Panel Discussion: Designing Care in the Preoperative Clinic

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Stony Brook Medicine

SPAQI Society for Perioperative Assessment and Quality Improvement

Disclosures

- Disclose relevant financial relationships
- Off Label Use of Medications
- Full Disclosure statement on file with AML Events

Objectives

- Describe models of preoperative evaluation programs
- Outline systems issues and outcome metrics associated with preoperative clinics
- Provide a framework for developing and managing preoperative programs

Preoperative Clinic Panel

- New format this year
- List of topics to choose from
- Audience prioritizes topics via ARS
  - Panelists will present information
  - Three audience questions via roving microphone
- Next topic

History

- First reported preoperative clinic - 1949 – decrease pressure in surgery clinic

> *The purpose of such a clinic was to optimize the condition of persons "not in the best possible state for operation"* *Lee Anesthesia*

- Relatively recent popularization
  - Not yet universal
- Early factors promoting use:
  - Increase in ambulatory surgery
  - Standardization of laboratory testing
    - Retrospective review 2000 charts
    - 60% tests not indicated
    - 0.022% might have altered management
    - No bad outcomes

Kaplan JAMA 1985

Needed mechanism to 'spread the word'

Preoperative Programs

- There is no single, standard model of care for perioperative programs
  - Design within needs, culture, and resources of your institution
- Primary goal
  - Provide safe, reliable preoperative medical optimization
- Delivered in a centralized, multidisciplinary environment
  - A Process, not a Clinic
- Communication and collaboration are essential for success
- Evidence-based protocols with institutional consensus ensures goals will be met

Preoperative Clinic Panel

Staffing Models

Challenges of creating or expanding a program

Triage models

Justifying the cost of a preoperative clinic

Quality metrics and Outcomes/standardization of care

Identifying and achieving goals- delays and cancellations

Unique practice models

ACGME requirements

Research

Nursing regulatory requirements

Staffing Models in the Preoperative Clinic

Staffing Models

- Depend on Program Design
- Which patients will be cared for?
  - In person visits?
    - Who is going to see the patients?
      - Anesthesiology, Internal Medicine, NP/PAs?
      - Triage
  - Phone calls?

Table 3. Estimating Visit Volumes in a Preoperative Clinic

	Virtual Preoperative Evaluation	Anesthesiology	Internal Medicine	Advanced Practice Provider	Total
Operating Room Patients					
ASA 1	1,000	-	-	-	1,000
ASA 2	2,000	-	-	-	2,000
ASA 3	-	3,500	2,100	1,400	7,000
ASA 4	-	800	200		1,000
Sub total	**3,000**	**4,300**	**2,300**	**1,400**	**11,000**
Procedural Patients Requiring Anesthesia	**500**	**500**			**1,000**
Surgery Center					
ASA 1	5,000	-	-	-	5,000
ASA 2	3,000	-	-	-	3,000
ASA 3	-	-	-	-	-
ASA 4	-	-	-	-	-
Subtotal	**8,000**	**-**	**-**	**-**	**8,000**
TOTAL	**11,000**	**4,800**	**2,300**	**1,400**	**20,000**

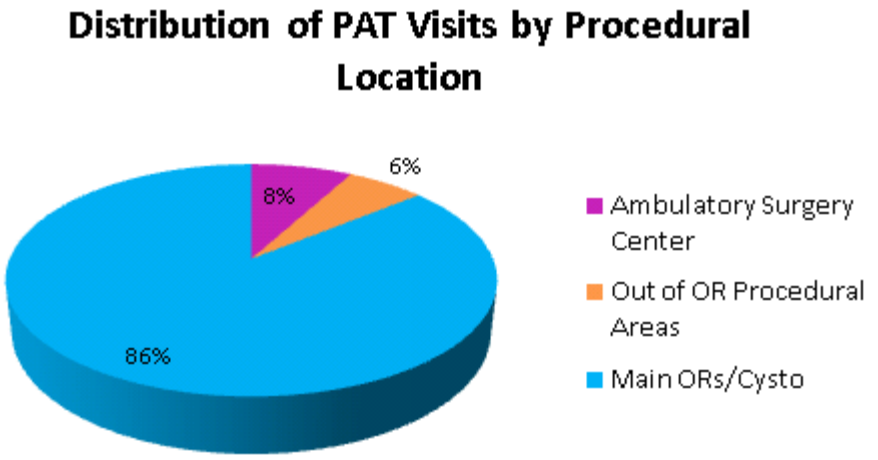
Edwards , Slawski . *Anesthesiology Clinics 2016* 34(1).

Preoperative Program Model

Two preoperative clinics (large general and eye)

Staffed jointly

- Anesthesiology
- Internal Medicine
- Hospital employed NPs



Cases seen

- Main ORs
- Out of OR procedures requiring Anesthesia services
- Selected Ambulatory Surgery Center cases

Preoperative Program Model

Clinic Functions:

- Physician evaluations
- RN admission questionnaires
- Phone calls
  - De novo calls to patients not seen in clinic ~ 20/day
  - Night before reminder calls ~40/day
- Preop chart administrative functions
  - Preop check list
  - Gather consents, etc

Anesthesiology

- Faculty
  - 10 half day sessions/week
- Housestaff
  - Required rotation, 2/month

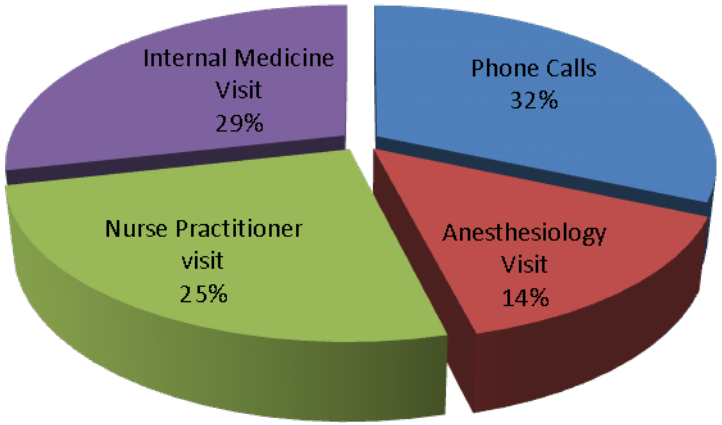
Internal Medicine

- Faculty
  - 22 half days sessions/week
- Housestaff /students
  - Optional rotation
- Internal Med APP
  - 10 half day sessions/week

