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- Institutional P&P that are outdated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

Testing…

- 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

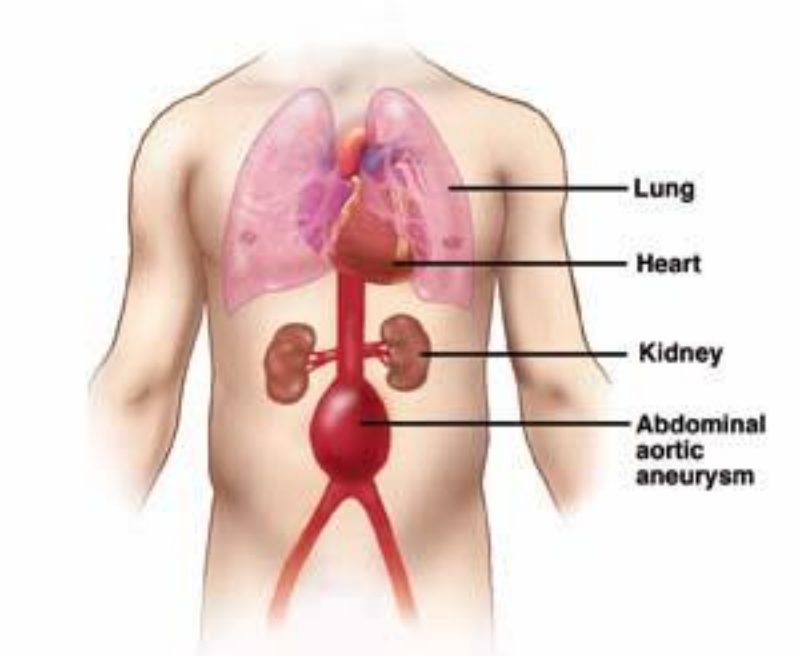
Moderately Invasive

- 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

ACS NSQIP®

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

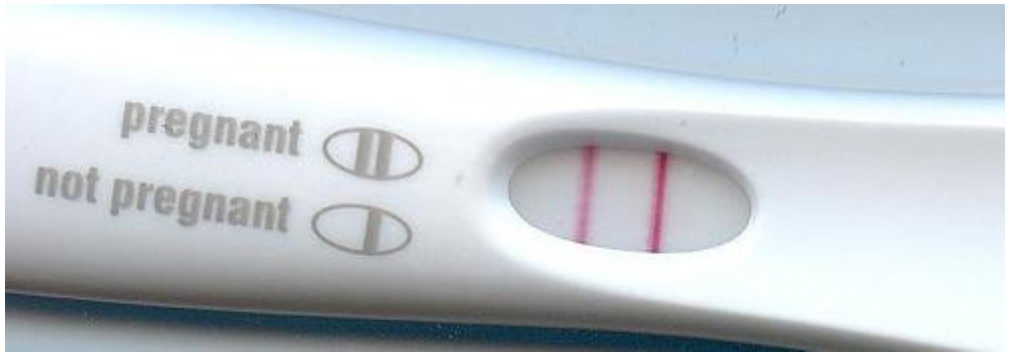
- **Includes Prothrombin (PT), Partial thromboplastin (PTT), Platelet count and International normalized ratio (INR)**
  - History of abn bleeding/bruising
  - Anticoagulant drug therapy
- Renal or liver dysfunction
  - Malabsorption/poor nutritional status

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



Blood Glucose

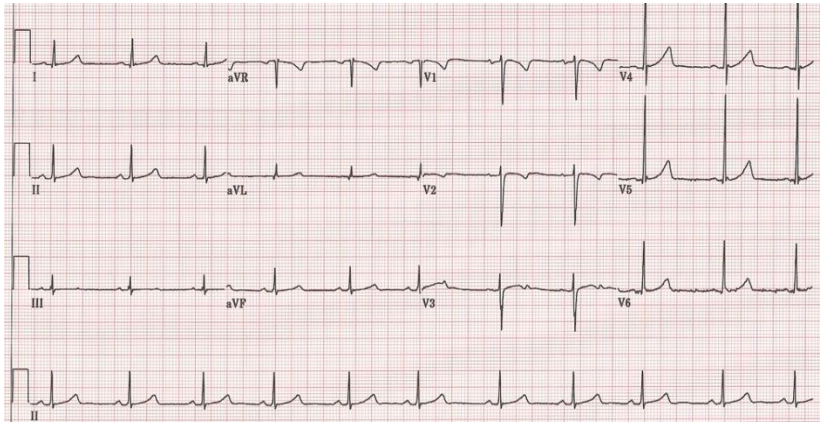
- Some guidelines recommend all diabetic patients have serum BS checked (unless BMP has been ordered)
- Some guidelines DO NOT recommend any testing in a pt with 'well-controlled' diabetes
- Some guidelines recommend testing only if the results will alter periop course
  - In this case, the A1C is more 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 stoke/TIA)
- Smoking history greater than 20 pack-year
- Cocaine abuse

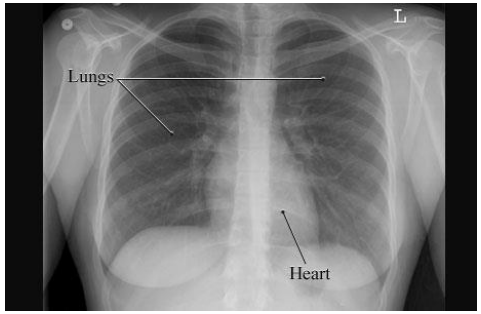


ECG Guidelines

- **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

PREOP CXR

- 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

- Practice advisory for preanesthesia evaluation: a report by the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. *Anesthesiology*. 2002; 96:485-496. [PubMed: 11818784]
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» QUESTIONS???

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