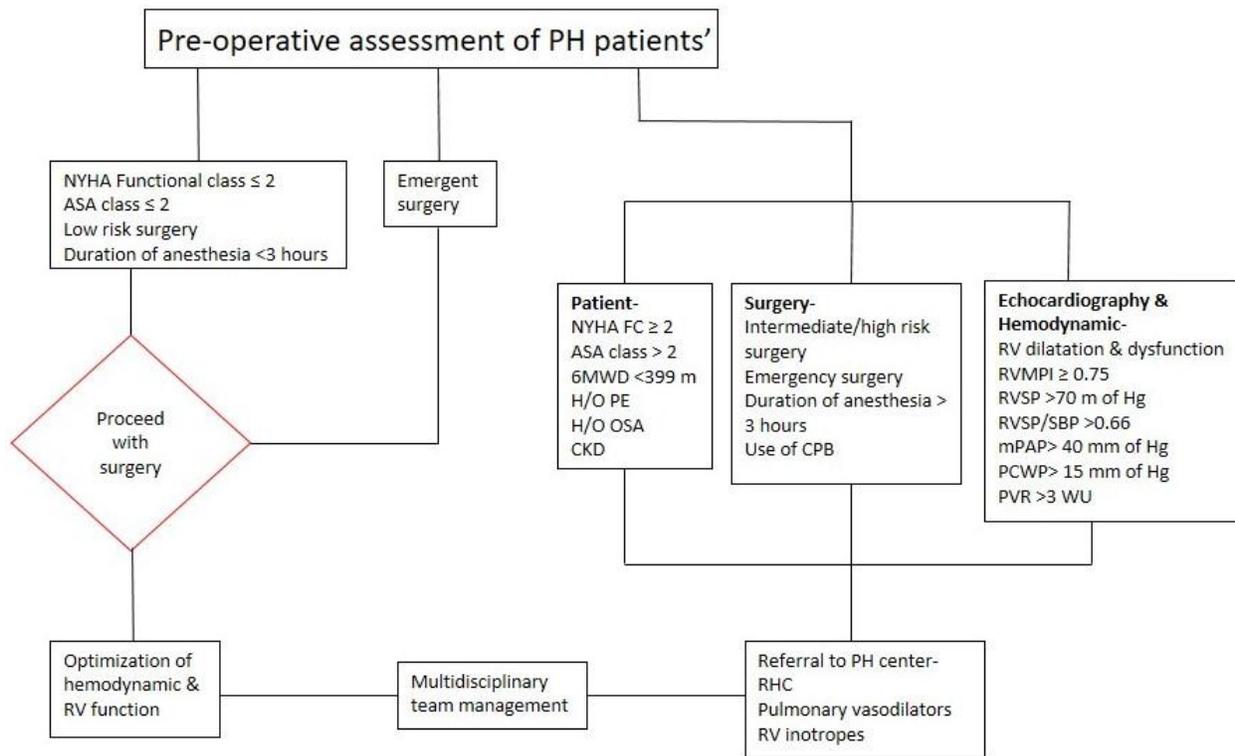


**Supplementary Figure 1: Pre-operative approach and planning for surgery in PH patients.**

Intermediate or high risk surgeries- gastrointestinal, major abdominal, orthopedic, thoracic, vascular, and liver/kidney/pancreatic transplantation; NYHA- New York heart association, ASA- American society of anesthesiology, PE- pulmonary embolism, OSA- obstructive sleep apnea, CKD- chronic kidney disease, CPB- cardiopulmonary bypass, RV- right ventricle, PH- pulmonary hypertension, RVH- right ventricular hypertrophy, RVMPI- right ventricular myocardial performance index, RVSP- right ventricular systolic pressure, SBP- systolic blood pressure, mPAP- mean pulmonary artery pressure, PCWP- pulmonary capillary wedge pressure, PVR- pulmonary vascular resistance, WU- wood unit, RHC- right heart catheterization.



