I like to Go Fast: Efficient Knees in the ASC

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UCSF Arthroplasty Meeting

September 29-30

Disclosures

- Consultant
  - DePuy Synthes
  - Zimmer Biomet

- I am financially invested in an ASC

Outpatient TKA in the ASC

- Safe
- Efficient
- Less Costly
- More Surgeon Control
- High Patient Satisfaction

How did we get here?

- Physician Ownership in ASC
- Shared Savings Programs
- Rising Insurance costs

YOUR HOSPITAL HAS BECOME TOO COSTLY !

How did we get here?

- Taking Back Control
- Control Costs
- Control Pathways
- Control Patient Care

Surgeons at the Table

Outpatient TKA

- COVID 19
- Patient preference
- Scared of the hospital
- “Send Me Home”

Concerns

Outpatient joint replacement: Is it a safe option?

- Is it safe?

Is it Safe?

Is Outpatient Arthroplasty Safe? A Systematic Review

Monketh Jaibaji, MBBS, MRCS [a, *], Andrea Volpin, FRCS (Orth) [b],
Fares S. Haddad, BSc, MD (Res), MCh (Orth), FRCS (Tr&Orth), FFSEM [a],
Sujith Konan, MBBS, MD (Res), MRCS, FRCS (Tr&Orth) [a]

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[b] *Department of Trauma and Orthopaedics, Royal Bournemouth NHS Foundation Trust, Bournemouth, United Kingdom*

- 19 studies
- Complication rates and readmission rates varied
- Patient selection variance

Contemporary Outpatient Arthroplasty Is Safe Compared with Inpatient Surgery

A Propensity Score-Matched Analysis of 574,375 Procedures

Lan, Roy H. BA; Samuel, Linsen T. MD, MBA; Grits, Daniel BS; Kamath, Atul F. MD

JB&JS THE JOURNAL OF BONE & JOINT SURGERY

- NSQIP Database study from JBJS
- Clevaland Clinic
- Outpatient vs inpatient procedures (TKA and THA)

- Results:
- Lower rates of adverse events
- No difference:
  - 30 day readmission rates

Outpatient Total Knee Arthroplasty From a Stand-Alone Surgery Center: Safe as the Hospital?

Eric J. Wilson, MD *, Henry Ho, MS, William G. Hamilton, MD, Kevin B. Fricka, MD, Robert A. Sershon, MD

Anderson Orthopaedic Research Institute, Alexandria, Virginia

- Compared outpatient TKA
  - ASC
  - Hospital
- Results
- No Difference
  - 90 day readmission rates
  - Reoperations
  - ED visits

Clin Orthop Relat Res (2017) 475:364–372
DOI 10.1007/s11999-016-4915-z

Clinical Orthopaedics and Related Research®
A Publication of The Association of Bone and Joint Surgeons®

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SYMPOSIUM: 2016 HIP SOCIETY PROCEEDINGS

Otto Aufranc Award

A Multicenter, Randomized Study of Outpatient versus Inpatient Total Hip Arthroplasty

Nitin Goyal MD, Antonia F. Chen MD, MBA, Sarah E. Padgett PA-C, Timothy L. Tan MD, Michael M. Kheir MD, Robert H. Hopper Jr PhD, William G. Hamilton MD, William J. Hozack MD

- No Difference

- Readmissions
- Re-operations
- ER visits
- Triage Phone calls

However……

- 24% failure to launch

- Due to:
- Pain
- Patient preference
- Urinary retention

- Narrative from staff

2023

- It’s Safe
- But how can we be effective?

