Where Do *Your Patients* Want to Be in 5 Years?

Help your patients improve their prognosis by achieving low-risk status[1-4]

Risk status can be used to predict your patient's prognosis over the next 3 to 5 years.[1-4]

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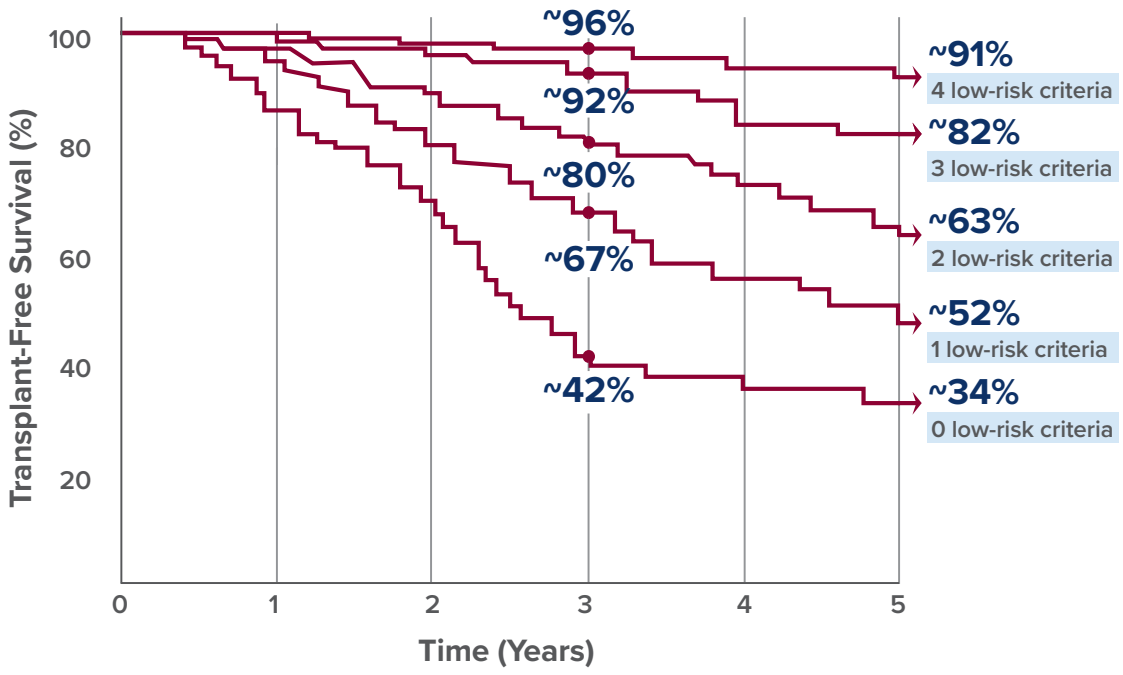
Make Low-Risk the Goal[4,5]

Having more low-risk criteria may improve your patient's 5-year prognosis[1]

The French PAH Registry*: Patients were assessed for 4 low-risk criteria; transplant-free survival was estimated based on the number of low-risk criteria present.[1]

WHO/NYHA	6MWD	RAP	CI
FC I/II	>440 m	<8 mm Hg	≥2.5 L/min/m^2

Kaplan–Meier transplant-free survival estimates at follow-up (*P*<0.001)[1†]



What is your patient's likelihood of survival based on their risk criteria today?

WSPH 2018 recommends comprehensive risk assessments every 3 to 6 months[5]

*A retrospective analysis (2006-2016) of 1017 patients with PAH.[1]
†Median follow-up, 34 (16-56) months. Data are point estimates taken from Kaplan–Meier curves at 3 and 5 years.[1]

