



# Improving Goal-Directed Fluid Therapy (GDFT) Utilization

## As part of an ERAS Protocol through Education and On-site Support



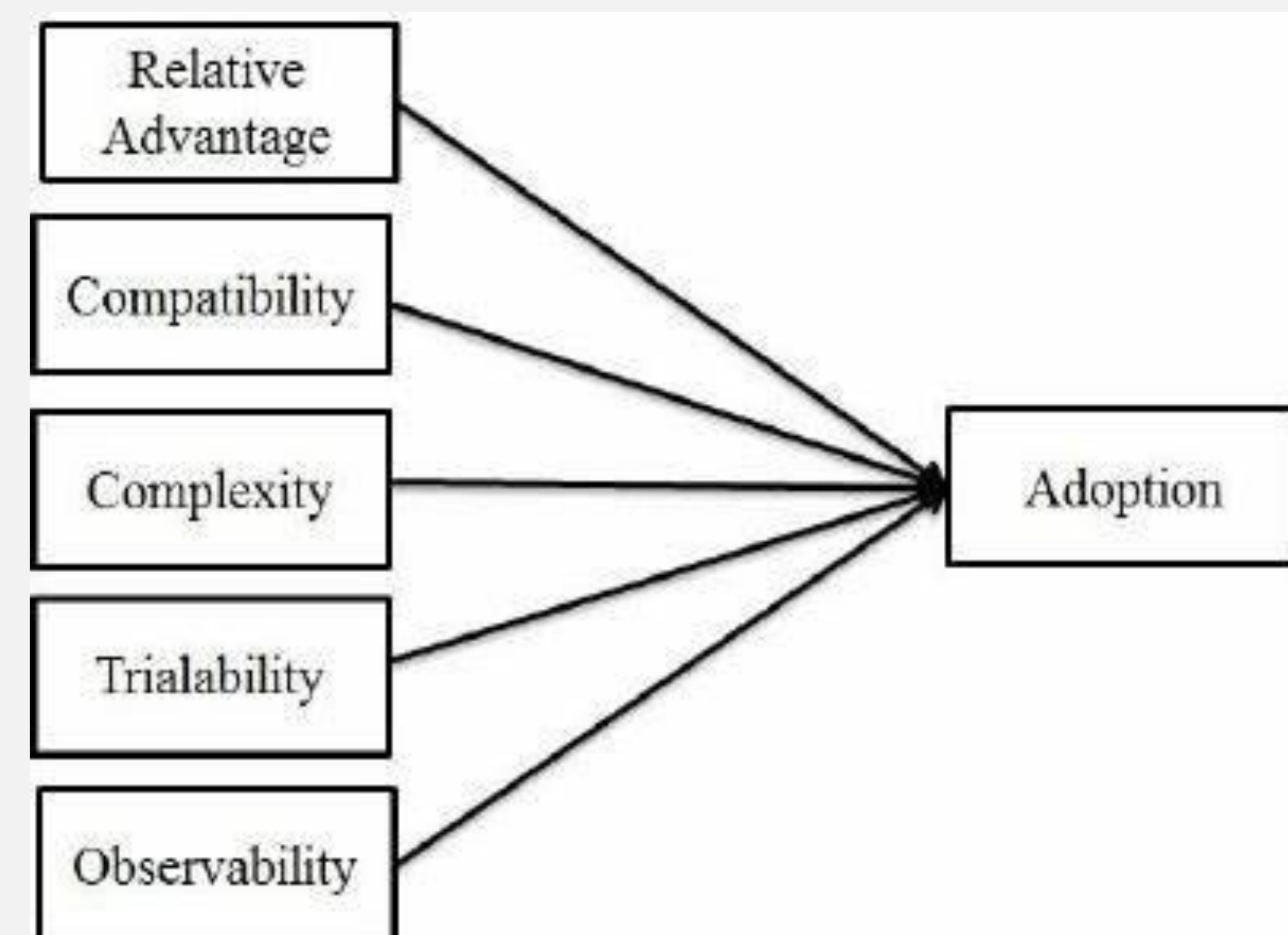
Keith Cunningham, BSN, SRNA – Kyle Little, BSN, SRNA – Dr. David Giardinelli O'Connor, PhD, DNAP, CRNA