Hospital employed APP's

- 2.3 FTE
- 40 sessions/week

PAT Visits by Provider Type



- RN's- 1 FTE/1,165 visits
- Ancillary services
  - Pharmacist
  - EKG
  - Phlebotomy

WFBH Preop Clinic Infrastructure

Personnel

- Check-in – 2 assistants
- Financial clearance associate
- Patient Scheduling coordinators (2)
- Pharmacy technician
- Pulmonary technician
- CMAs (3)
- Clinic nurses (2)

- Nurse navigators (5-6)
- SRNA
- Clinical Nurse Manager
- APPs (10)
- Anesthesia Resident
- Anesthesiologists (2)
- Internal Medicine (1)

  Internal medicine resident + anesthesia resident on perioperative medicine rotation

PAC Visit

- PAC schedule reviewed by scheduling team 3-4 days in advance
- Patients triaged based uponpreset criteria to IM, fast track, Team A, Team B or Intensive (resident) schedule
- **Clinic provides**:
    - Financial counseling
    - Medical evaluation, optimization (H&P)
    - Medication reconciliation
    - Education & Consents
    - SNC/Preop evaluation (H+P compliant)
    - EKGs, labs, office spirometry
- All patients are seen by an APP, resident or Attending Physician
- All cases seen by an APP or Resident supervised by Anesthesiologist
- All cases seen by the Internist; also seen by Anesthesia

Our Pre-Op Model

Stony Brook Medicine

- Tertiary academic medical center in Suffolk county, NY
- 500+ inpatient beds
- 23 main hospital operating rooms
- 8 ORs in the free standing Ambulatory Surgery Center
- 14 offsite locations

  Obstetrics/endoscopy/MRI/cardiac EP lab

22 000 procedures/year

18 000 elective

Our preoperative clinic

- See 65 patients/day (~70% of elective patients)
    - Ideally see all patients and do the workup
    - Standardize
    - Centralize
- Process 99% of the elective charts
- Services vary according to patient need
    - H&P
    - Labs
    - ECG
    - Anesthesia consult
    - Education
        - Fit for surgery
        - NPO
        - Medication management
        - Surgical site infection prophylaxis
        - ERAS protocols
    - Day of surgery orders
    - Research recruitment
    - Nursing documentation

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Pre-Operative Services

Staff:

- 7 LIPs
- 5 CAs
- 5 Clerks
- 1 office manager
- 8 RNs including clinician
- Anesthesia resident
- Anesthesia attending
- Anesthesia research coordinator

- Hours:
  - Mon-Fri
  - 7am – 5pm
  - last appointments at 4pm.

Our Model

All patients

- Screening worksheet
- H&Ps
- Patient education
- Labs/ECG/(X-rays)
- Anesth consult
- Pre-op orders
- Chart review
  - Results
  - Indicated consults

Selected patients

- Chart review
- Telephone screening
- Telephone consults
- Old chart reviews
- Communication with:
  - OR Booking
  - PCPs
  - Surgeons
  - Other consultants
  - Anesthesia team

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Challenges of Creating and Expanding Preoperative Programs

Challenges Creating or Expanding Preoperative Programs

- Demonstrating value/ Obtaining financial support
- Large potential scope/ continuum of care
  - Identifying a model
  - Patient triage
- Sustainable growth
  - Recruiting interested faculty and staff, experienced leaders
  - Resource plans
- Ownership
- Standardization
  - Across procedural areas and ORs
  - Upstream clinics
  - Patients not seen in preoperative clinic
- Tracking metrics

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Triage Models and Preoperative Care

Triage Systems

Getting the right patients @ the right time?

I. Information Technology
II. Professional/Medical Decision making
    - Surgeon referral by ASA Class
    - Patient Directed Triage tools - *IT support*
    - Nursing Phone Screens
III. Balancing patient centric models
    - Convenience: patient & surgeon preference
    - Time for Medical Optimization vs. DOS Cancelation

Triage Mechanisms:

Surgeon

- Decision for surgery
- Prelim ASA classification
- Schedule PAC appointment or ACDOS (ASA 3+4 = PAC)

Nurse Phone Screen

- Call All ASA 1+2 pts (*approx. 50/day*)
- Navigator phone screen, brief medical assessment, phone preop, identify financial & care coordination needs, anticoagulation etc.
- Patient assigned ACDOS or rescheduled for clinic visit

Triage Tools: ASA Classification

Table 1. ASA Physical Status Classifications and Examples

ASA PS Classification	Definition	Examples
ASA I	A normal healthy patient	Healthy, nonsmoking, no or minimal alcohol use
ASA II	A patient with mild systemic disease	Mild diseases only without substantive functional limitations. Examples include (but not limited to): current smoker, social alcohol drinker, pregnancy, obesity (30 < BMI < 40), well-controlled DM/HTN, mild lung disease
ASA III	A patient with severe systemic disease	Substantive functional limitations; one or more moderate to severe diseases. Examples include (but not limited to): poorly controlled DM or HTN, COPD, morbid obesity (BMI ≥40), active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of ejection fraction, ESRD undergoing regularly scheduled dialysis, premature infant PCA <60 wk, history (>3 mo) of MI, CVA, TIA or CAD/stents
ASA IV	A patient with severe systemic disease that is a constant threat to life	Examples include (but not limited to): recent (<3 mo) MI, CVA, TIA or CAD/stents; ongoing cardiac ischemia or severe valve dysfunction; severe reduction of ejection fraction; sepsis; DIC; ARD; or ESRD not undergoing regularly scheduled dialysis
ASA V	A moribund patient who is not expected to survive without the operation	Examples include (but not limited to): ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ/system dysfunction
ASA VI	A declared brain-dead patient whose organs are being removed for donor purposes	

