

NORMAL HEMODYNAMIC PARAMETERS CHEETAH NICOM & STARLING SV

NORMAL HEMODYNAMIC PARAMETERS	Parameter	Equation	Normal Adult Range ¹
	Stroke Volume (SV)	$CO/HR \times 1000$	60 - 100 ml/beat
	Stroke Volume Index (SVI)	SV/BSA	33 - 47 ml/m ² /beat
	Δ Stroke Volume Index (Δ SVI)	Change in SV after Dynamic Assessment	<10% Unlikely to be Fluid Responsive ² ≥10% Likely to be Fluid Responsive ²
	Cardiac Output (CO)	$HR \times SV/1000$	4.0 - 8.0 l/min
	Cardiac Index (CI)	CO/BSA	2.5 - 4.0 l/min/m ²
	Mean Arterial Pressure (MAP)	$(SBP + (2 \times DBP))/3$	70 - 105 mmHg
	Total Peripheral Resistance (TPR)	$80 \times (MAP)/CO$	800 - 1200 dynes • sec/cm ⁵
	Total Peripheral Resistance Index (TPRI)	$80 \times (MAP)/CI$	1970 - 2390 dynes • sec/cm ⁵ /m ²
	Δ SVI ≥10% Predictive of 15% increase in CO with 500cc ³		
Dynamic Assessments Directly Challenge the Heart with Volume to Measure its Response: Passive Leg Raise (PLR) Maneuver — Translocation of 250-300cc of blood from lower extremities into the heart ² Fluid Bolus Challenge (FB) — Rapid Infusion of 250cc of fluid over 3-5 minutes ²			

References: 1. Sramek BB. Systemic Hemodynamics and Hemodynamic Management. 2002; Instantpublisher.com ISBN 1-59196-04600. 2. Cecconi M et al. What is a fluid challenge? Curr Opin Crit Care 2011; 17: 290-295. 3. Cannesson M et al. Assessing the diagnostic accuracy of pulse contour variations for the prediction of fluid responsiveness. Anesthesiology 2011; 115:231-241.

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