PRE OPERATIVE OPTIMIZATION IN ELECTIVE TJA

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DISCLOSURES

- Smith and Nephew---Fellowship funding
- Stryker----Fellowship funding
WHAT’S CHANGING

- BCPI
- CJR
- Private Alternative Payment Programs
- Pressure to move procedures to outpatient
  - Insurance
  - Hospitals
  - Patients
WHAT IS NOT CHANGING?

- Increasing volume of elective THA and TKA
- 71% growth in THA to 635K procedures in 2030
- 85% growth in TKA to 1.3 million procedures in 2030
IS IT SAFE??  COST EFFECTIVE??

Outpatient Total Hip Arthroplasty Has Minimal Short-Term Complications With the Use of Institutional Protocols

An Evaluation of the Safety and Effectiveness of Total Hip Arthroplasty as an Outpatient Procedure: A Matched-Cohort Analysis

Megan Richards, Stéphane Poitras, Alexander L. Kuzma, MD, Peter Caccavallo, MD, MS

Review

The Shift to Same-Day Outpatient Joint Arthroplasty: A Systematic Review

Jeffrey D. Hoffmann, MD, Nicholas A. Kusnezov, MD, John C. Dunn, MD, Nicholas J. Zarkadis, DO, Gens P. Goodman, DO, Richard A. Berger, MD

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PRE OPERATIVE OPTIMIZATION

• The question is not how to manage/prevent a problem but rather how to manage/prevent such complications with an orthopaedic patient.
• Diabetes Management
• Smoking Cessation
• Obesity
• Anticoagulation/DVT Prophylaxis
• Rheumatologic Medication Management
• Preoperative Urine Screening
• Antiplatelets
• Coronary Stents
• MRSA Screening/Infection Prevention
• Nutrition
OBESITY

- Major health concern in USA
- Associated with increased risk for
  - DM
  - Heart disease
  - HTN
  - Poor nutrition
  - Early mortality
  - Need for TJA
OBESITY

- Percent body fat seems to be a better predictor than BMI
- However BMI increase does lead to a greater rate of complications:
  - > 40 kg/m² increases infection risk by 3.3 times
  - > 50 kg/m² increases infection by 21 times
- Bariatric surgery may not alter risks enough to offset problems with the procedure
  - Can alter nutrition status
OBESITY

• Weight loss plan:
  • BMI 30-40 → celebrate!!!
  • BMI 40-50 → suggest weight loss and nutrition consult
    • Need to have minimal co-morbidities for surgery
  • BMI > 50 → preventative medicine clinic referral
DIABETES AND HYPERGLYCEMIA

- There have been many studies linking diabetes with increased risk
  - Deep infection
  - MI
  - DVT
  - PE
  - Readmission
  - Mortality
  - Length of stay
  - Cost
DIABETES AND HYPERGLYCEMIA

Study limitations:

- Retrospective studies
- Wide variance of study designs and outcome measures
- Lack of correction for comorbidities
- Inconsistent patient populations
- Small N of complication rates
DIABETES AND HYPERGLYCEMIA

Two questions:

• Is it truly a risk factor?
  • YES

• What is the risk factor?
  • Hyperglycemia
  • Diabetes
  • Uncontrolled diabetes
  • Diabetes with secondary disease
DIABETES AND HYPERGLYCEMIA

What’s a good cutoff?

- A1c < 8.0
- 90% of qid BS < 180
- Is fructosamine a better marker? > 292 micromole/L

- PICK A NUMBER and BE CONSISTENT
SOCIAL FACTORS

- LIVING ENVIRONMENT
- LOCATION
- LEVELS
SOCIAL FACTORS

• SOCIAL SUPPORT
• FAMILY
• FRIENDS

The Role of Social Support and Psychological Distress in Predicting Discharge: A Pilot Study for Hip and Knee Arthroplasty Patients.
Zapoli: KE1, Butera: KA2, Lowe: R1, Parvataneni: HK1, George: Sz1.

The Connection Between Strong Social Support and Joint Replacement Outcomes
Mark M. Theiss, MD; Michael W. Ellison, MS; Christine G. Tea, RN, MSN; Julia F. Warner, RN, MSN; Renee M. Silver, RN, MSN; Valerie J. Murphy, RN, MSN
Orthopedics. 2011;34(5):e50-e58
https://doi.org/10.3928/01477447-20110317-02
Does the Risk Assessment and Prediction Tool predict discharge disposition after joint replacement?

Hansen VU, Gromov K, Lebrun LM, Rubash HE, Malhau H, Fraberg AA.
## PATIENT SELECTION

- **Unilateral, uncomplicated, primary hip or knee arthroplasty**
- **ASA 1 or 2 and approved by Anesthesiologist on chart review**
- **Pre-operative Body Mass Index < 35 kg/m²**
- **Age < 70 years at time of surgery**
- **Pre-operative hemoglobin > 12 g/dL**
- **No history of seizure disorder, active liver disease, or active kidney disease (preoperative GFR > 60)**
- **Well-controlled non-insulin dependent diabetics with HgA1c < 7**
- **Non-smoker, drinks less than 14 alcoholic beverages per week**
- **No history of cardiopulmonary disease that would necessitate inpatient monitoring after surgery**
- **No history of DVT, PE, TIA/stroke, MI, or other thromboembolic event**
- **Preoperative ambulatory status does not require the use of a walker or wheelchair**
- **No chronic pre-operative opioid medication use or history of opioid addiction**
- **Patients are not currently classified as disabled or on SSD**
- **No history of significant nausea with opiate use**
- **Not immunocompromised or taking immunomodulatory medications (i.e. RA patients)**
- **Assistance available at home after discharge from KASC on a 24 hour basis for at least the first 3 days postop**
- **Patient must be willing and able to have a spinal anesthetic**
- **No contraindications to IV or oral NSAID use**
- **No other condition or circumstance that would preclude rapid discharge from the ASC after surgery**
PATIENT EDUCATION

• Small class sessions with nursing educator
• Powerpoint + education booklet
• Patients must have a “Joint Coach”
• What to expect before, during, after surgery
• Medication rundown
• Who to call
• All of the education they would normally get in a hospital happens PREOP
SUMMARY

- Optimization of Patient Medically
- Social Factors
- Education
- Patient Selection
THANK YOU