Clinical Pathway: Tetralogy of Fallot Repair

Path initiated on _____
(Date)

Expected length of stay: 5 days

Attending physician _____

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 > 6 mos. Elective repair. No significant comorbidities.*			
Timeline	Pre-op*	Day of Surgery*	Post-op Day #1
Unit/Dept.	SDS	OR/CICU	CICU
Date			
Assessment/Monitoring Cardiac Resp/Pulm. Fluid status	Weight, Height, vital signs Assess breath sounds, O_2 sat.	Vital signs q 15"x2h, per routine CR monitor, CVP/RA, LA, A-line ✓breath sounds, O_2 sat, CT drng Measure I&O. Foley. NG output.	Vital signs per routine CR monitor, CVP/RA, A-line ✓breath sounds, O_2 sat, CT drng Measure I & O.
Diagnostics	CXR-PA & lateral EKG, H&P CBC/diff, renal panel, UA, Type & Cross, +/- HCG	On arrival in CICU: CXR, EKG, CBC, PT/PTT, renal panel, Glu, Mg, Ca^{++}, ABG. CBC, K^{+}, Ca^{++}, Glu, lactic acid *(G23 [C])*, ABG q 4hrs	CXR in a.m. labs: CBC, renal panel, Glu bid Ca^{+} & ABG in am and q 4 hrs (CXR post CT removal)
Medications/ IV therapy		Antibiotic (cefazolin) *(G11[B])* x 3 doses *(Engelman 2006 [S,E])* dopamine milrinone *(G23[A,B,E])* morphine, midazolam IV maintenance fluids acetaminophen prn	D/C antibiotic dopamine, milrinone*(G23[A,B,E])* +/- furosemide morphine, acetaminophen , ibuprofen prn. ondansetron prn Saline well
Treatments/ Procedures		Tetralogy repair. Begin ventilator wean per protocol.	Dressing check (D/C chest tube) CPT prn atelectasis D/C LA line Extubation per protocol
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)	Ice chips when awake & alert, advance diet as tolerated. D/C NG
Activity	Ad lib Bath in pm with antibacterial soap	Bed rest	Bed rest Ad lib after extubation., LA line out.
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** [ ] Indicates strongest strength of evidence (see guideline for evidence scale).

Engelman, R.; Shahian, D.; Shemin, R.; Guy, T. S.; Bratzler, D.; Edwards, F.; Jacobs, M.; Fernando, H.; and Bridges, C.: The Society of Thoracic Surgeons Practice Guideline Series: Antibiotic Prophylaxis in Cardiac Surgery, Part II: Antibiotic Choice. *Society of Thoracic Surgeons*, 2006, *[S,E]*.

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Clinical Pathway: Tetralogy of Fallot Repair

EXPECTED OUTCOMES

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.

Signatures												
Timeline	Pre-op				Day of Surgery				Post-op day #1			
Unit/Dept.	SDS				OR/CICU				CICU			
Date		**D**	**E**	**N**		**D**	**E**	**N**		**D**	**E**	**N**
Physiologic	No signs of intercurrent illness. Pre-op tests completed.				Hemodynamic stability. Stable respiratory status. (Back from OR _____)				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 Sx Parent anxiety Incomplete tests Other: _____				Arrhythmia Hypotension Decreased perfusion. Bleeding Inadequate pain control Other: _____				Arrhythmia Decreased perfusion. Pneumothorax Fever Nausea/vomiting Inadequate pain control Other: _____ Failed extubation due to: Sedation Pneumothorax Other: _____			

For each met outcome, initial = met
*** = not met (see progress notes)**

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Clinical Pathway: Tetralogy of Fallot Repair

Path initiated on _____
(Date)