### Background

- ❖ Perioperative fluid imbalances can negatively impact post-surgical outcomes and increase patient morbidity and mortality.
  - Increased length of stay.
  - Increased incidence of post-operative ileus.
  - Increased costs.
- ❖ Colorectal surgery poses significant physiological challenges to patients and the health-care team, with fluid management being a critical component of patient care.
- ❖ **Goal directed fluid therapy**
  - Has emerged as an effective approach to fluid management, with the potential to improve patient outcomes.
  - One challenge to GDFT is that it often requires specialized knowledge and application of medical devices and their software.
- ❖ **Bassett Medical Center- Cooperstown, NY**
  - Previously invested in Edwards Lifescience (ELS) equipment used to guide GDFT.
  - Prior utilization of this equipment and the colorectal GDFT protocol reported as poor according to key stakeholders.
  - This is believed to be due to decreased staff buy-in and lack of education.
- ❖ **This study examined how the implementation of a specialized training session influenced utilization of a GDFT protocol in colorectal surgery at Bassett Medical Center (BMC)**

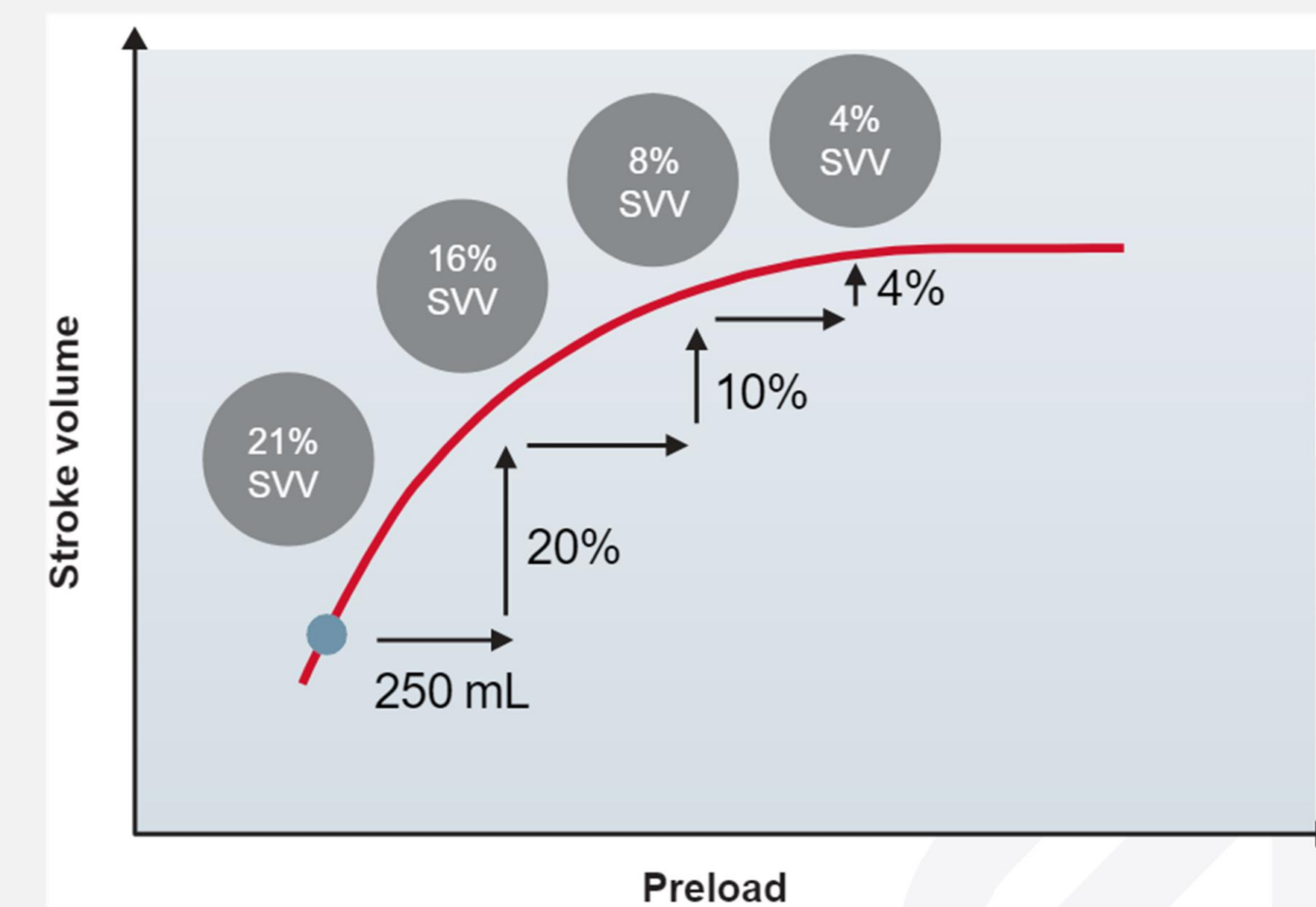
### Diffusion of Innovation

- ❖ The Diffusion of Innovations theory developed by Everett Rogers in 1962, seeks to explain how, why, and at what rate ideas spread through a social system.
  - Rate of adoption of an innovation within a social system is influenced by five key attributes: compatibility, relative advantage, observability, trialability and complexity.