Table 1. ASA Physical Status Classifications and Ex

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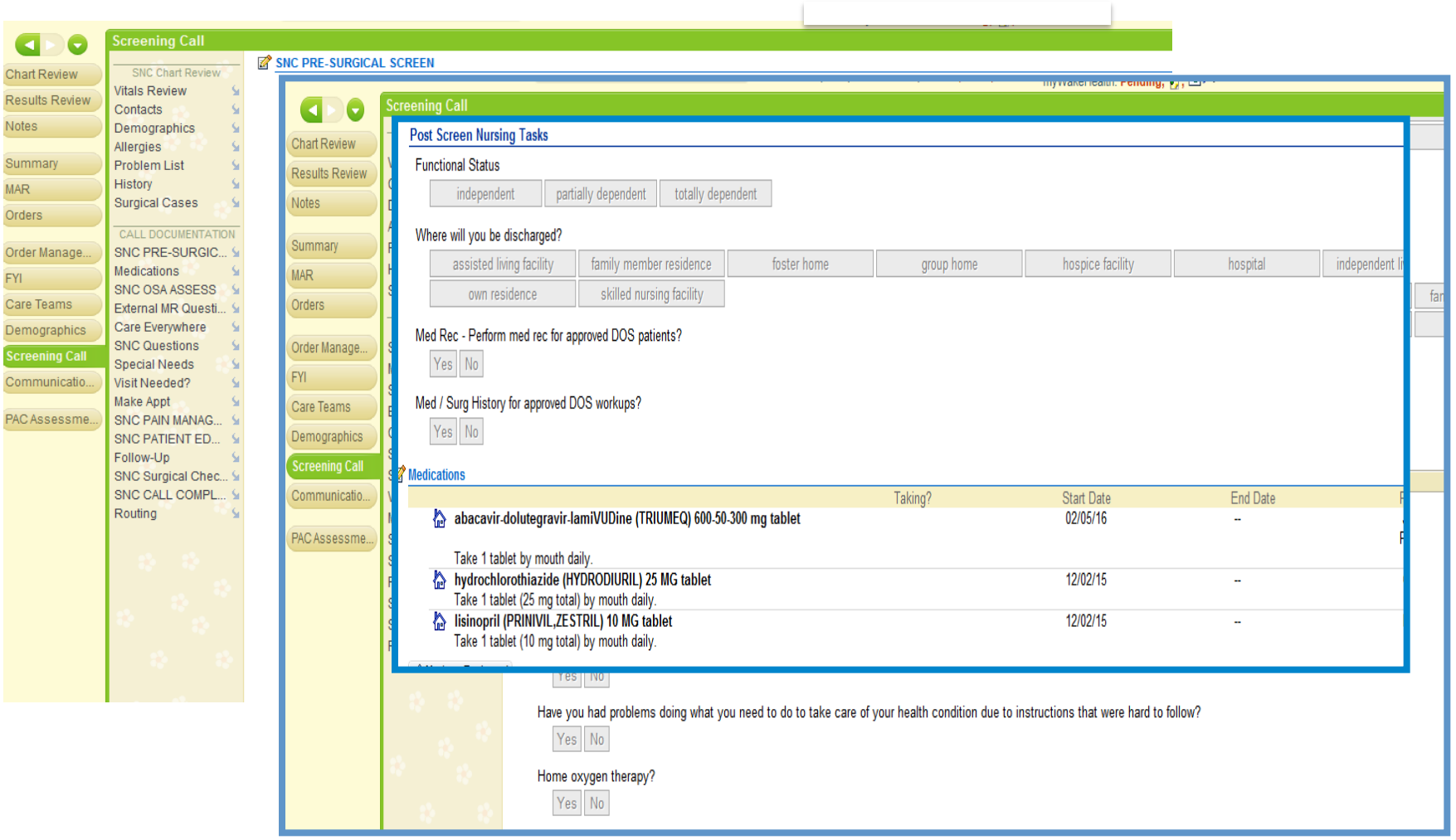
ASA IV	A patient with severe systemic disease that is constant threat to life
ASA V	A moribund patient who is not expected to survive without the operation
ASA VI	A declared brain-dead patient whose organs are being removed for donor purposes

Navigator Phone Screen
Nurse Questions

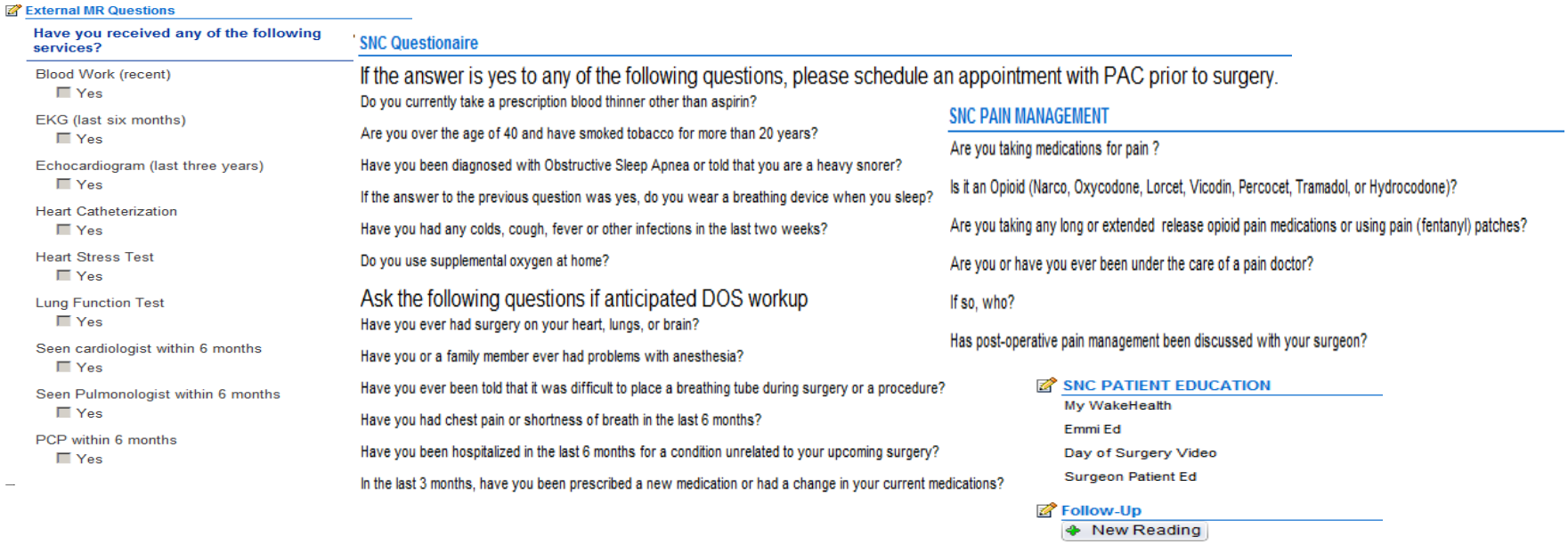
- **Do you currently take a prescription blood thinner other than aspirin?**
- **Are you over the age of 40 and have smoked tobacco for more than 20 years?**
- **Have you ever had surgery on your heart, lungs or brain?**
- **Have you or a member of your family ever had problems with anesthesia?**
- **Have you been told that you were a difficult intubation?**
- **Have you experienced chest pain or shortness of breath in the last 6 months?**
- **Have you been hospitalized in the last 6 months for a condition unrelated to your upcoming surgery?**
- **In the last 3 months, have you been prescribed a new medication or had a change in your current medications?**
- **Have you been diagnosed with Obstructive Sleep Apnea?**
- **Have you experienced any colds, cough, fever or other infections in the last 2 weeks?**

