Anesthesiologists: Providing Value Through Technology

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DEPARTMENT OF ANESTHESIOLOGY, AND

THE CENTER FOR CONTINUING EDUCATION

TULANE UNIVERSITY HEALTH SERVICES CENTER

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Anesthesiologists: Providing Value Through Technology

Target audience: Anesthesiologists

Statement of Need: As the technology landscape matures for the practice of anesthesiology, clinical providers require up-to-date information regarding the value propositions of these systems to their practice, their patients, and their facilities in order to better understand the true benefits.

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The goal of this activity is to keep the learner updated with current trends, goals, and implementation status anesthesia information systems.

Learner Objective:

At the conclusion of this activity, the participant should be better able to apply the knowledge of the technologies affecting the pre-, intra-, and post-operative areas and to speak to the benefits and options of such system.

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Predicted Practice Outcome:

As a result of this activity, the participant should be able to review his or her practice's current clinical technology offerings and evaluate whether sponsoring such a system would provide benefit to its providers.

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Accreditation

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the Anesthesia Business Consultants, LLC and Tulane University Health Sciences Center. Tulane University Health Sciences Center is accredited by the ACCME to provide continuing medical education for physicians.

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Disclosure Policy

This activity has been planned and implemented in accordance with the ACCME's Essential Areas and Policies to ensure balance, independence, objectivity, and scientific rigor. All individuals responsible for content, regardless of role(s), are required to document financial relationships or the absence of relationships with commercial interests, and all potential conflicts of interest must be resolved prior to the activity. Disclosure of off-label, experimental or investigational use of drugs or devices must also be made known to the audience.

Planners and staff have documented that they have no relationships with a commercial interest as defined by the ACCME.

Disclosures

- David Bergman, D.O.

    Chief Executive Officer and Founder

    ePreop, LLC

- Bryan Sullivan

    Vice President, Clinical Technologies

    Anesthesia Business Consultants, LLC

Agenda

- External Pressures on Anesthesia and Perioperative Information Systems

- Preoperative Areas of Opportunity

- Current and Target States of Pre- and Intraoperative Information Systems

- Current Adoption and Definition of Anesthesia Information Management Systems (AIMS)

- Current and Target States of Postoperative Quality Data

External Pressures

- Insurance companies-stagnant or decreasing reimbursement, refusal of reimbursement for certain procedures
- Decreasing volumes in down economy, or increased/independent utilization of CRNAs, PAs, AAs
- Hospitals-costs and decreasing stipends
- Accountable Care Organizations
- Surgical Home concept
- Competition in marketplace

Areas of Opportunity- Preoperative

- Current preoperative state-variability, unnecessary testing, unnecessary consults, case delays/cancellations, delivery of evidence based recommendations, communication with patients, patient satisfaction

- Target state-Integrating the anesthesiologist within facility technology, lead preoperative evaluation process by bringing in technology, decrease redundancy of documentation, decrease variability, improve patient satisfaction, increase value of Anesthesia Department

Current State-Preoperative Testing

- Kaplan EB-The usefulness of preoperative laboratory screening. JAMA 1985
- Fischer-Development and effectiveness of an anesthesia preoperative clinic in a teaching hospital, Anesthesiology 1996
- Hepner-The Role of testing in the preoperative evaluation, CCJM 2009
- Roizen, Fleisher, Pasternak
- NHRQ-$3 - $30 billion annually
- Hospital costs, ACO model, Managed care groups

Current State-Preoperative Consults

- Anesthesiology 1/12 Ontario Variability in the Practice of Preoperative Medical Consultation.

- Around 1/3 of patients receiving consults for major non-cardiac surgery

- Likelihood of consult dependent on facility.

- ACC/AHA guidelines

Current State-Case Delays/Cancellations

- Missing tests
- Abnormal tests not recognized or ordered last minute
- Missing consults
- Not following instructions (e.g.-NPO, directions)
- Tulane Study Cancellations-Bent 2009
  6.7% cancellation rate ~$1 million

Target state-Preoperative Health Record or AIMS

- Use Preoperative Health Record to standardize testing protocols and deliver recommendations consistently
- Screen patients requiring Preop Clinic visit or Consult
- Anesthesiologist facilitates which data is collected, orders tests, orders consults, reduces redundancy in data entry
- Measure cost savings with testing and consult patterns-managed care groups, bundled DRG payments, ACO participants

Target state-Preoperative Health Record or AIMS

- Measure case delays/cancellations
- Measure increased revenue with DRG reimbursement and increased co-morbidity capture-Gibby, Stonemetz
- Maintain database of discrete preoperative data for reporting
- Improve Patient Satisfaction through better communication-Preoperative instructions, eliminate repeat interviews, reduce days off work, smoking cessation, PCP referral, sleep study, hypertension therapy, diabetic control

What constitutes an AIMS?