  - Adopters are separated into various groups based on their relationship with and reaction to the idea.
  - We have used this theory to operationalize our quality improvement project.



### Methods

- ❖ A training session was provided by Edwards Lifescience (ELS) representatives to educate anesthesia staff at Bassett Medical Center (BMC) on the equipment and protocol used for GDFT.



- ❖ Data recorded by ELS Acumen software was then used to compare the case utilization of GDFT before and after the training regimen.
  - **Case utilization** was defined as: the measuring and recording of patient hemodynamic indices by ELS equipment during a colorectal surgery case.

- ❖ A post-training survey was submitted by attendees to determine the perceived effectiveness of the GDFT education provided.

#### Goal Directed Fluid Therapy at Bassett Medical Center

Please Circle your Role:

CRNA	MD Anesthesiologist	PACU RN	Anesthesia Technician	Other: _____
------	---------------------	---------	-----------------------	--------------

This education was of high quality

Strongly Disagree    ○ ○ ○ ○ ○    Strongly Agree

1   2   3   4   5

---

This education improved my knowledge base of Goal-Directed Fluid Therapy

Strongly Disagree    ○ ○ ○ ○ ○    Strongly Agree

1   2   3   4   5

---

I understand my role in Goal-Directed Fluid Therapy

Strongly Disagree    ○ ○ ○ ○ ○    Strongly Agree

1   2   3   4   5

---

I am more likely to utilize Goal-Directed Fluid Therapy, as appropriate for my role