Triage Tools: Phone Screens



Benefit to Screening Calls

- Conduct Chart Review & Confirm DOS Contacts
- Review Problem List, Allergies, Medication Reconciliation
- Screening medical questions
- Screening for outside medical records, special needs, pain management
- Provide links to patient education materials
- Decide if clinic/in-person visit required



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Justifying the Expense of Preoperative Programs

Economic sense
Justifying the cost to the C-suite

Obstacles frequently cited:

- Cost
- Lack of anesthesia staff

Lemmens, Netherlands: BJA 2008

Cost:

- Staff = >70%
- Facility
- Laboratory testing

$$$ Economic sense $$$

- Savings:
  - Less **delays** day of surgery
  - Minimal last minute **cancellations**

    Feschl Anesthesiology 2005 / van Klei A&A 2002
  - **Length of stay** shortened by appropriate planning

    Halaszynski, Yale CCM 2004

Economic sense

Savings:

- Decrease in **unnecessary consults**

"Obtaining routine medical consultations to avoid delays or cancellations is inefficient, time-consuming, expensive, and unnecessary."

"The anesthesiologist, in evaluating patients in a preoperative program before the day of surgery, can determine if a consultation is required for patient perioperative management."

Fischer in Seminars of Anes Dec 1999

Economic sense

Consults

Retrospective: 13000+ patients 2005-6

"*Patients having ophthalmologic, orthopedic, or urologic surgery were more likely to have consultations compared with those having general surgery—adjusted odds ratios (95% CI) of 3.8 (3.3–4.2), 1.5 (1.3–1.7), and 2.3 (1.8–2.8), respectively. Preoperative consultations were more common in patients with lower revised cardiac risk scores.*"

Thilen, SR. Anesthesiology. 2013 May; 118(5): 1028–1037.

Economic sense

Consults prior to cataract surgery

- Medicare data 1995-2006
- Increasing # consults
- Geographic variation
- In contradiction landmark article of Schein etal

NEJM 2000; 342:168-175

"Referrals for consultation seem to be primarily driven by nonmedical factors"

Thilen, SR. JAMA 2014 Mar; 174(3): 380–388

Economic sense
Justifying the cost to the C-suite

Savings – lab ordering:

- Labs – over ordered in 60% patients (*Katz ASA 2008*)
- Decrease in unnecessary testing
  - Subsequent audit at SBUMC estimated $3.5million in unnecessary lab testing/yr.

  - Vogt, Rochester NY 30% reduction in cost of lab ordering *JCA 1997*
  - Starsnic, Philadelphia less ordering no extra cancellations *JCA 1997*
  - Power showed more than 30% reduction in ordering and cost reduction of similar magnitude with anesthesia staff input into testing. *Anaesth Intensive Care 1999*

But:

•Convenience of onsite or appointment free testing led to increased ordering. *Edward: European Journal of Anesth Apr 2008*

Economic sense

Financial gains

- DRG coding increases reimbursement
- Case Mix Index accurately reflects patient population
- Most effectively done in:
  - standardized pre-op clinic
  - electronic patient record

Economic sense

Financial gains

- Surgeon satisfaction
  - Less work in office
  - Efficiency day of surgery
- Anesthesia satisfaction increased when patient pre-assessed by colleague
- Enlarging referral base
  - Word of mouth
- Outpatient surgery increased – study of a VA group and with the **single intervention** of the pre-op clinic
  - increased the ambulatory population
  - no significant increase in complications
  - significant streamlining of process and cost saving.

Pollard from Stanford (JCA 1999)

Economic sense

Financial gains:

- Patient satisfaction
  - difficult to measure
  - wait time dependent
  - scheduling best done with computer models
    - better suited to business model than medicine
  - But the 'health care industry' relies on its good name
    - Satisfaction correlated with wait time and access to clinical provider

    Hepner etal A&A 2004
  - Wait time was confirmed as significant impact factor on patient satisfaction

    Edward etal BJA 2008

Economic sense

Effort to reduce costs:

- Nurse screens 7% cancellation or delay
- Physician 3.6%

Those screened to the clinic by same nurses 8% DOS issue – but these were the sicker patients

Vaghadia: Can J Anaesth 1999

•Screening by procedure

Schein NEJM 2000..

A-Typical day

630 – Nurse scrubs and opens sterile trays

710 – Anesthesia wants ECHO

900 – Cardiol office opens and faxes ECHO

910 – Surgeon rounding

930 – Anesthesia having coffee

940 – RN relieving in OR

955 - Start

Grumble, gripe and groan through the day

Cancellations and/or overtime $$$

Results of that delay

- Opportunity costs
- Start up costs
- Overtime
- Morale
- Customer satisfaction
  - Patient
  - Surgeon

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Summary – economic sense

- Cost of our clinic staff = $1.8 million/yr.