## Supplementary Tables:

### ST 1- Updated classification of pulmonary hypertension (PH)

<b>1. Pulmonary arterial hypertension (PAH)</b> <ul style="list-style-type: none"><li>1.1 Idiopathic PAH</li><li>1.2 Heritable PAH</li><li>1.3 Drugs and toxins induced</li><li>1.4 PAH associated with<ul style="list-style-type: none"><li>1.4.1 Connective tissue disease</li><li>1.4.2 HIV infection</li><li>1.4.3 Portal hypertension</li><li>1.4.4 Congenital heart diseases</li><li>1.4.5 Schistosomiasis</li></ul></li><li>1.5 PAH long term responders to calcium channel blockers</li><li>1.6 PAH with over features of venous/capillaries (PVOD/PCH) involvement</li><li>1.7 Persistent PH of newborn syndrome</li></ul>
<b>2. PH due to left heart disease</b> <ul style="list-style-type: none"><li>2.1 PH due to heart failure with preserved LVEF</li><li>2.2 PH due to heart failure with reduced LVEF</li><li>2.3 Valvular diseases</li><li>2.4 Congenital/acquired cardiovascular conditions leading to post-capillary PH</li></ul>
<b>3. PH due to lung disease and/or hypoxia</b> <ul style="list-style-type: none"><li>3.1 Obstructive lung disease</li><li>3.2 Restrictive lung disease</li><li>3.3 Other lung disease with mixed restrictive/obstructive pattern</li><li>3.4 Hypoxia without lung disease</li><li>3.5 Developmental lung disorders</li></ul>
<b>4. PH due to pulmonary artery obstruction</b> <ul style="list-style-type: none"><li>4.1 Chronic thromboembolic PH</li><li>4.2 Other pulmonary artery obstructions</li></ul>
<b>5. PH due to unclear and/or multifactorial mechanisms</b> <ul style="list-style-type: none"><li>5.1 Hematologic disorder</li><li>5.2 Systemic and Metabolic disorders</li><li>5.3 Others</li><li>5.4 Complex congenital heart diseases</li></ul>

Simonneau et al. Haemodynamic definitions and updated clinical classification of pulmonary hypertension. Eur Resp J. 2019;53(1)

**ST 2- Vasodilator therapies for pulmonary hypertension;** ERA- endothelin receptor antagonists, ET<sub>A</sub> – endothelin receptor A, PDE- phosphodiesterase, NO- nitric oxide, sGC- soluble guanylate cyclase, IV- intravenous, SC- subcutaneous, \* Available in Europe

<b>1. Endothelin receptor antagonists</b> Bosentan- non-selective ERA Macitentan- non-selective ERA Ambrisentan- selective ET <sub>A</sub> antagonist
<b>2. Calcium channel blockers</b> Diltiazem Nifedipine Amlodipine
<b>3. PDE5 inhibitor</b> Sildenafil Tadalafil
<b>4. sGC stimulator</b> Riociguat
<b>5. Prostacyclin agonists</b> Epoprostenol- IV Iloprost- inhaled Treprostinil (synthetic analogue)- IV, SC, PO, inhaled Selexipag (IP receptor agonist)- oral

**ST 3- WHO classification of functional status for pulmonary hypertension patients**

**Class I-** no limitation in physical activity; ordinary physical activity does not cause dyspnea or fatigue

**Class II-** slight limitation in physical activity; ordinary physical activity produces dyspnea, chest pain, fatigue or near-syncope; no symptom at rest

**Class III-** marked limitation in physical activity; less than ordinary physical activity produces dyspnea, chest pain, fatigue or near-syncope; no symptom at rest

**Class IV-** unable to perform any physical activity without symptoms; dyspnea or fatigue at re

## **ST 4- Management of RV dysfunction**

### **RV pre-load-**

Goal CVP 5-10 mm of Hg

High RAP- diuretics, ultrafiltration

Low RAP- Cautious IV fluid

### **Shock-**

Goal MAP 60-65 mm of Hg

Vasopressors- Norepinephrine, ? epinephrine, vasopressin

### **RV inotropes-**

Dobutamine, milrinone, levosimendan

Prevention of arrhythmia

### **Reduce RV afterload-**

Goal metabolic markers Spo<sub>2</sub> >92%, pH>7.4, PaCO<sub>2</sub> 30-35 mm of Hg

Prevention of hypothermia

PEEP 5-10 mm of Hg

Pulmonary vasodilators- iNO, illoprost, sildenafil, IV SNP and NTG

### **Mechanical-**

VA ECMO

Atrial septostomy

MAP: mean arterial pressure, RAP- right atrial pressure, CVP- central venous pressure,

iNO- inhaled Nitric oxide, SNP- sodium nitroprusside, NTG- nitroglycerine, VA

ECMO- Veno-arterial Extra Corporeal membrane oxygenator

