Standardizing Care to Reduce Post-Surgical Complications

Supporting the Implementation of Perioperative Goal-Directed Therapy as a Standard of Care
Clinical and economic benefits of hemodynamic optimization through Perioperative Goal-Directed Therapy (PGDT)

When applied intraoperatively, hemodynamic optimization through PGDT has been shown to reduce post-surgical complications and reduce hospital length of stay and associated costs across a wide range of moderate to high-risk surgical populations.1-8

Demonstrated reduction of risk for:
- Acute kidney injury
- Urinary tract infection
- Surgical site infection
- Pneumonia
- Major/minor gastrointestinal complications

Post-surgical complications are not exceptions and average approximately 25% in high-risk patients.9

Both hypo-and hypervolemia may deleteriously affect organ function (see Figure 1). A PGDT protocol using advanced hemodynamic parameters can ensure the patient is maintained in the optimal volume range and reduce post-surgical complications.10

Complications from excessive and insufficient volume administration10,11

While you can’t prepare for every potential risk, hemodynamic optimization can help you avoid a number of the most common, preventable post-surgical complications. Implement PGDT in your moderate to high-risk surgery procedures, achieving optimal outcomes for your patients.
Advanced hemodynamic monitoring vs. conventional care

As seen in Figure 1 a U-shape relationship is classically described between the amount of volume administered and the morbidity rate. Conventional fluid management, based on clinical assessment, vital signs and/or central venous pressure (CVP) monitoring, is suboptimal. Indeed, clinical studies have shown that CVP is not able to predict fluid responsiveness and that changes in blood pressure cannot be used to track changes in stroke volume (SV) or in cardiac output induced by volume expansion.

Advanced hemodynamic parameters when used in Perioperative Goal-Directed Therapy are key to optimal volume administration

In patients at risk of developing complications, hemodynamic optimization using advanced hemodynamic parameters such as stroke volume, SV; stroke volume variation, SVV; and cardiac output, CO; are useful to decrease post-surgical morbidity.

Advanced hemodynamic monitoring techniques used in randomized controlled trials demonstrating the benefit of Perioperative Goal-Directed Therapy vs. conventional care

Meta-analyses of protocols using dynamic and flow-based hemodynamic parameters have shown significant benefits

Reduced post-surgical complications include:

- Acute Kidney Injury
- Major GI
- Surgical Site Infection
- Pneumonia
- Urinary Tract Infection
- Total Morbidity

The total population included in these meta-analyses is 5,538 patients, of which 2,801 were randomized to PGDT.

You Can Make a Difference in Your Patients’ Post-Surgical Recovery

While you can’t prepare for every potential risk, hemodynamic optimization through Perioperative Goal-Directed Therapy may help you avoid a number of the most common, preventable post-surgical complications. Edwards Enhanced Surgical Recovery program can help you achieve sustained compliance, and standardize care to enhance surgical recovery.
Edwards Enhanced Surgical Recovery Program – 4-Step Process

ASSESS
- Select surgical procedure(s)
- Assess current mortality rate and/or LOS
- Estimate potential clinical and economic benefits of PGDT

ALIGN
- Build core team
- Choose PGDT treatment protocol
- Choose a hemodynamic monitoring platform

APPLY
- Train and develop competencies
- Establish PGDT as new SOP and add to checklist
- Quantify and track compliance

MEASURE
- Analyze mortality rates and/or LOS
- Measure clinical and economic outcomes benefits

**Standarize the care you deliver**

This Enhanced Surgical Recovery program process is tailored to the specific needs of your hospital. This process – assess, align, apply, measure – helps your hospital improve patient care and reduce costs among your moderate to high-risk surgical patients. The program includes an online resource center with forms, an implementation guide and expansive educational tools.

**Implement evidence-based medicine**

The program provides the clinical experience and perspective to help you integrate evidence-based protocols. The program also helps you align staff across departments, deliver effective metric tracking, and facilitate peer-to-peer exchange of best practices.

**Please contact your sales representative to learn more or visit Edwards.com/ESR**

*References available upon request*

**References:**


5. Dalfino L, Giglio MT, Purtillo F, Marucci M, Brienza N. Haemodynamic goal-directed therapy and postoperative infections: earlier is better. A systematic review and meta-analysis. Crit Care 2011; 15: R154


13. Le Manach et al. Can changes in arterial pressure be used to detect changes in cardiac output during volume expansion in the perioperative period? Anesthesiology 2013


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