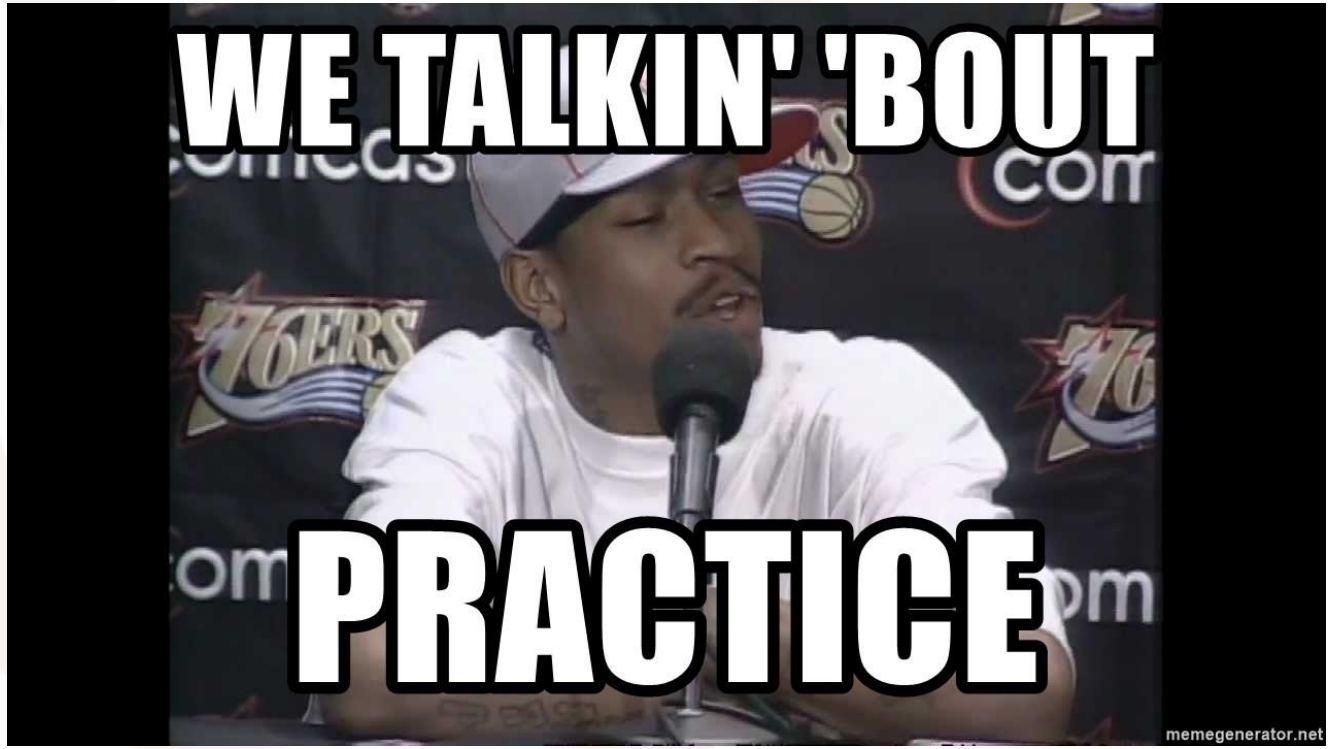
How do we increase the success rate?

- Starts in the exam room
- Establish Same Day Discharge Protocols
- Education on failure (Pain, PT, Nausea, Urinary retention)

Same Day Discharge: ASC or Hospital?

- Hospital is a good place to start
- Your “failure” rate will be higher
- Once comfortable- move to the ASC

- Prepare patient
- Practice in the hospital
- Set yourself up for success in the ASC setting



Starts in the Exam Room

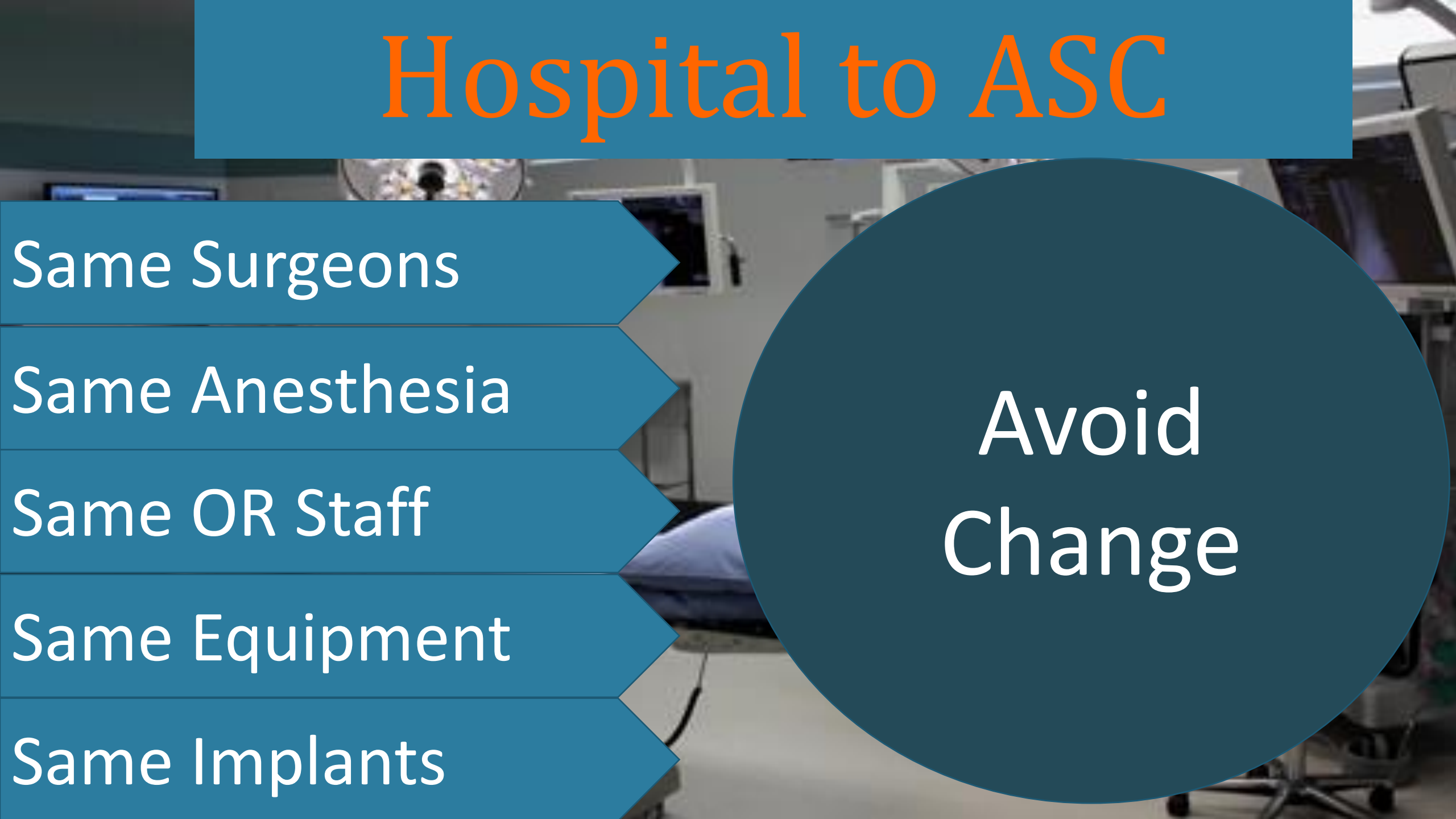
- 2019: “We can do your surgery in the surgery center if you want”