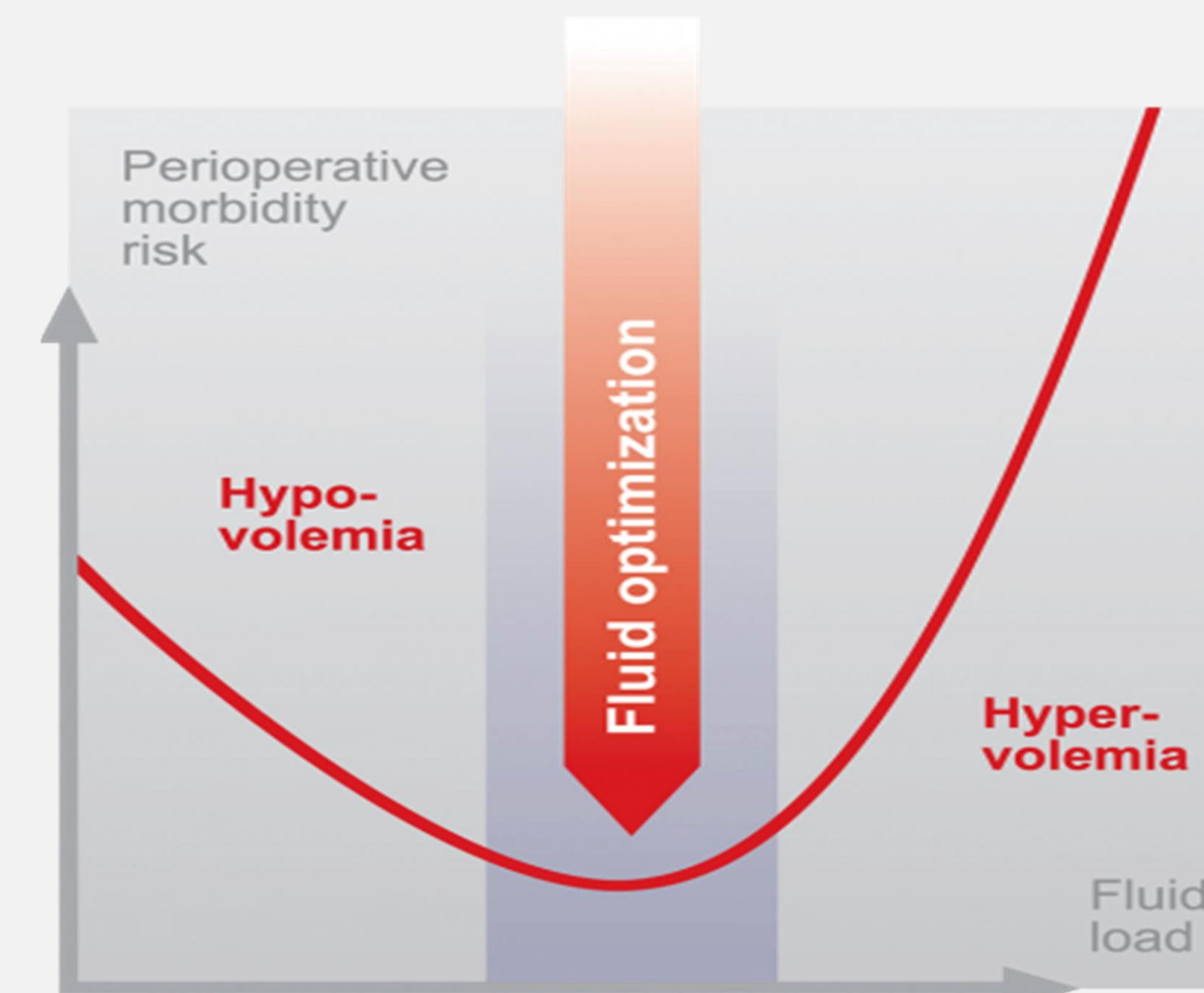
Strongly Disagree    ○ ○ ○ ○ ○    Strongly Agree