- Cost of OR standing $60/min ($19-$100)

  30 000 minutes of cancelled OR time =$1.8 million

- Average case = 150 minutes

  30 000 minutes = 200 cases = 1.1% elective cases.

  Prior to establishment of present pre-op clinic 4.2% DOS cancellation - Current: 0.9% DOS cancellation rate.

  = 3.3 % reduction save 3x our staffing cost.

- In addition: 3^{+}million/yr. saved by not doing unnecessary lab testing.

Justifying the cost - Conclusion

The process and cost already exists – the clinic centralizes and standardizes care.

- Decrease income loss
- Increased savings

The success of the pre-op clinic depends on:

- commitment of the institution
- dedicated leadership
- training and curriculum for the staff.

Justification for Preop clinic

I. Assess O.R. delays & same day cancellation rates

- Compare w/successful preoperative clinics
- Calculate cost savings based on improvements ($ /OR time) [1]

II. Analyze utilization of "extra" consultation services

- Estimate cost savings w/ preop centralization

III. Quantify current Lab, ECG, and X-ray ordering practices

- Quantify estimated decrease with centralization & standardization

IV. Present potential revenue generation

– Based on allowable billing for preoperative services

- Collaborate with Finance & Compliance Department

1. Journal of Clinical Anes (2010) 22,
2 Journal of Clinical Anesthesia (IF 1.21). 10/2004; 16(6):478-9.

Justifying the Expense

Collect Initial Data

- **Surgical caseload**: Type & Volume
- **Patient acuity level** (ASA Classification)
- **Elapsed time** from surgical booking to actual procedure
- **Input analysis**: What info available from surgeon & PCP?
  - Are current methods of obtaining info successful in aid in management?
- **Assess gaps** in regulatory compliance
  - NSQIP, SCIP, Quality Metrics & Surgical Quality reporting needs
- Assess **Operating Room Efficiency** ** **& Safety**

Process Metrics: High Impact

- **Case Cancellations: reduction in canceled cases within 72 hour of DOS** due to lack of financial or medical clearance leading to increased OR utilization
- **OR Throughput:** reduction in holding room delays due to lack of consents, H&P, and through improved H&P notes
- **Future:**
  - **Care Coordination**: increased efficiency in care coordination, initial screening already documented, some CC activities already done
  - **Care Pathways**: streamlines development of CPs for all service lines
  - **Increased Referrals**: medical optimization and prehabilitation program will increase referrals to medicine specialties and ancillaries
  - **Increased Efficiency**: Transitional Care, PM&R will see increased efficiencies from early identification, assessment, and intervention with patients who will utilize their services

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Quality metrics and Outcomes Standardizing Preoperative Care

Quality metrics

I. Take inventory of surgical quality reporting needs
II. Assess institutional gaps in regulatory compliance
    - NSQIP & SCIP
    - CMS compliance
III. Case Cancelations (timing, reasons, etc.)
IV. Establishing Value Based Clinical Care Pathways

https://www.facs.org/quality-programs/acs-nsqip

Quality Metrics & Outcomes

- **Process Metrics**
  - Reduction in case cancellations
  - Improved O.R. Throughput
  - Increase efficiency in Care Coordination and Transitional Care
  - Streamlined Care Pathway development
  - Increased referrals to medicine specialties and ancillaries

- **Outcome Measures :**

  Externally reportable

  - *H*LOS, 30d Readmit rates, Patient Satisfaction, Mortality, SCIP, NSQIP
  - Reduction in cost associated with treatment of complications *(ICU, Vent days, ancillaries)*
  - Increased CMI with H&P template and rigorous H&Ps on all ASA 3s & 4s.

Quality metrics

I. Clinical Process Measures – *Example Preop Variables*

- Nursing: -name, contact info, PCP, surgeon, date of surgical eval, DOS, Age, weight, height, BMI
- Date of IM & ANES evaluation
- Preop pain scores
- Opiate tolerance
- Coexisting disease states
- ASA Class (clinical acuity)
- Risk of PONV, postop pulmonary issues,
- Risk index for postop renal failure
- Risk index for postop delirium, Frailty
- Preoperative Anemia therapy
- Nutrition Education – Prehabilitation, preconditioning
- Physical Therapy Education
- Etc.

Process Metrics

High Impact Metrics

- **Case Cancellations**: reduction in canceled cases within 72 hour of DOS due to lack of financial or medical clearance leading to increased OR utilization
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Outcome Metrics

Externally reportable metrics, utilization and cost, CMI

- Externally Reportable Metrics
  - LOS, 30 Day Readmit, Patient Satisfaction, Mortality, PSI 90, SCIP, NSQIP
- Hospital Utilization & Cost
  - Reduction in costs associated with treatment of major complications including ICU days, Vent days, ancillaries
- CMI
  - **Rigorous H&Ps for all ASA 3s & 4s is foundational for a comprehensive capture of risks to drive accurate CMI**. Improved H&P template and quality audits of APPs will lead to increased CMI

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Identifying and Achieving Goals

Identifying and achieving goals:

- Communication
- Cancellations
- Delays
- Length of stay
- Cutting lab expenses
- Zero tolerance for
  - Lab error
  - Site and side error
- Patient satisfaction

Communication

Not enough to identify potential problems – need to communicate these in timely fashion to all those who need to know.

- Patients – written handouts
- OR – special equipment/ timing of surgery
- Surgeons
- Ancillary services – CIEDs and other implanted devices
- Differing assessments between pre-op clinic staff and assigned anesthesiologist day of surgery.

Cancellations

- Patient compliance with pre-op instructions
- Not optimized

Do pre-op clinics improve outcomes?