Determine Your Patients' Risk Status Using the ESC/ERS Guidelines

1 point for each **low-risk** variable

2 points for each **intermediate-risk** variable

3 points for each **high-risk** variable

Variables	Low Risk (<5%*)	Intermediate Risk (5%-10%*)	High Risk (>10%*)	Score
WHO FC	I, II	III	IV	
6MWD	>440 m	165-440 m	<165 m	
NT-proBNP plasma levels	NT-proBNP <300 ng/L BNP <50 ng/L	NT-proBNP 300-1400 ng/L BNP 50-300 ng/L	NT-proBNP >1400 ng/L BNP >300 ng/L	
RAP	<8 mm Hg	8-14 mm Hg	>14 mm Hg	
Clinical signs of right heart failure	Absent	Absent	Present	
Progression of symptoms	No	Slow	Rapid	
Syncope	No	Occasional syncope	Repeated syncope	
RA area	<18 cm^2	18-26 cm^2	>26 cm^2	
Pericardial effusion	None	None or minimal	Yes	
CI	≥2.5 L/min/m^2	2-2.4 L/min/m^2	<2 L/min/m^2	
SvO_2	>65%	60%-65%	<60%	
Total Risk Score:	**Divide the sum of all grades by the number of available variables and round to the nearest integer**			

Low Risk	Intermediate Risk	High Risk
1 to <1.5	1.5 to <2.5	2.5 to 3

*Likelihood of mortality after 1 year.

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Determine Your Patients' Risk Status Using the REVEAL 2.0 Risk Calculator

		Score
WHO Group 1 Subgroup	APAH-CTD +1; APAH-PoPH +3; FPAH +2	
Demographics	Males Age >60 yr +2	
Comorbidities	eGFR <60 mL/min/1.73 m^2 or renal inefficiency (if eGFR is unavailable) +1	
NYHA/WHO Functional Class	I -1; III +1; IV +2	
Vital Signs	SBP <110 mm Hg +1; HR >96 BPM +1	
All-Cause Hospitalizations ≤6 mo	All-Cause Hospitalizations within 6 mo +1	
6-Minute Walk Test	≥440 m -2; 320 to <440 m -1; <165 m +1	
BNP	<50 pg/mL or NT-proBNP <300 pg/mL -2; 200 to <800 pg/mL +1; ≥800 pg/mL or NT-proBNP ≥1100 pg/mL +2	
Echocardiogram	Pericardial Effusion +1	
Pulmonary Function Test	% predicted DL_{CO} ≤40 +1	
Right Heart Catheterization	mRAP >20 mm Hg Within 1 Year +1; PVR <5 Wood Units -1	
	Sum of above	
		+6
	Risk score	

	Low risk	Intermediate risk	High risk
Risk score	0-6	7-8	≥9

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6MWD=6-minute walk distance; APAH=associated pulmonary arterial hypertension; BNP=B-type natriuretic peptide; BPM=beats per minute; CI=cardiac index; CTD=connective tissue disease; DL_{CO}=diffusing capacity of the lung for carbon monoxide; eGFR=estimated glomerular filtration rate; ESC/ERS=European Society of Cardiology/European Respiratory Society; FC=Functional Class; FPAH=familial pulmonary arterial hypertension; HR=heart rate; mRAP=mean right atrial pressure; NT-proBNP=N-terminal pro–B-type natriuretic peptide; NYHA=New York Heart Association; PAH=pulmonary arterial hypertension; PoPH=portopulmonary hypertension; PVR=pulmonary vascular resistance; RA=right atrium; RAP=right atrial pressure; REVEAL=Registry to EValuate Early And Long-term pulmonary arterial hypertension disease management; SBP=systolic blood pressure; SPAHR=Swedish PAH Register; SvO_2=mixed venous oxygen saturation; WHO=World Health Organization.

References: 1. Boucly A, et al. *Eur Respir J.* 2017;50(2). pii: 1700889. **2.** Kylhammar D, et al. *Eur Heart J*. 2018;39(47):4175-4181. **3.** Hoeper MM, et al. *Eur Respir J*. 2017;50(2). **4.** Galiè N et al. *Eur Heart J*. 2016;37(1):67-119. **5.** Galiè N, et al. *Eur Resp J*. 2019;53(1):1801889. **6.** Benza RL, et al. *Chest*. 2019;156(2):323-337.

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