

Dynamic Assessment of Fluid Responsiveness

Cheetah Starling™ SV monitoring technology enables Dynamic Assessment of Fluid Responsiveness.

What are dynamic assessments of fluid responsiveness?

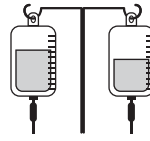
Dynamic assessments directly challenge the heart with volume to measure the response.¹

Assessment Methods:

- **Passive Leg Raise.** Translocates 250-300 cc of blood from lower extremities into the heart.²
- **Fluid Bolus.** Administration of 250-300 cc of fluid.³

A Stroke Volume Index (SVI) increase greater than 10% is highly predictive of an increase in cardiac output in response to additional fluid therapy.¹

Why are dynamic assessments better?



By directly challenging the heart you can answer the key question you have always asked about your patients ability to respond...

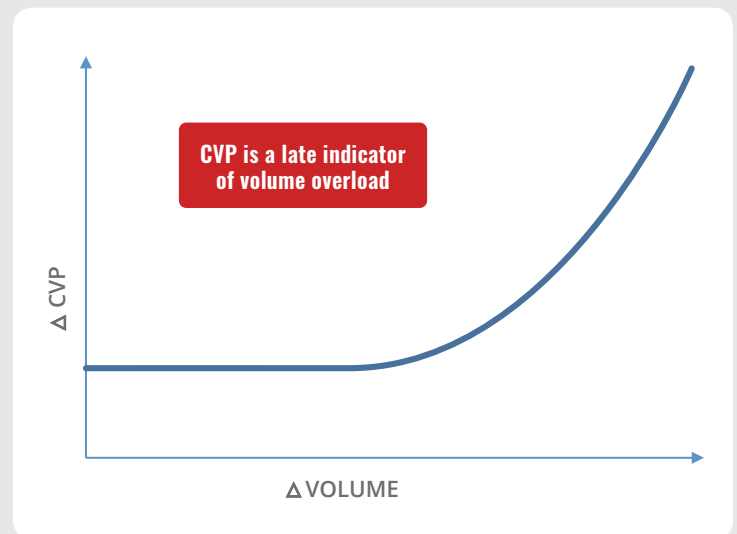
“Will additional IV fluid increase cardiac output and perfusion?”

Dynamic assessments may improve volume management by providing direct, continuous, and noninvasive measures of Stroke Volume Index.^{1,4}

Current Situation

- Only ~ 50% of hemodynamically unstable patients respond to fluids by increasing cardiac output and perfusion.⁵
- Recent evidence suggests that Central Venous Pressure (CVP) is a poor indicator of volume status & responsiveness.⁶
- CVP is impacted by mechanical ventilation, PEEP, and compliance.^{7,8}
- New noninvasive measures of Stroke Volume allow you to get beyond the limitations of pressure measurements.^{4,8}

Δ Pressure \neq Δ Volume



The Cheetah Medical Starling SV provides Dynamic Assessments of Stroke Volume.

References

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5. Michard F and Teboul JL. Predicting fluid responsiveness in ICU patients: a critical analysis of the evidence. *Chest*. 2002; 121:2000-2008.
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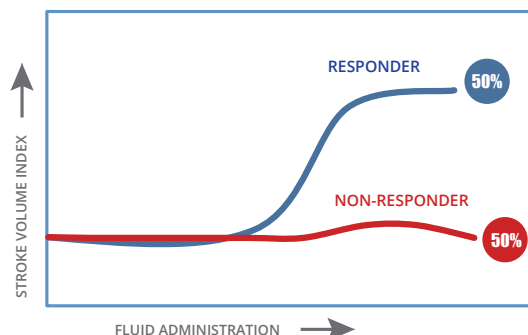
Acknowledging the benefits of dynamic assessments

- Centers for Medicare and Medicaid Services (CMS) has adopted them into core measures.⁹
- European Society of Intensive Care Medicine (ESICM) has endorsed dynamic assessments.⁸
- The Surviving Sepsis Campaign has adopted them into their core measurement bundles.¹⁰
- Dynamic assessments are a core component of ERAS (Enhanced Recovery After Surgery).¹¹

Clinical opportunities of dynamic assessment^{1,2,4}

- Dynamic assessments guide fluid administration without the limitations of pressure measurements.
- Volume status is derived from dynamic stroke volume changes.
- Dynamic assessments support rapid interpretation of ventricular responsiveness to fluid.

Dynamic assessment answers the key clinical question: **“Will additional IV fluid increase cardiac output and perfusion?”^{4,12}**



Why Cheetah Medical?



Dynamic volume assessments with Cheetah Medical Starling SV Monitor

- Provides changes in Stroke Volume in response to fluid challenge⁴
- Noninvasive, continuous, easy-to-use
- No central line
- Works on spontaneous breathing as well as mechanically ventilated patients^{12,13}
- Included as an option in the NQF#0500/CMS SEP-1 Severe Sepsis/Septic Shock Management Bundle¹⁴

Conventional pressure measurements

- CVP does not predict fluid responsiveness⁶
- Invasive
- Invasive
- CVP impacted by mechanical ventilation and PEEP⁷
- Included as an option in the NQF#0500/CMS SEP-1 Severe Sepsis/Septic Shock Management Bundle¹⁴

The Cheetah Starling SV, a completely noninvasive hemodynamic monitoring technology, measures dynamic changes in stroke volume to enable confident volume management decisions.

References

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