- Evidence is somewhat lacking
  - AIMS (*Kluger Anaesthesia 2000*) Bad outcomes were associated or directly caused by inadequate pre-op assessment
  - Cantlay – small study- not prospective showed decreased mortality in vascular surgery patients with establishment of pre-op clinic (*Anaesthesia 2006*)

Monthly report of DOS cancellations

- Date of Pre-op visit
- Reason for cancellation
  - Surgeon
  - Patient
    - New event
    - Non compliance
  - Inadequate preparation
  - Administrative
  - Inappropriate patient selection for Ambulatory Surgery Center
  - Other/unknown

Delays

- Missing info
- Poor communication
  - Difficult airway
  - MH

Report of on time starts compared to expected

- Done as needed not routinely
- Target group vs. overall

Case reports a.k.a. individual complaints

Length of stay

Pre-op clinics decrease LOS by:

- Decrease pre-op admissions
- ERAS protocols

And – with sparse evidence thus far:

- Complications
- Post-op length of stay

Reports via Crimson – surgeon specific data

Cutting lab expenses

Monthly data report

- 20 common tests
- Trends vs. interventions or events
  - Outcome
  - New staff member
  - July
- Ongoing education
  - Unnecessary
  - Repeat labs

Lab error

- Patient safety reporting
- Staff education
- Counselling
- Ongoing QA/QI
  - Patient ID bands
  - 2 signatures
  - Name stamps
  - Barcoding

Site and side error

Tracked manually

- Pre-procedural verification process.
- Surgeon
- Surgical coordinator
- Patient verification in pre-op clinic
- Chart review
- Day of surgery confirmation
  - Patient
  - Surgeon
  - Clerk
- Site of surgery marking

Patient Satisfaction

Patient satisfaction directly related to decreased medico-legal risk.

- On-site feedback cards
- Home mailing – 

- Ongoing staff training

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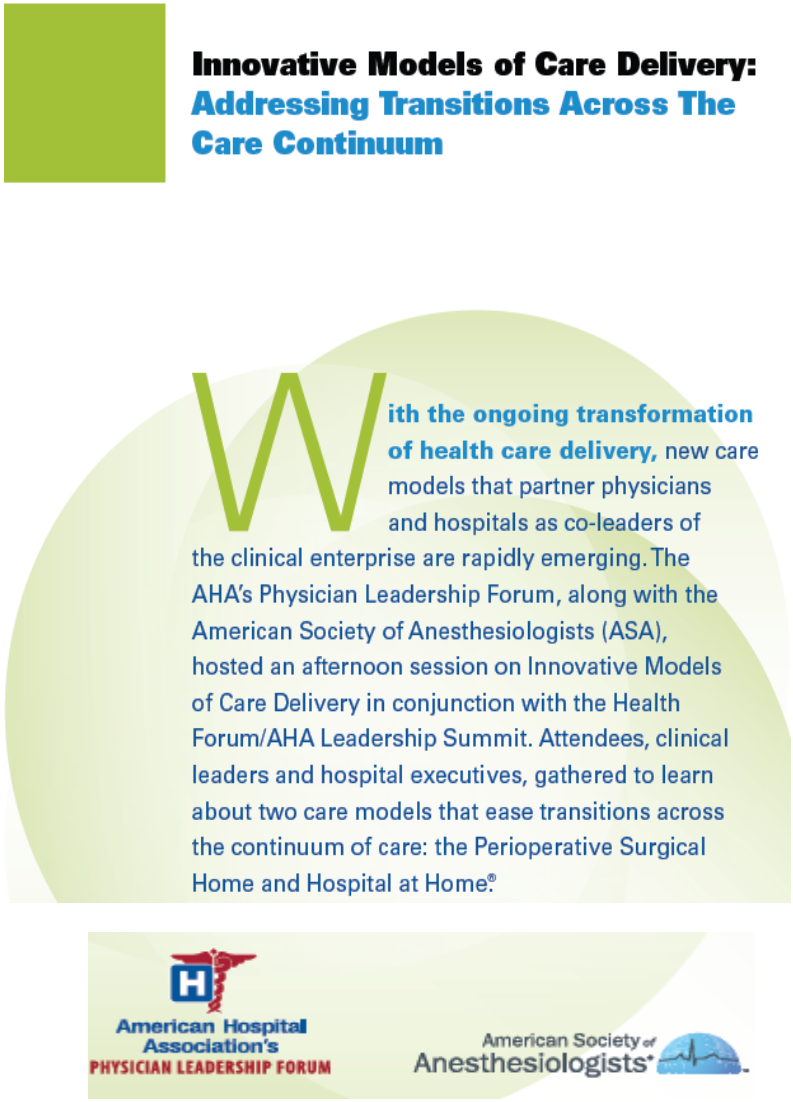
Unique Practice Models in Preoperative Care

Unique Practice Models

- Leadership
- Goals & Objectives
  - H&P, Pre Anes, Chart completion, etc.
- Patient Access
- Triage
- Phone screen
- Medical Optimization
- Care Coordination



Practice Model Depends on

- **Physical location**
- **Types of encounters**
  - Consider phone screens for appropriate patients
  - In-person visits can based on triage, case mix, & pt acuity
- **Identify of services rendered**
  - Will ECG, laboratory work, TTE be done in clinic?
  - What staff will perform testing?
- **Medical record organization & review**
- **Electronic Health Record**
- **Connection with referring surgeons offices**
  - Identify which aspects of preop evaluation surgeons prefer
  - Develop protocols to ensure consistent transfer of information
  - Develop external feedback systems to measure implementation

Consider Visit Types

Nurse Chart Review

- **Patient has had pre-op visit or surgical procedure within past 30 days of next surgery** and is returning for procedure with the same service
- Patient **resides in a nursing** home or other long-term care facility where an updated H&P, lab work and EKG can be done
- Collating all materials from PCP & Specialists
- Occasional high rate of same day Cancelation

Nurse Phone Screen

- Used **healthy patients: (ASA 1 & 2)**
  - <50 yrs. Old, English speaking
  - No significant health problems
  - No personal or family history of ANE issues
  - No potential airway issues
- Phone screens MAY be arranged under certain circumstances if the patient is:
  - Healthy, >50 yrs. Old
  - Seen by PCP recently with EKG available for review
  - Resides a significant distance away AND has H&P, labs available
  - Does not speak English, but interpreter has been arranged via conference call by Surgeon's office

In Person Visits

- Clinic Visits for all patients vs. select few (ASA 3&4)
- Full H&P vs Pre Anesthesia
- Care Coordination
- Patient Education
- Screening for undiagnosed preexisting disease
- Segue to other service lines
- Consents
- Labs & Ancillary Studies

Unique Practice Models

1. **Nurse-Only**: Chart Collation & Record Review
2. **Advanced Practice Provider Based model**
    a. 'one-stop shopping' (*all surgical pts*)
    b. H&P + Anesthesia evaluation
    c. Supervision
3. **Triage Based Model** eval High risk/high impact patients (EHR)
4. **IMPACT Center** – IM Preoperative Assessment Center
5. **PACE Center** – PreAnesthesia Consultation and Eval Center
6. Combined approach with multispecialty representation

Carrillo SR,et a; *Surgical Home:* **Anesthesiologist-Directed Preoperative Triage Reduces Unnecessary Testing and Associated Economic Burden**. 2012.

