

Hemodynamic – Normal Values

		Central Venous Oxygenation - Oxygenation Balance (Oxygen load of the venous blood after passing through the organs)	ScvO ₂ **	70-80 %	
		O ₂ Consumption (Consumption of O ₂ by organs)	VO ₂ I	125-175 ml/min/m ²	
		O ₂ Delivery (Delivery of O ₂ via blood to organs)	DO ₂ I	400-650 ml/min/m ²	
Oxygen Delivery	Hemoglobin (Oxygen transporter in blood)		Hb ***	8.7-11.2 mmol/l (Male) 7.5-9.9 mmol/l (Female)	
	Arterial / capillary oxygen saturation (Oxygen load of arterial blood)		SaO ₂ / SpO ₂	96-100 %	
	Flow	Cardiac Index	tdCI	3-5 l/min/m ²	
		Pulse Contour Cardiac Index (Cardiac Index related to body surface)	CI _{PC}	3-5 l/min/m ²	
	Blood Flow	Chronotropy	Heart Rate	HR	60-100 bpm
		Stroke Volume Index (Output per heart beat)		SVI	40-60 ml/m ²
	Stroke Volume	Preload	Global End-diastolic Volume Index (Volume of blood in the heart)	GEDI	680-800 ml/m ²
			Intrathoracic Blood Volume Index (Volume of blood in heart and lungs)	ITBI	850-1000 ml/m ²
			Stroke Volume Variation (Dynamic fluid responsiveness)	SVV *	<10 %
		Pulse Pressure Variation (Dynamic fluid responsiveness)		PPV *	<10 %
Afterload		Systemic Vascular Resistance Index (Resistance of vascular system)	SVRI	1700-2400 dyn* ^s *cm ⁻⁵ *m ²	
		Mean Arterial Pressure	MAP	70-105 mmHg	
Contractility		Global Ejection Fraction (Ratio of stroke volume and preload)	GEF	25-35%	
	Cardiac Function Index (Ratio of CI and preload)	CFI	4.5-6.5 l/min		
	Cardiac Power Index (Global cardiac performance)	CPI	0.5-0.7 W/m ²		
Lung		Extravascular Lung Water Index (Lung edema)	ELWI	<10 ml/kg	
		Pulmonary Vascular Permeability Index (Permeability of lung tissue)	PVPI	1.0-3.0	

Absolute values (non-indexed values) are only usable in trend screens and have no normal range.

* SVV and PPV are only applicable in fully ventilated patients with a tidal volume \geq 8 ml/kg PBW (predicted body weight) and without cardiac arrhythmias

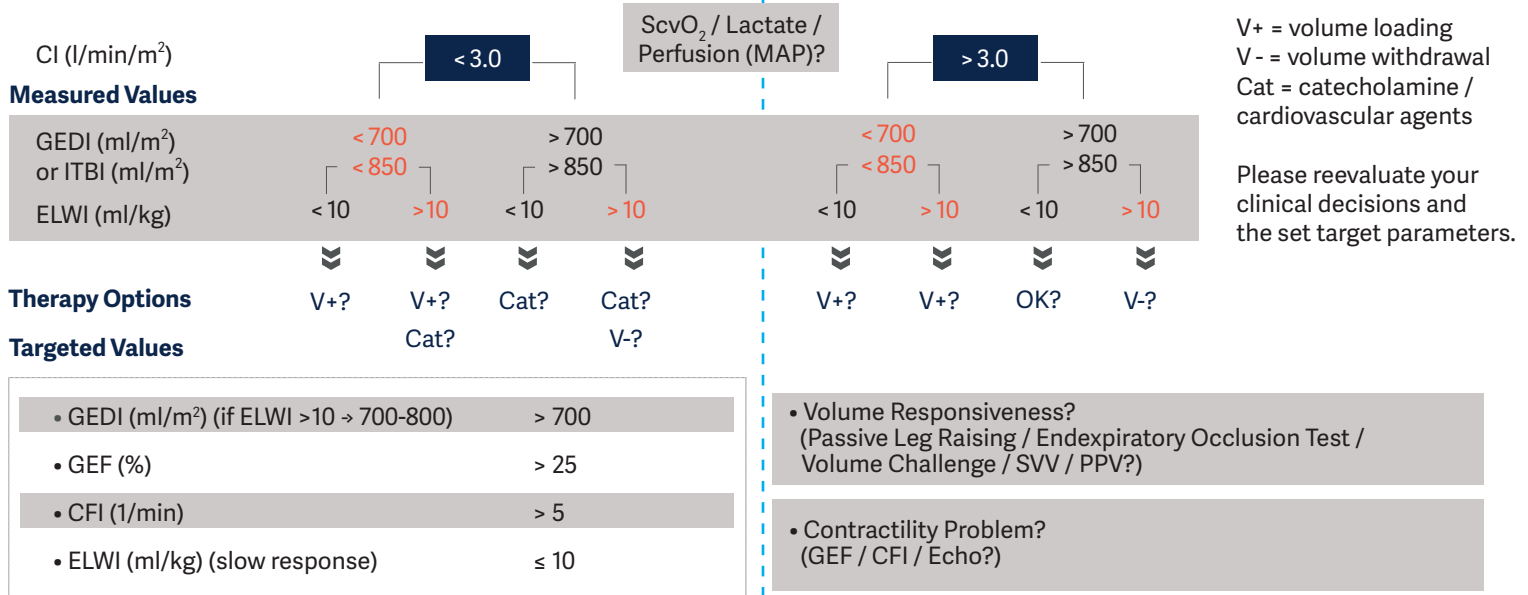
** A high-normal / high ScvO₂ can be a sign of insufficient O₂ utilization

*** 14-18 g/dl (Male); 12-16 g/dl (Female)

Hemodynamic – Decision Model



This decision model is for guidance only and should not replace the individual therapeutic decisions of the treating physician.



V+ = volume loading
 V- = volume withdrawal
 Cat = catecholamine / cardiovascular agents

Please reevaluate your clinical decisions and the set target parameters.

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