Preadmission Clinic – Optimizing patients for surgery and anaesthesia

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Goal of Preop Eval

- Identify and optimize conditions that increase periop morbidity and mortality
  OR
- Detect abnormalities that change management and improve outcomes
- SDS (Same Day Surgery)
  - 60–70% total annual surgical volume in US done in ambulatory settings
  - SDS generally takes 1–2 hours
  - SDS generally had lower blood loss & complication rates
  - SDS usually performed on pt with NO medical problems or with ‘stable’ chronic conditions
“Clinic for Surgical Services” – CSS

- 1 Clinical Nurse lead
- 1 Mid-level provider
- 3 admins
- 5–7 RNs
- 9,000+ surgeries/year
  - 40% ortho
  - 30% general
  - 30% ‘other’
- 100% patients get preop calls by nurses
  - 16 page algorithym/Joint Practice Protocols
CSS Call outcomes

- No visit
  - Majority
- 30 minute RN visit
  - Includes nasal swab for total joint arthroplasties
- 30 minute Anesthesia visit
  - High risk for anesthesia complications
- 60 minute mid-level or hospitalist visit
  - High risk for medical complications from anesthesia/surgery
Who needs preop testing?

- “Routine???”
  - Not encouraged!!
- “Selective”
  - The way to go!
  - Preop tests based on clinical findings and/or the type of planned procedure are helpful (type of surgery is important in risk stratification)
- Requirements vary among institutions, anesthesia departments
Why do we still see “routine” tests?

- Tradition
- Lack of communication between providers
- Legal worries
- Concerns about surgical delay or cancellation
- Institutional P&P that are outdated
- Lack of awareness of EBP and Best Practice Guidelines
Tests ordered should be based on targeted history, physical exam, risk factors
  ◦ Age
  ◦ Preexisting diseases
  ◦ Surgical procedure

American Society of Anesthesiologists (ASA) position statement on routine preoperative testing\(^1\)
  ◦ Diagnostic screening, laboratory tests should be based on the patient’s specific clinical risk factors
  ◦ Observe legal requirements
  ◦ Document indications for testing
Pts at High Risk

- Difficult intubation
- MH
- AAA surgery
- Myasthenia Gravis
- OSA
- Oral steroid use
- Severe morbid obesity
- Recent MI (<6 months)
- Angina – recent or worsening
“MAJOR Co–Morbidities”

- CV disease w/2 or more known risk factors (age>75; Hx ischemic heart disease; Hx CHF; Hx CVA/TIA; Hx Insulin Treatment; Creatinine>2)
- Pulmonary w/severe debility
- Metabolic w/chronic infection and/or protein malnutrition
- Hepatic or Renal Insufficiency
- Malignancy w/ ongoing chemotherapy
- Anticoagulant use
Procedure – Minimally Invasive*

- Adenoids
- Anal fissure/hemorrhoid
- Arthroscopy
- Eye surgery
- Biopsy – breast/skin
- Cysto
- D&C/hysteroscopy
- Facial plastics
- Endoscopies

- Hernia
- Microdiscetomy
- Rotator cuff
- Tubal ligation
- TURBT
- Veins
- UPPP
- Podiatry
- Hand Surgery
- Laminotomy

*NO TESTING – PCP clearance advised
Moderately Invasive

- Breast reconstruction
- Carotid
- Cholecystectomy
- Colon resection
- TURP
- Lap Nissen
- Mastectomy

- ORIF Hip/femur
- TAH–BSO
- Thyroidectomy
- Total Hip
- Total Knee
- Fusion – single level
- Laminectomy
Medically Managed Stable Pt
- Hemogram
- ECG over 65 yrs of age and atenolol initiation advised

Major Co-Morbidities
- Hemogram
- ECG
- INR
- CMP
- Early anes eval
- T&S
- PCP eval and atenolol initiation
Highly Invasive

- AAA
- Fem-pop
- Fusion – multiple levels
- Radical Neck
- Radical Prostate
- Whipple
Highly Invasive