Correll D, Bader A, Hull M, Hsu C, Tsen L, Hepner D. **Value of preoperative clinic visits in identifying issues with potential impact on operating room efficiency.** *Anesthesiology;*105:1254-9

Ferschl M, Tung A, Sweitzer B, Huo D, Glick D. **Preoperative clinic visits reduce operating room cancellations and delays.** *Anesthesiology* 2005;103:855-9.

Glick DB, Tung A, Ferschl MB, Sweitzer B. Anesthesia preoperative medicine clinic: beyond surgery cancellations. *Anesthesiology* 2006;105:

Unique Practice Models

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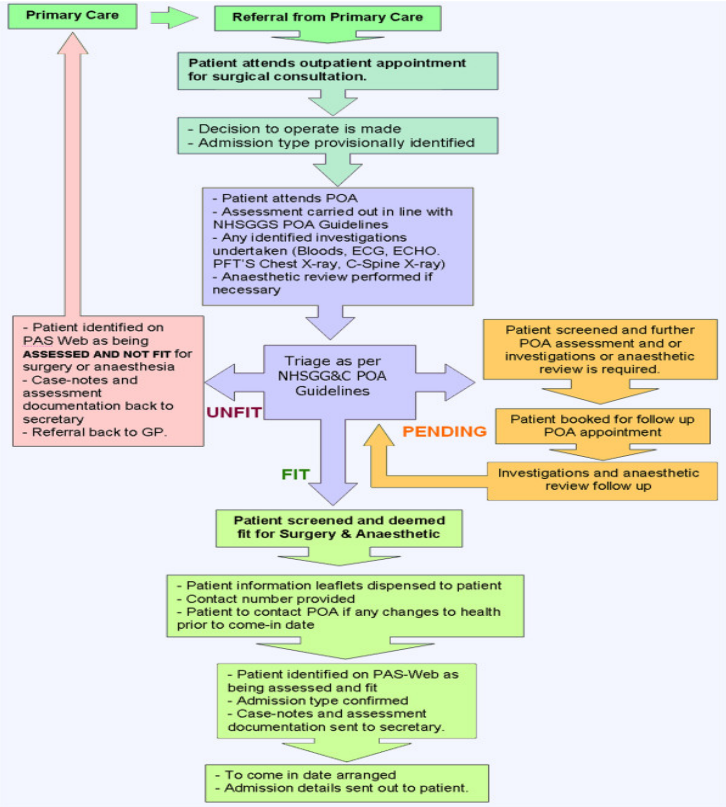
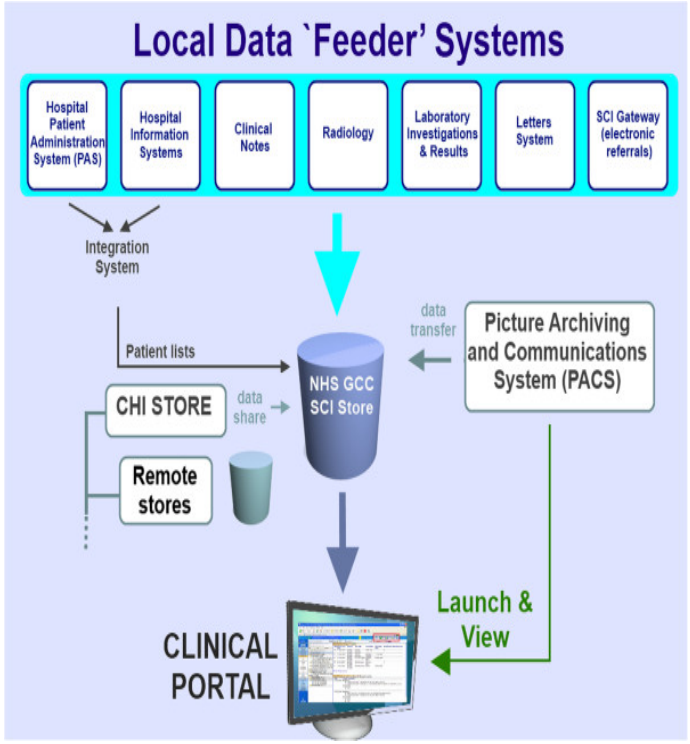
Implementation of an integrated preoperative care pathway and regional electronic clinical portal for preoperative assessment.

Bouamrane MM[1], Mair FS.





Unique Models of Care WFBH PAC

- PAC schedule reviewed by scheduling team 3-4 in advance
- Patients triaged based upon preset criteria to IM, fast track, Team A, Team B or Intensive (resident) schedule
- **WFBH PAC provides**:
    - Financial counseling
    - Medication reconciliation
    - Education
    - SNC/Preop evaluation (H+P) and medical optimization
    - EKGs, labs, office spirometry
- All patients are seen by an APP, resident or Attending Physician
- All cases seen by an APP or Resident supervised by Anesthesiologist
- All cases seen by the Internist; also seen by Anesthesia

Unique Practice Models

Cleve Clin J Med. 2009 Nov;76 Suppl 4:S104-11. doi: 10.3949/ccjm.76.s4.17.

Nuts and bolts of preoperative clinics: the view from three institutions.

Bader AM[1], Sweitzer B, Kumar A.

