor	Telemetry	Telemetry
Resp/Pulm.	✓ breath sounds, pulse ox	✓ breath sounds, pulse ox if on O ₂	Assess breath sounds
Fluid status	Measure I & O	Measure I & O	Measure I & O
Diagnostics	a.m. labs: CBC, renal, ABG CXR CXR post CT removal		CXR if day of discharge.
Medications/ IV therapy	D/C milrinone Pain meds – acetaminophen, acetaminophen + codeine prn ibuprofen prn furosemide, +/- captopril,/enalapril ASA(G24[D])	Pain meds – acetaminophen, acetaminophen + codeine prn ibuprofen prn furosemide, captopril,/enalapril ASA (G24 [D])	Pain meds – acetaminophen, acetaminophen + codeine prn ibuprofen prn furosemide, captopril,/enalapril ASA (G24 [D])
Treatments/ Procedures	Dressing change/incision ✓ D/C atrial lines, A-line Wean oxygen. CPT prn (G12[B]) D/C chest tube D/C foley	Dressing check. Wean oxygen. CPT prn (G12 [B]) (D/C chest tube)	Incision check Bandaids on CT site 48 hr. post chest tube removal. D/C pacer wires.
Nutrition	Regular diet. Weight	Regular diet. Weight	Regular diet. Weight
Activity	Ad lib after atrial lines out. Head of bed elevated ≥ 30° Transfer to A6C	Ad lib	Ad lib.
Consults/referrals			
Psychosocial/Comfort	Patient comfort measures. Family/patient support.	Patient comfort measures. Family/patient support. Assess discharge readiness.	Patient comfort measures. Family/patient support. Assess discharge readiness.
Education	Health Topic – “Going Home After Cardiac Surgery”	Health Topic – “Going Home After Cardiac Surgery”	Health Topic – “Going Home After Cardiac Surgery”
Discharge planning		Assess discharge readiness.	Assess discharge readiness. Discharge prescriptions written.

*order set



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Signatures/ Credentials	Post-op day #2			Post-op day #3			Post-op day #4					
	CICU/A6C			A6C			A6C					
Timeline	CICU/A6C			A6C			A6C					
Unit/Dept.	CICU/A6C			A6C			A6C					
Date	D	E	N	D	E	N	D	E	N			
Physiologic	Hemodynamic stability. Normal respiratory function O ₂ saturation > 70%. Diet tolerated. No signs of infection. Increased activity.				Hemodynamic stability. Normal respiratory function. O ₂ saturation > 70%. Regular diet tolerated. No signs of infection. Increased activity.				Hemodynamic stability. Normal respiratory function. O ₂ saturation > 70%. Regular diet tolerated. No signs of infection. Baseline activity level. Incision healing.			
Psychosocial	Family/patient informed regarding discharge needs. Increased patient activity with adequate pain control.				Family/patient informed regarding discharge needs. Increased patient activity with adequate pain control.				Family/patient informed regarding discharge needs. Increased patient activity with adequate pain control.			
Educational	Family has received Health Topic. Family/patient teaching in progress.				Family has received Health Topic. Family/patient teaching in progress.				Family/patient teaching in progress.			
Other	Transfer from CICU											
Outcome not met due to:	Arrhythmia Decreased perfusion Vomiting Fever Inadequate pain control. Persistent chest tube drng. O ₂ saturation < 70%. Other: _____				Arrhythmia Decreased perfusion ↑ Chest tube output/effusion Vomiting Fever Inadequate pain control. O ₂ saturation < 70%. Other: _____				Arrhythmia ↑ Chest tube output/effusion Vomiting Fever Inadequate pain control. O ₂ saturation < 70% Family unable to assume home care. Other: _____			

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Eligibility Criteria - Age > 3 mos. No significant comorbidities.

Timeline	Post-op day #5	Post op day #6	
Unit/Dept.	A6C/Discharge	A6C/Discharge	
Date			
Assessment/Monitoring	Vital signs per routine	Vital signs per routine	
Cardiac	Telemetry discontinued.	(Telemetry discontinued.)	
Resp/Pulm.	Assess breath sounds.	Assess breath sounds.	
Fluid status	Measure I&O	Measure I&O	
Diagnostics	CXR (PA & Lateral) Echo		
Medications/ IV therapy	furosemide captopril,/enalapril ASA (G 24[D]) Pain meds	furosemide, captopril,/enalapril ASA (G 24[D]) Pain meds	
Treatments/ Procedures	Incision check D/C oxygen.	Incision check	
Nutrition	Regular for age. Daily weight	Regular for age. Daily weight	
Activity	Ad lib Discharge to home.	Ad lib Discharge to home.	
Consults/referrals			
Psychosocial/Comfort	Patient comfort measures. Family/patient support. Assess discharge readiness.	Patient comfort measures. Family/patient support. Assess discharge readiness.	
Education	Health Topic – “Going Home After Cardiac Surgery”	Health Topic – “Going Home After Cardiac Surgery”	
Discharge planning	Review F/U appointments. Fax discharge communication form to referring physician.	Review F/U appointments. Fax discharge communication form to referring physician.	

***order set**



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Timeline	Post-op day #5			Post-op day #6/Discharge								
Unit/Dept.	A6C /Discharge			A6C								
Date		D	E	N		D	E	N		D	E	N
Physiologic	Hemodynamic stability. Normal respiratory function O ₂ saturation > 75 %. Diet tolerated. No signs of infection. Increased activity. Incision healing.				Hemodynamic stability. Normal respiratory function. O ₂ saturation > 75 %. Regular diet tolerated. No signs of infection. Baseline activity level.							
Psychosocial	Family/patient ready for discharge. Increased patient activity with adequate pain control.				Family/patient ready for discharge. Increased patient activity with adequate pain control.							
Educational	Family/patient demonstrates comprehension of discharge instructions.				Family/patient demonstrates comprehension of discharge instructions.							
Other					Discharged to home.							
Outcome not met due to:	Arrhythmia Oxygen saturation < 70-75 %. Vomiting Fever Inadequate pain control. Family unable to assume home care. Other: _____				Arrhythmia Oxygen saturation < 70-75%. Vomiting Fever Family unable to assume home care. Inadequate pain control. Other _____							

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