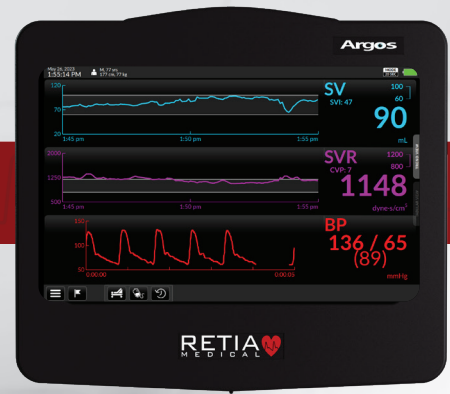


Argos® Cardiac Output Monitor

Dynamic assesment steps

Does my patient need fluids?

Only around 50% of hemodynamically unstable patients are fluid responsive!



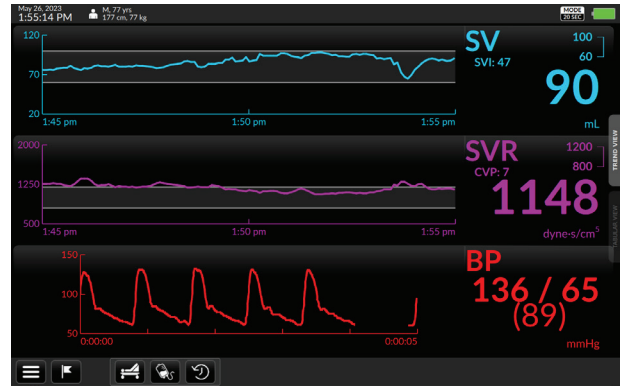
“The Argos monitor makes it easy to perform a dynamic assesment test to determine if a patient is likely to be fluid responsive.”



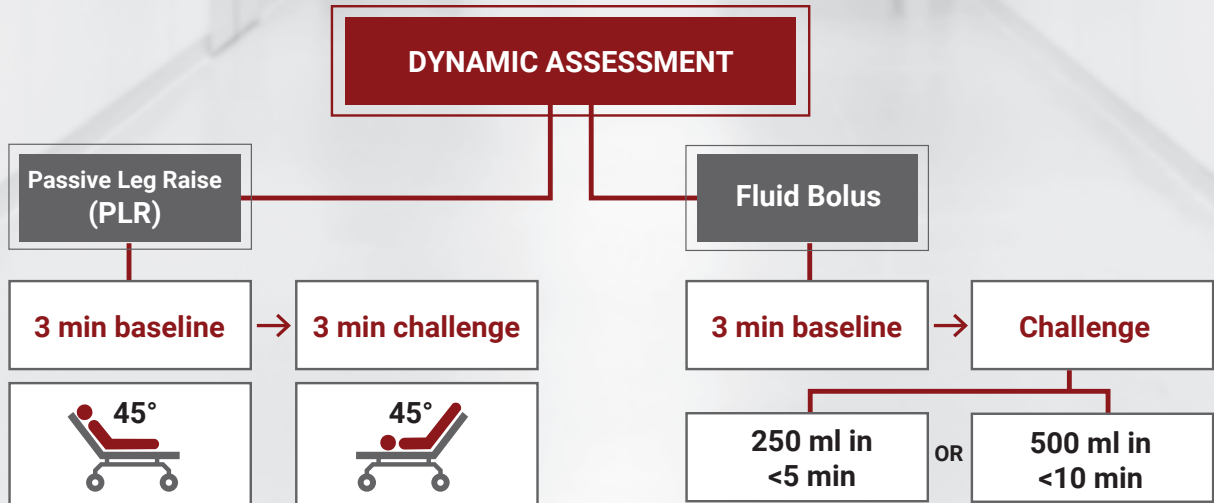
Press this icon to start the PLR test



Press this icon to start the fluid bolus test



The Argos® monitor will guide you through a series of onscreen instructions to perform the test



*Turn off SCDs for set up and duration of PLR.

Results: $\geq 10\%$ Δ SVI patient is likely fluid responsive

$< 10\%$ Δ SVI (including negative numbers) patient is not likely fluid responsive



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Argos® Cardiac Output Monitor

PATIENT SELECTION TOOL

Patient
<ul style="list-style-type: none"> Shock States/Low Blood Pressure: Sepsis, Low Vascular Tone, Low Cardiac Output, Hypovolemia, Neurogenic Shock⁴
<ul style="list-style-type: none"> Patients treated with Inotropes, Vasopressors or Vasodilators⁴
<ul style="list-style-type: none"> Surgical Patients: Perioperative Volume Management, Goal Directed Therapy, Enhanced Recovery After Surgery (ERAS)⁵
<ul style="list-style-type: none"> Emergency/Trauma Patients⁴
<ul style="list-style-type: none"> Other Critical Care Conditions: Acute Respiratory Distress (ARDS),⁷ Sub-Arachnoid Hemorrhage (SAH),⁸ Acute Kidney Injury (AKI),⁹ and Congestive Heart Failure (CHF)
<ul style="list-style-type: none"> Patients undergoing Continuous Renal Replacement Therapy (CRRT) or patients undergoing hemodialysis¹¹
<p>ONLY ~50% of hemodynamically unstable patients will respond to fluid by increasing cardiac output and perfusion.¹</p>

CLINICAL SHOCK STATES

Parameters	Normal Adult Range ¹³	Cardiogenic Shock	Septic Shock	Hypovolemic Shock
BP (MAP)	> 65	↓	↓	↓
Heart Rate (HR)	60-100	↑	↑	↑
Cardiac Index (CI)	2.5–4.0 L/min/m ²	↓	early late ↓↑	early late ↓↑
Total Peripheral Resistance Index (TPRI)	1970–2390 dynes • sec/cm ⁵ /m ²	↑	↓	↑
Common Stroke Volume Response (ΔSVI) to Dynamic Assessment		ΔSVI <10%	ΔSVI ≥10%	ΔSVI ≥10%
ΔSVI ≥10% Predictive of 15% increase in CO with 500cc ¹⁴				
<p>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 heart³ • Fluid Bolus Challenge (FB) – Rapid Infusion of 250cc of fluid over 3-5 minutes³</p>				

NORMAL HEMODYNAMIC PARAMETERS

Parameters	Equation	Normal adult range
Stroke Volume (SV)	CO/HR x 1000	60 – 100 mL/beat
Stroke Volume Index (SVI)	SV/BSA	33 – 47 mL/beat/m ²
Δ Stroke Volume Index (ΔSVI)	Change in SV after Dynamic Assessment	≥10% Likely to be Fluid Responsive ³ <10% Unlikely to be Fluid Responsive ³
Cardiac Output (CO)	HR x 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 x DBP))/3	70 – 105 mmHg
Total Peripheral Resistance (TPR)	80 x (MAP)/CO	800 – 1200 dynes • sec/cm ⁵
Total Peripheral Resistance Index (TPRI)	80 x (MAP)/CI	1970 – 2390 dynes • sec/cm ⁵ /m ²
ΔSVI ≥10% Predictive of 15% increase in CO with 500cc ¹⁴		
<p>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 heart³ • Fluid Bolus Challenge (FB) – Rapid Infusion of 250cc of fluid over 3-5 minutes³</p>		

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