Expected length of stay: 5 days

Attending physician _____

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 > 6 mos. No significant comorbidities.*			
Timeline	Post-op day #2	Post-op day #3	Post-op day #4
Unit/Dept.	CICU/ A6C	A6C	A6C
Date			
Assessment/Monitoring Cardiac Resp/Pulm. Fluid status	Vital signs per routine Cardiac monitor/Telemetry ✓breath sounds, pulse ox Measure I & O	Vital signs q 4 hrs. Telemetry ✓breath sounds, pulse ox if O_2 Measure I & O	Vital signs q 4 hrs. D/C Telemetry if pacer wires out Assess breath sounds 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, dopamine Pain meds – ibuprofen, acetaminophen +/- codeine prn furosemide	Pain meds – acetaminophen +/- codeine prn ibuprofen furosemide	Pain meds furosemide
Treatments/ Procedures	Dressing change/incision ✓ D/C CVP/RA, A-line CPT prn (D/C chest tube) D/C foley	Dressing change/incision ✓ CPT prn/incentive spirometry D/C pacing wires if no significant arrhythmias	Incision check Bandaid on CT site 48 hours post chest tube removal
Nutrition	Regular diet. Weight	Regular diet. Weight	Regular diet. Weight
Activity	Ad lib	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	Per Health Topic – "Going Home After Cardiac Surgery"	Per Health Topic – "Going Home After Cardiac Surgery"	Per Health Topic – "Going Home After Cardiac Surgery"
Discharge planning		Assess discharge readiness.	Assess discharge readiness. Discharge prescriptions written.

***order set** [ ] Indicates strongest strength of evidence (see guideline for evidence scale).

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Clinical Pathway: Tetralogy of Fallot Repair

EXPECTED OUTCOMES

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Signatures												
Timeline	Post-op day #2				Post-op day #3				Post-op day #4			
Unit/Dept.	A6C				A6C				A6C			
Date		**D**	**E**	**N**		**D**	**E**	**N**		**D**	**E**	**N**
Physiologic	Hemodynamic stability. Normal respiratory function Diet tolerated. No signs of infection. Increased activity.				Hemodynamic stability. Normal respiratory function. Regular diet tolerated. No signs of infection. Baseline activity level.				Hemodynamic stability. Normal respiratory function. 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 demonstrates comprehension of discharge instructions.			
Other	Transfer from CICU											
Outcome not met due to:	Arrhythmia Decreased perfusion Vomiting Fever Inadequate pain control. Persistent chest tube drng. Other: _____				Arrhythmia Decreased perfusion Vomiting Fever Inadequate pain control. Other _____				Arrhythmia Vomiting Fever Inadequate pain control Family unable to assume home care. Other: _____			

For each met outcome, initial = met
*** = not met (see progress notes)**

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Clinical Pathway: Tetralogy of Fallot Repair

Path initiated on _____ at _____
(Date) *(Time)*

Expected length of stay: 5 days

Attending physician _____

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 > 6 mos. No significant comorbidities.*** .			
Timeline	Post-op day #5		
Unit/Dept.	A6C /Discharge		
Date			
Assessment/Monitoring Cardiac Resp/Pulm. Fluid status	Vital signs per routine Assess breath sounds.		
Diagnostics	CXR (PA & Lateral)		
Medications/ IV therapy	furosemide Pain meds		
Treatments/ Procedures	Incision check		
Nutrition	Regular for age.		
Activity	Ad lib		
Consults/referrals			
Psychosocial/Comfort	Patient comfort measures. Family/patient support. Assess discharge readiness.		
Education	Per Health Topic – "Going Home After Cardiac Surgery"		
Discharge planning	Review F/U appointments. Fax discharge communication form to referring physician.		

***order set** [ ] Indicates strongest strength of evidence (see guideline for evidence scale).

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Clinical Pathway: Tetralogy of Fallot Repair

EXPECTED OUTCOMES

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.

Signatures													
Timeline	Post-op day #5												
Unit/Dept.	A6C / Discharge												
Date		**D**	**E**	**N**						**D**	**E**	**N**
Physiologic	Hemodynamic stability.											
	Normal respiratory function											
	Diet tolerated.											
	No signs of infection.											
	Increased activity.											
	Incision healing.											
Psychosocial	Family/patient ready for discharge.											
	Increased patient activity with adequate pain control.											
Educational	Family/patient demonstrates comprehension of discharge instructions.											
Other	Discharge to home.											
Outcome not met due to:	Arrhythmia											
	Vomiting											
	Fever											
	Inadequate pain control.											
	Family unable to assume home care.											
	Other: _____											

For each met outcome, initial = met
*** = not met (see progress notes)**

The methods section of the CCHMC Evidence-Based Care Guideline for Inotropic Support with Phosphodiesterase Inhibitors After Repair of Tetralogy of Fallot contains details regarding the evidence search supporting this document.

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