INSTITUT JANTUNG NEGARA
National Heart Institute

PATIENT'S INFORMATION
(Please Stick Label)

RISK ASSESSMENT – PULMONARY ARTERIAL HYPERTENSION

Diagnosis _____

The ESC guidelines recommend using the criteria below to periodically re-evaluate Pulmonary Arterial Hypertension (PAH) patients.

Determinants of prognosis (estimated 1-year mortality)	Low risk <5%	Intermediate risk 5-10%	High risk >10%
Clinical signs of right heart failure	☐ Absent	☐ Absent	☐ Present
Progression of symptoms	☐ No	☐ Slow	☐ Rapid
Syncope	☐ No	☐ Occasional[b]	☐ Repeated[c]
WHO functional class	☐ I, II	☐ III	☐ IV
6-minute walking distance	☐ >440 m	☐ 165-440 m	☐ <165 m
Cardiopulmonary exercise testing	☐ Peak VO_2 >15ml/min/kg (>65% pred.) VE/VCO_2 slope <36	☐ Peak VO_2 11-15ml/min/kg (35-65% pred.) VE/VCO_2 slope 36-44.9	☐ Peak VO_2 <11ml/min/kg (<35% pred.) VE/VCO_2 slope ≥45
NT-proBNP plasma levels	☐ BNP <50 ng/l NT-proBNP <300 ng/ml	☐ BNP 50-300 ng/l NT-proBNP 300-1400 ng/ml	☐ BNP >300 ng/l NT-proBNP >1400 ng/ml
Imaging (echocardiography, CMR imaging)	☐ RA area <18 cm^2 No pericardial effusion	☐ RA area 18-26 cm^2 No or minimal pericardial effusion	☐ RA area >26 cm^2 Pericardial effusion
Haemodynamics	☐ RAP <8 mmHg CI≥2.5 l/min/m^2 SvO_2 >65%	☐ RAP 8-14 mmHg CI 2.0 - 2.4 l/min/m^2 SvO_2 60-65%	☐ RAP >14 mmHg CI <2.0 l/min/m^2 SvO_2 <60%

[a]Most of the proposed variables and cut-off values are based on expert opinion. They may provide prognostic information and may be used to guide therapeutic decisions, but application to individual patients must be done carefully. One must also note that most of these variables have been validated mostly for IPAH and the cut-off levels used above may not necessarily apply to other forms of PAH. Furthermore, the use of approved therapies and their influence on the variables should be considered in the evaluation of the risk.
[b]Occasional syncope during brisk or heavy exercise, or occasional orthostatic syncope in an otherwise stable patient.
[c]Repeated episodes of syncope, even with little or regular physical activity.

BNP=Brain Natriuretic Peptide; CI=Cardiac Index; CMR=Cardiac Magnetic Resonance; ESC=European Society of Cardiology; IPAH=Idiopathic Pulmonary Arterial Hypertension; NT-proBNP=N-terminal fragment of pro-Brain Natriuretic Peptide; PAH=Pulmonary Arterial Hypertension; Pred.=Predicted; RA=Right Atrium; RAP=Right Atrial Pressure. SvO_2=Mixed Venous Oxygen Saturation; VE/VCO_2=Ventilating Equivalents for Carbon Dioxide; VO_2=Oxygen Consumption; WHO=World Health Organization

Assessed by:

Doctor's Signature : _____

Doctor's Name : _____

Date : _____

Time : _____

Total score =

Low risk = 1, Intermediate risk = 2, High risk = 3, n = no. of assessed parameter

Effective Date: 25 November 2019