UNC PEDIATRIC CARDIAC SURGERY POST-OPERATIVE PULMONARY HYPERTENSION GUIDELINES

The following groups are recommended for consideration of pulmonary vasodilatory therapy post-operatively:

GROUP 1	Inpatients who are already on pulmonary vasodilatory therapy preoperatively.
GROUP 2	Outpatients with known or presumed preoperative pulmonary hypertension based on catheterization or echocardiographic data, may or may not be on medications.
GROUP 3	Patients with documented intraoperative pulmonary hypertension either: ✓ Objectively via direct pressure measurements or TEE Data ✓ Subjectively per surgeon
GROUP 4	Patient populations at particular risk for pulmonary hypertensive crises in the post-operative period: ➢ Congenital Heart Disease diagnosis ✓ Cyanotic lesions with increased pulmonary blood flow and pulmonary pressure including truncus arteriosus, d-transposition of the great arteries. ✓ Acyanotic lesions with increased pulmonary blood flow and pressure including atrioventricular septal defect, large ventricular septal defect, patent ductus arteriosus, aortopulmonary window. ✓ Pulmonary vein obstructive diseases including mitral stenosis, cor triatriatum, total anomalous pulmonary venous return, pulmonary vein stenosis. ✓ Functional univentricular heart patients undergoing staged palliation especially during cavopulmonary anastomosis. ✓ Neonatal TOF patients <3 months of age at repair. ➢ Neonates (< 30 days old at time of cardiac surgery) ➢ Former premature infants with bronchopulmonary dysplasia, chronic lung disease, congenital diaphragmatic hernia, or other respiratory disorders ➢ Patients with genetic syndromes especially trisomy 21, 18, and 13 ➢ Patients' status post heart transplantation or with right ventricular failure

Pulmonary vasodilatory therapy

- ❖ Inhaled nitric oxide is the initial pulmonary vasodilatory therapy to be considered post-operatively, along with judicious use of inhaled oxygen (FiO2) and optimization of ventilation.
- ❖ Other therapies to consider include inhaled epoprostenol, IV epoprostenol, sildenafil (IV or PO), bosentan (PO), milrinone IV.
- ❖ As an adjunct, it is recommended to decrease sympathetic stimulation if possible. This can include sedation and consideration of muscle relaxation, hyper-oxygenate and sedate prior to noxious stimuli (such as ETT suctioning), avoidance of fevers.

This is only a guideline, decisions regarding patient care should be individualized.

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