- Healthy Asymptomatic Pts
  - Hemogram
  - ECG over 50 yrs
  - CMP
  - Early Anes Eval
  - Type & Hold

- Medically–Managed/Stable and Major Co–Morbidities
  - Hemogram
  - ECG
  - INR
  - CMP
  - Early anesth eval
  - Type & Hold
  - PCP eval and atenolol initiation
Minimum Required Testing: LABS

- General Guidelines
  - Lab work is accepted within 30 days of surgery if patient condition has not changed
  - H&P is valid for 30 days
    - The surgeon is responsible for updating the H&P prior to OR

- The ‘BIG’ Question is:
  - Will the results of the test change perioperative management?
NSQIP (National Surgical Quality Improvement Program)

- Studies suggest that abnormal results during ‘routine testing’ did not change the course of treatment; therefore, suggest questionable significance.

- **FINDINGS** (73,596 elective hernias)
  - Less than 1% complication rate
  - Testing didn’t change outcomes
  - Abnormal results didn’t change outcomes
CBC/H&H

- #1: Procedures with expected significant blood loss, or recent blood loss
- #2: History of anemia or suspected anemia
- Some guidelines suggest:
  - Extremes of age (<1, >65)
  - Suspected sickle cell disease
  - Known blood dyscrasia or malignancy
  - Signs of coagulopathy
  - Existence of chronic disease
Basic Metabolic Panel (BMP) 
Comprehensive Met. Panel (CMP)

- BMP/CMP
  - Known liver disease (e.g., hepatitis, alcohol or drug abuse)
  - Known renal disease
  - Hypertension, DM, heart disease or disease states with potential for fluid–electrolyte abnormalities
  - Patients taking chemotherapy, diuretics, digoxin, steroids or ACE–inhibitors
Coagulation Studies

- Includes Prothrombin (PT), Partial thromboplastin (PTT), Platelet count and International normalized ratio (INR)
  - History of abn bleeding/bruising
  - Anticoagulant drug therapy
- Renal or liver dysfunction
  - Malabsorption/poor nutritional status
Urinalysis

- No indications in preanesthetic evaluations unless reports of UTI symptoms
Pregnancy Test

- Per specific facility policy
- Patient must give verbal consent
- Document discussion, consent or refusal
- Ask for last menstrual period
- ASA suggests offering pregnancy testing to all females of childbearing years
Some guidelines recommend all diabetic patients have serum BS checked (unless BMP has been ordered)

Some guidelines DO NOT recommend any testing in a pt with ‘well-controlled’ diabetes

Some guidelines recommend testing only if the results will alter periop course
  • In this case, the A1C is more helpful than a random glucose
Blood Bank (Type and Screen/Type and Crossmatch/Type and Hold)

- Patients who have donated own blood or may receive blood
- Patients with potential for extreme blood loss
Electrocardiogram (ECG)

- Age alone is not an indicator
  - Cardiac Risk Adjustment tools
- History or symptoms of chronic disease (cardiac, hypertension, diabetes, morbid obesity, pulmonary, dysrhythmias, vascular disease and/or history of stroke/TIA)
- Smoking history greater than 20 pack–year
- Cocaine abuse
ECG Guidelines

- Intermediate Risk Surgery*
  - Hx cardiac, vascular, diabetes, stroke/TIA, renal insufficiency, OVER 65 years old

- High Risk Surgery – all pts require ECG*
  - All thoracic surgery
  - All vascular surgery
    - *Within 6 months is acceptable if there has been no change in patient’s cardiovascular symptoms
There are NO indications for a preop CXR unless:
- Pt suspected to have pneumonia or an acute infiltrate, to be in pulm edema, or if postop mechanical vent is expected – consult with anesthesia regarding CXR
- S&S of pulmonary or cardiac disease, malignancy
- S&S of airway obstruction
- Morbidly obese patients at risk for heart failure
Recommendations?

- Education of providers/practice modification
- Review and adopt practice guidelines
- Develop clinical pathways (protocols/standardization)
- Better information sharing to avoid redundant testing
- Economic analysis – will these tests save money?
- Outcomes evaluation
References

QUESTIONS???

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