Goals and Objectives

At the end of the presentation, the learner should be able to:

- Discuss the core, daily components for a successful Perioperative Consult Service (PCS)
- Discuss the importance of IT for implementing, scaling, and sustaining a PCS
- Understand the economic impact of implementing a PCS at their institution

Paradigm Shift: ERAS via APCS

- Key factors prolonging stay after surgery:
  - Ileus
  - Need for IV analgesia
  - Need for IVF secondary to gut dysfunction
  - Bed rest caused by lack of mobility due to the above
- APCS + ERAS represents a paradigm shift in perioperative care:
  - Re-examines traditional practices, replacing them with evidence-based best practices when necessary.
  - Comprehensive in scope, covering all components of patient’s perioperative journey with surgeon and anesthesiologist
Our Methods

- Philosophy
  - Standardization and automation, where possible, improves routine processes of care
  - Adherence to principles more important than recipe
  - Warning, this is a protocol – it does not have a brain
  - MUST be data driven
- Metrics
  - LOS, Readmissions
  - Pre-op/Intraop “Compliance”
  - Postoperative “Compliance”
  - PDSA to Learn of Other Areas for Improvement

A Day in the Life of APCS

Automated Systems: VAPIR
Manual “IT”

Dear Team,

You will be caring for patients in the Anesthesiology/Perioperative Consult Service tomorrow.

For perioperative 1 patients, the service will care for the patients while in-house, including writing preoperative medication orders and performing relevant blocks. The new patients on the perioperative 1 protocol tomorrow are below.

The clinical guidelines can be found here: [Link](https://example.com/clinical-guidelines).

Please review the appropriate protocol for your patient if you are unfamiliar with these, as there are key preoperative components and differences between protocols. The surgical oncology patients follow the colorectal guidelines.

We have added the new TRAM/SIEBP free-look patients to the perioperative service, the new protocol has been added to the above link.

We have also added the new Donor Nephrectomy patients to the perioperative service, the new protocol has been added to the above link.

*Please add the lubricate irrigation to your PACU orders and bring the drip to PACU.*

*For lesser surgery patients, please give either 1mg Propofol or 1mg medetomidine IV (preferred) if no contraindications.

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**V2.0: Automated Daily Case Email**

- Daily Case Assignments by Location
- Preop Evaluation Record
- Last Anesthesia Care Record
- Link to Care Pathway

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**Clinical Pathways**

Vanderbilt Institutional Guidelines:
- Safe Journeys Guide: Inpatient Evaluation (PDF)
- Referral Transmission (PDF)
- Veterinary Bedside (PDF)
- Hospitalization: Inpatient Evaluation (PDF)
- Hospitalization: Preoperative Evaluation (PDF)
- Inpatient Care Guidelines (PDF)
- Inpatient Care Standards (PDF)
- Inpatient Care Protocols (PDF)
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- Inpatient Care Protocols (PDF)

Guidelines Published by External Sources:
- American Society of Anesthesiologists (ASA)
- Anesthesia Care of Adult Patients with Severe Disease: 2016 Update (ASA)
- Anesthesia Care of Children with Severe Disease: 2016 Update (ASA)
- Anesthesia Care of Elderly Patients with Severe Disease: 2016 Update (ASA)
- Anesthesia Care of Obstetric Patients with Severe Disease: 2016 Update (ASA)
- Anesthesia Care of Pediatric Patients with Severe Disease: 2016 Update (ASA)
- Anesthesia Care of Pediatric Patients with Severe Disease: 2016 Update (ASA)

VAMC Department of Anesthesiology: Standard Operating Procedures
- Anesthesiology-Related SSTs for Perioperative Anesthesia (PDF)
- Anesthesiology-Related SSTs for Perioperative Anesthesia (PDF)
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- Anesthesiology-Related SSTs for Perioperative Anesthesia (PDF)

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Major Perioperative Outcomes

Outcomes:
- LOS
- CMI
- Postop ICU Txf
- Postop Intub
- Readm w/in 30d
  - All services covered by PCS
  - Can select by service line or case type
  - Can alter timeline

Care Pathway Bundle Compliance

- Multimodal Analgesia
- PONV Utilization
- Opioid Use
  - preop
  - intraop
  - PACU

Savings by Service
Projected Savings for Continuing and Expanding the ERP and APCS at VUMC:
A Model for Savings

Estimated Annual Bed-Day Savings with ERP and APCS Expansion*

*This model assumes saving 1 day of median LOS per population, which was actually accomplished in CRS patients in FY 15.

~1700 bed-days saved, plus...

Estimated Additional Patients Per Case Type Per Year at Same Total Bed Utilization with ERP and APCS Expansion*

*This model calculates the additional patients to be served at the same hospital cost utilization/cost level as baseline and assumes saving 1 day of median LOS, which was actually accomplished in CRS patients in FY 15.

~450 MORE patients at same cost basis, plus...
Precision Medicine
and
Perioperative IT
The Missing Link

Highly Skilled, Uncoordinated Chaos

Enhanced Recovery After Surgery (ERAS)
Specialist Consult Service Implementing ERAS

High-Risk Surgery Consult Service; ERAS for all others
Dynamic Risk Profiling (DRP)
DRP with machine learning program (MLP)

Precision Periop Medicine: Genomics + DRP + MLP

Missing Link

Highly Skilled, Uncoordinated Care

Enhanced Recovery After Surgery (ERAS)
Specialist Consult Service Implementing ERAS

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DRP with machine learning program (MLP)

Precision Periop Medicine: Genomics + DRP + MLP

Dynamic Risk Profiling: Next Steps Beyond Care Pathways and Guidelines

2016 - ???

Horizontal: Across all or many patients by disease or entity

- Periop Prophylaxis by #RF
- Mgmt of patient w/ CHF - biomarkers
- Mgmt of CV medications
- Intraoperative Vents/NIRR mon
- Dynamic Risk Profiling - PPC, MAC, Delirium, etc.
The Block Box(es):

1) Unless they contact us with a question/problem, how do we know what happens to a patient before and after surgical hospitalization?

2) We want to know in order to:
   - improve customer service outside of hospital
   - improve compliance with perioperative plan
   - prevent unnecessary and costly readmissions