1   2   3   4   5

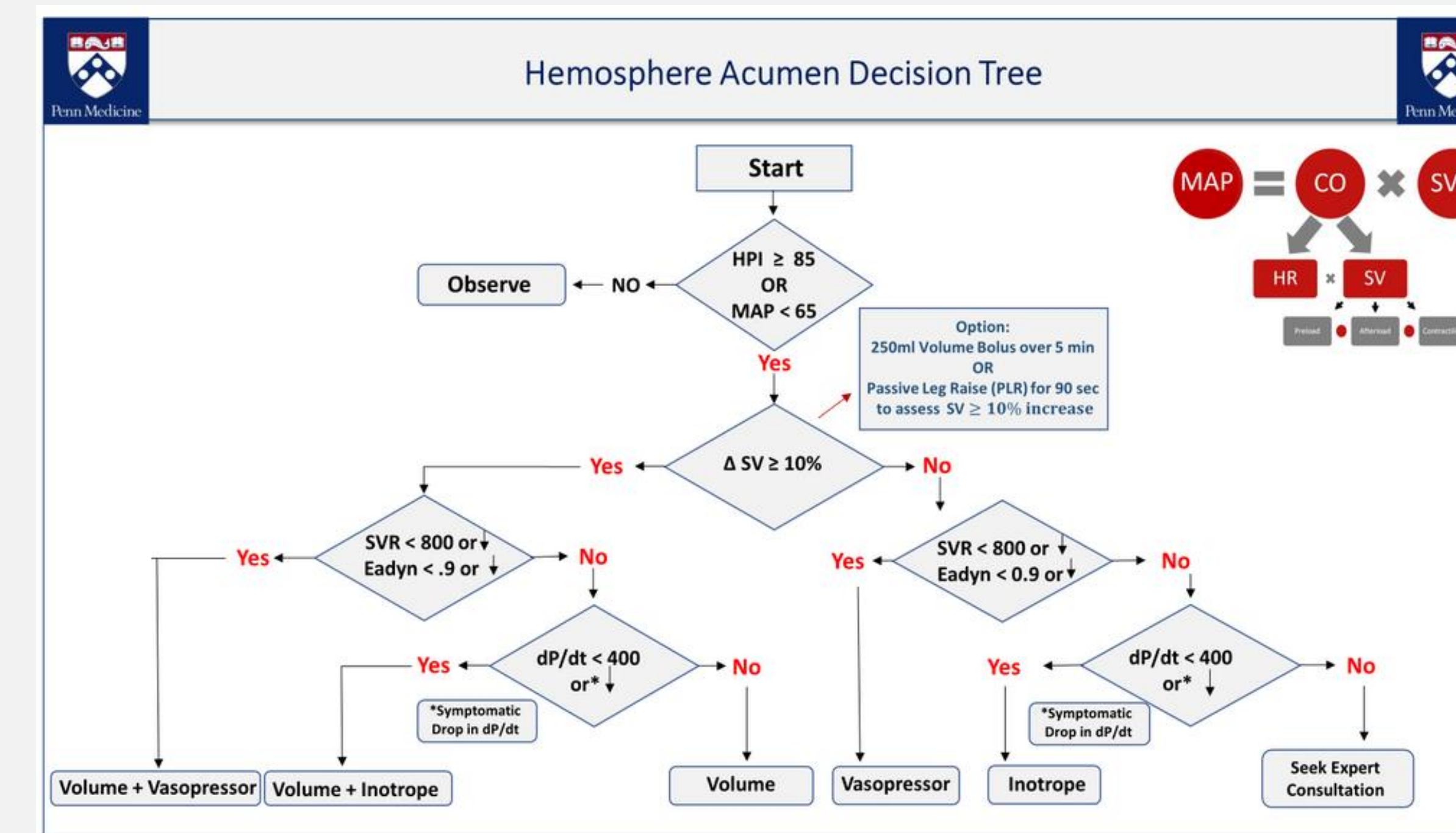
Thank you for your participation. All information supplied will remain anonymous. Please write any additional comments below.

### Goal-Directed Fluid Therapy

- ❖ **A hemodynamic optimization strategy which aims to improve patient outcomes by guiding fluid administration based on real-time monitoring of cardiac output and other parameters.**



- Shown to reduce complications and improve outcomes in a variety of surgical settings.
- Despite its benefits, the adoption of GDFT remains inconsistent. We hypothesize that targeted education can enhance the understanding and application of GDFT among anesthesia providers.
- GDFT protocols often involve decision trees of varying complexities.



### Results

- ❖ ELS Acumen software reported a \_\_\_% increase in GDFT utilization after the training sessions
- ❖ Of those who attended the training session, \_\_\_% report that they are more likely to utilize GDFT in their practice.

### Discussion

- ❖ **Significance of findings:**
  - Training sessions can improve utilization.
  - **Note:** this study did not aim to identify if the equipment and protocols were used appropriately. It only identified if the equipment was utilized.
- ❖ **Application in anesthesia practice:**
  - Following arranged training sessions equipment utilization increased.
  - It can be inferred that increasing provider knowledge and familiarity with new technologies can improve utilization.
- ❖ **Patient safety:**
  - Current literature suggests that there are no significant drawbacks to utilizing GDFT and it can be considered as good or better than standard care.
- ❖ **Sustainability plan:**
  - Actively seek continued feedback from Anesthesia and Surgical leadership to foster a sense of ownership.
  - Make clear how we plan to evaluate utilization going forward, via ELS Acumen software.
  - Champion the idea for future Doctorate of Nursing Practice research to adopt this project as a reference framework.

### Future Studies

- ❖ **Potential areas for future research:**
  - Is the equipment/protocol being used as intended?
  - What is the impact of GDFT on patient outcomes?
  - How does education implementation vary between different facilities?
  - What strategies can be used to enhance diffusion of innovation?
  - What are the barriers to utilization?
  - How long before the impacts of training sessions are lost?
  - How often do training sessions need to be provided to maintain a certain level of utilization?
  - How can training sessions be optimized?

### References

