

**Baxter**

Starling

FLUID MANAGEMENT  
MONITORING SYSTEM

# EMERGENCY RESPONSE FOR HYPOTENSION



**Will Fluid be Effective for your Patient?**

FIND OUT IN AS LITTLE AS **ONE MINUTE**

**Fluid Management** is vital to treating any hypotensive emergency.

Use the 100% Non-Invasive **Starling** fluid management monitoring system to **quickly** obtain the insight you need to stabilize your patient.

# Complete fluid management solution for managing hypotension in the emergency department

## STARLING MONITORING SYSTEM

### Simplified User Interface

- Everything you need on one Home screen
- Flexibility to choose preferred view and parameters displayed on the screen

### Dynamic Assessment: PLR/Fluid Bolus

- **Quickly get your Dynamic Assessment Results by seeing where the patient resides on the Starling Curve:**
- $\geq 10\% \Delta SVI^*$  patient is likely fluid responsive<sup>1</sup>
- $< 10\% \Delta SVI^*$  patient is not likely fluid responsive<sup>1</sup>
- **Option to end Dynamic Assessment as soon as patient's SVI climbs  $\geq 10\%$**

### Educational and training tools built into the monitor

- Easy access to training videos, clinical tools and quick guides

\*  $\Delta SVI$  = Change in Stroke Volume Index



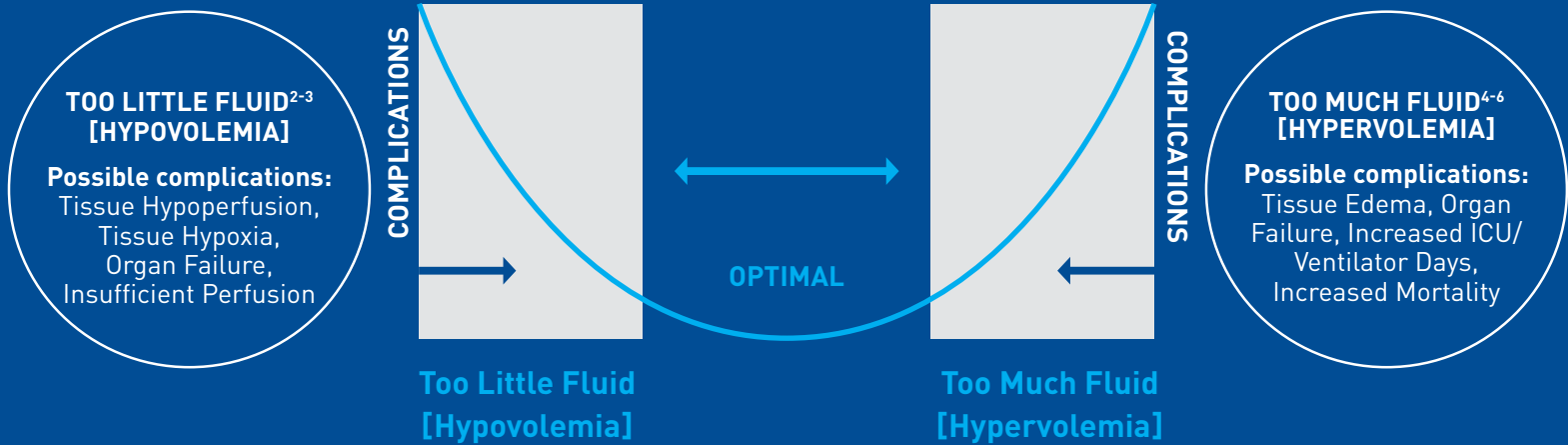
## PASSIVE LEG RAISE (PLR) LIFT TO ASSESS FOR FLUID RESPONSIVENESS



Passive Leg Raise (PLR) technique translocates 250–300 cc of blood from lower extremities into the heart, providing a reversible challenge of the heart's response to increased fluid load.

# Use Starling and Dynamic Assessments to guide your fluid decisions

## FLUID VS. COMPLICATIONS



## Case Study

### THE PATIENT

- 78 yo male from Skilled Nursing Facility arrived at the ED with hypotension, malaise. Work up for possible aspiration pneumonia.
- **PMHx:** CHF, Stage 3 Chronic Kidney Disease, IDDM



### FLUIDS ADMINISTERED:

- Patient had received a **500ml bolus from EMS**
- 09:30am arrival to **ED, 500ml bolus infused**. BP 91/47 (58), HR 105
- 10:30am: **250ml ED bolus infused**. BP 87/47(56), HR 107

Although the patient was still hypotensive, RN stated no plans for more IVF due to CHF and Kidney Disease.



The ED team decided not to guess whether the patient was fluid responsive, and a PLR was completed to assess if patient is fluid responsive:

- SVI increase of 15.7% indicated patient is still fluid responsive.
- **One liter** of NS given, patient became normotensive in ED after infusion completed.



**Checking for fluid responsiveness gave permission to give more fluids that were needed in this situation, when otherwise IVF may have been held.**

## REMEMBER...

- Studies show that only ~50% of hemodynamically unstable patients will respond to IV fluid by increasing cardiac output and perfusion.<sup>7</sup>
- Too little or too much fluid can result in serious consequences, including Organ Failure, Increased ICU/Ventilator Days, and increased mortality.<sup>4-8</sup>
- Stroke Volume (SV) is the leading indicator of perfusion change. A decrease in Blood Pressure is a late sign of poor perfusion.<sup>9</sup>

## REFERENCES

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