Anesthesiology 2005; 103:855–9

Preoperative Clinic Visits Reduce Operating Room Cancellations and Delays

Marla B. Ferschl, M.D., Avery Tung, M.D.,† BobbieJean Sweitzer, M.D.,† Dezheng Huo, M.D., Ph.D.,‡*

Anesth Analg. 2009 Feb;108(2):467-75. doi: 10.1213/ane.0b013e318176bc19.

Elimination of preoperative testing in ambulatory surgery.

Chung F[1], Yuan H, Yin L, Vairavanathan S, Wong DT.

Anesthesiology 2006; 105:1254–9

Value of Preoperative Clinic Visits in Identifying Issues with Potential Impact on Operating Room Efficiency

Darin J. Correll, M.D., Angela M. Bader, M.D.,† Melissa W. Hull, M.D.,* Cindy Hsu, M.D.,‡ Lawrence C. Tsen, M.D.,† David L. Hepner, M.D.§*

J Hosp Med. 2012 Nov-Dec;7(9):697-701. doi: 10.1002/jhm.1968. Epub 2012 Sep 7.

Perioperative processes and outcomes after implementation of a hospitalist-run preoperative clinic.

Vazirani S[1], Lankarani-Fard A, Liang LJ, Stelzner M, Asch SM.

Unique Practice Models

Key Points

- Standardizing the preoperative assessment process helps ensure that regulatory, accreditation, and payer requirements and guidelines are met.
- Careful triage based on a patient's history can help avoid unnecessary assessment of low-risk patients and ensure that necessary assessments for higher-risk patients are completed before the day of surgery.
- Perioperative assessment and management guidelines for various types of surgery and patient risk factors should be developed, continuously updated, and made available online to all providers within the institution.
- Electronic medical records allow standardization of patient information, avoid redundancy, and provide a database for research.

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ACGME Requirements in Perioperative Medicine

Education

- Department expert on preoperative assessment
- Consistency in supervision
- Clinical pathways and protocols
  - Development
  - Implementation
- NP/PA/RN education
- Outreach to other departments/community
- Residency training

Education

ACGME

- Anesthesia residents: ABA requirement - minimum of 2 weeks uninterrupted rotation with curriculum
  - 4 weeks preferred

- Improved test scores
- Program accreditation considers board pass rate
- Ideal place for all the competencies –
  - *Simmons etal JCA supp Dec 2005*
  - *Richman etal ASA abstract Oct 2009*

Education

ACGME

- Internal medicine residents
  - No ABIM requirements

    "IV.A.2.c).(1).(g).(ii).(e) must include resident participation in coordination of care across health care settings."
  - 1/3 ambulatory rotations

  - Pre-op consult service on inpatients
  - Pre-op clinic rotation elective

Pre-op clinic Curriculum 1.

- History and physical
  - Effort tolerance
  - Airway
- Cardiac
  - MACE
  - CAD
    - Stents
  - PPMs/AICDs
  - Valvular disease
  - CHF
  - Arrhythmias
- Pulmonary
  - COPD
  - Asthma
  - Pulmonary htn
  - OSA
  - Identification of PPCs
  - Prevention
- Renal disease
  - Screening
  - Strategies to reduce risk
- Hepatic
  - Hepatitis
  - Cirrhosis
  - Assessment of risk
- Hematological
  - Anemia
  - Hemoglobinopathies
- Neurological
  - Seizures
  - Cognitive dysfunction
  - MS
  - ALS
- Endocrine
  - DM
  - Thyroid
  - Phaeochromocytoma

Pre-op clinic Curriculum 2.

- Ambulatory surgery
  - Patient selection
- Geriatrics
  - Functional capacity
- Pediatrics
  - Ex-premies
- Syndromes
  - Down's
  - Pierre Robin
- Risk calculators
  - ACS
  - AHA
- Pre-Op clinics
- Pre-Op labs
  - Guidelines
  - Evidence
  - Result interpretation
- Further testing and consults
  - indications
- ERAS
- Chronic pain
  - Pain service referral
- NPO instructions
- Medication management
  - Anticoagulants
  - Antiplatelet agents
  - DM
- Types of anesthesia
  - Blocks
- Genetic disease in anesthesia
  - MH
  - Pseudocholinesterase deficiency
- Risks of anesthesia/surgery
  - PONV
  - Awareness
  - VTE
  - POVL
  - POCD

Pre-op clinic Curriculum 3.

- Rheumatologic
  - RA
  - SLE
- Infectious
  - HIV
- Substance abuse
  - Smoking
  - Alcohol
  - Opiates
    - Buprenorphine
- Special needs
  - Developmentally disabled
  - Autism
  - Non- English speakers
  - ASL
- Pregnancy
- Cancer
  - Chemotherapy
- Ethics
  - Informed consent
  - DNR in OR
- Implanted devices
  - CIEDs
  - Neurostimulators
  - Medication pumps
- The difficult patient

Return to Topic List

Research and the Preoperative Clinic

Research

- Establishing patient – provider relationship
- Early identification and earlier patient contact – greater opportunity for recruitment for clinical studies
  - Tissue banking
  - Drug studies
  - Comparison of anesthesia protocols
- Preoperative assessment is a growing field with a need for ongoing research and quality initiatives
  - Preoperative smoking cessation
  - Pre-emptive analgesia
  - Patient literacy
  - ERAS interventions
- Databases

SCOR™
SAMBA Clinical Outcomes Registry

Return to Topic List

Understanding and Managing Nursing Regulatory Requirements

Nursing and other regulatory requirements

- Regulatory requirements for H&Ps
  - DOH
  - Joint Commission
    - History: Procedure/HPI/PMH/PSH/Meds/Allergies
    - Physical: Vitals/Heart/Lungs/Level of consciousness
  - ASA – H&P, timing.

Practice advisory for preanesthesia evaluation: an updated report by the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. Anesthesiology. 2012 Mar;116(3): 522-38.

- Requirements for anesthesia consults
  - SBUMC policy
  - DOH

Nursing and other regulatory requirements

Nursing admission history

- Best practice and regulatory requirements
  - Social history
  - Screening
    - Domestic abuse
    - Substance abuse
    - Advance directives
  - HIV screening
  - Vaccination offerings
- Medication reconciliation

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