- Documentation standards & methodology
  - Key timestamps, Provider Information, Patient Information, Procedure Information
  - Touch screen / Keyboard & Mouse / Electronic Pen
- Clinical Decision support
  - Hospital Guidelines
  - National Standards
- Physiologic data capture
  - Anesthesia Cart
  - Modular Monitors (BIS, etc.)
- Integration to Hospital Information System (HIS)

Anesthesia Information Management Systems

- Safety
  - Support integration to Hospital Information System (HIS) or Nursing Systems for Patient Health Information
  - Medications complications management
- Cost
  - Improve anesthesia billing and charge capture (including anesthesia procedures, and chronic pain management)
  - Improve hospital coding and subsequent reimbursement
  - Reduce anesthesia-related drug costs
- Risk
  - Clinical decision support
  - Support of clinical risk management
- Quality
  - Improve discrete data capture on anesthesia record
  - Support of patient care and safety
  - Enhancement of clinical quality improvement programs

AIMS - Vendors

Best of Breed

- iMDsoft - MetaVision
- Picis – Anesthesia Manager
- SIS – SIS Anesthesia
- Merge – AIMS
- Acuitec - VPIMS

Enterprise /Hardware

- Epic - OpTime
- Cerner – SurgiNet
- McKesson – Anesthesia Care
- GE - Centricity
- Philips - CompuRecord
- Draeger - Innovian

Where to use an AIMS

- Inpatient Facilities

- Outpatient Facilities

- Ambulatory Surgery Centers

- Mobile Anesthesia Units

- Procedure Rooms

Current AIMS Implementations

Type	# Live AIMS Sites (US)	# Under Implementation	# Under Contract	# Sold / not begun implementation
Hardware Integrated AIMS	282	28	324	14
Perioperative Information Systems	281	217	1200	701
AIMS Only	83	19	128	26

Hardware Integrated AIMS
- GE
- Philips
- Draeger

Perioperative Information Systems
- Picis
- McKesson
- SIS
- Cerner
- Epic

AIMS Only
- iMDsoft
- Merge
- Acuitec
- Plexus

Source – Jerry Stonemetz, M.D.   AAA Conference 2012

Current AIMS Implementations – Total

Type	# Live AIMS Sites (US)	# Under Implementation	# Under Contract	# Sold / not begun implementation
Hardware Integrated AIMS	4.9%	0.5%	5.6%	0.2%
Perioperative Information Systems	4.9%	3.8%	20.9%	12.2%
AIMS Only	1.4%	0.3%	2.2%	0.5%

Hardware Integrated AIMS
- GE
- Philips
- Draeger

Perioperative Information Systems
- Picis
- McKesson
- SIS
- Cerner
- Epic

AIMS Only
- iMDsoft
- Merge
- Acuitec
- Plexus

Current AIMS Implementations – < 50 beds

Type	# Live AIMS Sites (US)	# Under Implementation	# Under Contract	# Sold / not begun implementation
Hardware Integrated AIMS	7.0%	0.7%	8.1%	0.3%
Perioperative Information Systems	7.0%	5.4%	29.8%	17.4%
AIMS Only	2.1%	0.5%	3.2%	0.6%

Hardware Integrated AIMS
- GE
- Philips
- Draeger

Perioperative Information Systems
- Picis
- McKesson
- SIS
- Cerner
- Epic

AIMS Only
- iMDsoft
- Merge
- Acuitec
- Plexus

Current state-Postoperative Quality Data

- Data collection by hospital RN
- Hospital owns data
- Few items measured
- Limited access
- Limited national benchmarking

Target state-Postoperative Quality Data

- Use technology to capture quality measures and conduct reporting
- Work with execs and nursing staff to identify areas of opportunity and implement protocols
- Analyze preoperative and postoperative data
- Choose areas to evaluate for improvement, present to hospital execs
- Modify clinical decision support, measure new outcomes, share in cost savings or increased revenue

Summary

- The adoption of these clinical systems provides **value** to the hospital, the provider, and patient.

- Understanding your facility's technology platform helps **guide** which system offering is best value.

- Becoming an involved member of the decision process, enables your practice to be a **key partner** with your hospitals and surgery centers.