

Hemodynamic Normal Values

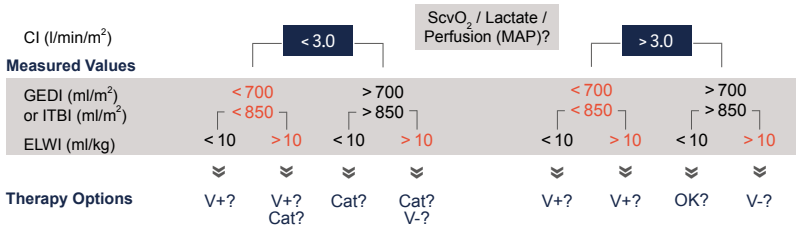
		Central Venous Oxygenation - Oxygenation Balance (Oxygen load of the venous blood after passing through the organs)	ScvO ₂ *	70-80 %	
		O ₂ Consumption (Consumption of O ₂ by organs)	VO ₂ I	125-175 ml/min/m ²	
Oxygen Delivery	O ₂ Delivery (Delivery of O ₂ via blood to organs)		DO ₂ I	400-650 ml/min/m ²	
	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 (Trend, Cal, td, PC)	CI	3.0-5.0 l/min/m ²	
	Chronotropy	Heart Rate/Pulse Rate	HR/PR	60-100 1/min	
Blood Flow	Stroke Volume	Stroke Volume Index (Output per heart beat)	SVI	40-60 ml/m ²	
		Preload	Global Enddiastolic Volume Index (Volume of blood in the heart)	GEDI	680-800 ml/m ²
			Intrathoracic Blood Volume Index (Volume of blood in heart & 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 & preload)	GEF	25-35%	
		Left Ventricular Contractility (Increase of arterial pressure over time)	dPmx	Trend info - mmHg/s	
		Cardiac Function Index (Ratio of CI and preload)	CFI	4.5-6.5 1/min	
	Cardiac Power Index (Global cardiac performance)	CPI	0.5-0.7 W/m ²		
Lung	Extravascular Lung Water Index (Lung edema)	ELWI	3.0-7.0 ml/kg		
	Pulmonary Vascular Permeability Index (Permeability of lung tissue)	PVPI	1.0-3.0		
Liver	Plasma Disappearance Rate ICG (Performance of the liver)	PDR	18-25 %/min		
	Retention rate of ICG after 15 minutes (Performance of the liver)	R15	0-10 %		

Absolute values (non-indexed values) are only usable in trend screens and have no normal range. *A high-normal / high ScvO₂ can be a sign of insufficient O₂ utilization **14-18 g/dl (Male); 12-16 g/dl (Female) ***SVV and PPV are only applicable in fully ventilated patients with a tidal volume ≥ 8 ml/kg PBW (predicted body weight) and without cardiac arrhythmias

Hemodynamic Decision Model



NOTE: PULSION Medical Systems is a medical device manufacturer and does not practice medicine. PULSION does not recommend these values for use on a specific patient. This decision model is not obligatory.



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

Please reevaluate your clinical decisions and the set target parameters.

Targeted Values

• GEDI (ml/m ²) (if ELWI >10 → 700-800)	> 700
• GEF (%)	> 25
• CFI (1/min)	> 5
• ELWI (ml/kg) (slow response)	≤ 10

• Volume Responsiveness?
(Passive Leg Raising / Endexpiratory Occlusion Test / Volume Challenge / SVV / PPV?)

• Contractility Problem?
(GEF / CFI / Echo?)

This information is intended for an international audience outside the US and does not replace any individual therapeutic decision of the treating physician. Indications, contraindications, warnings and instructions for use are listed in the separate instructions for use. Products may be pending regulatory approvals to be marketed in your country.

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