- 2023: “These are outpatient surgeries that we do in the surgery center”- go through criteria checklist

Keep your surgery the same

- Different venue
- Standardize protocols
  - Bring them to the ASC
  - Administration is open
    - This is new for them
- Everything around the surgery – more efficient

Hospital to ASC



- Same Surgeons
- Same Anesthesia
- Same OR Staff
- Same Equipment
- Same Implants

Avoid Change

Efficiency in the OR: Consistent teams

- #1 factor in efficiency
- They know your steps
- 5-10 secs x 100 = 15 mins
- Only so much faster *you* can get

Turnover Time

- How is it measured?
- “Wheels [illegible] Wheels in”
- “Wound Closed to skin incision”

What about Patient Satisfaction?

ELSEVIER

The Journal of Arthroplasty
Volume 33, Issue 11, November 2018, Pages 3402-3406

Health Policy & Economics

Inpatient Versus Outpatient Hip and Knee Arthroplasty: Which Has Higher Patient Satisfaction?

Mick P. Kelly MD, Tyler E. Calkins BS, Chris Culvern MS, Monica Kogan MD, Craig J. Della Valle MD

- "Although satisfaction was high in both groups, when differences were present they favored outpatient surgery in the ambulatory surgery center."

Where are we in 2023?

- Outpatient TKA in the ASC
- How do we do it?

Workup

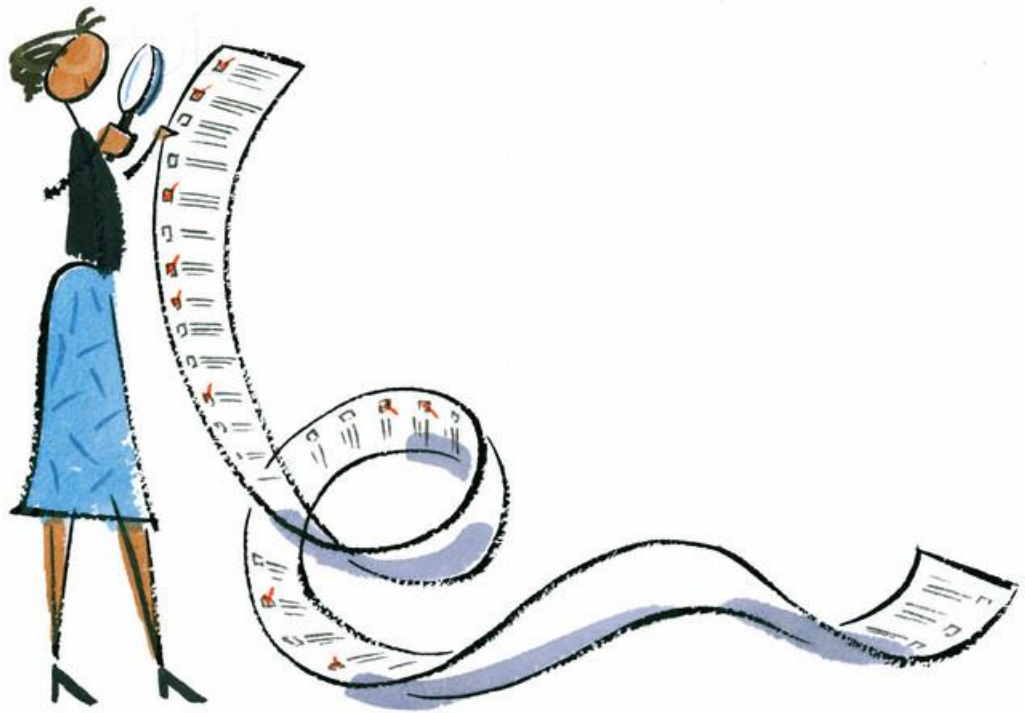
Patient Labs (ordered by the surgeon)

- BMP
- CBC
- PT/PTT/INR (required per anesthesia's discretion upon review of the patient's medical history and lab work)
- Hemoglobin A1C (for diabetic patients)
- Liver Enzymes (for NASH, NAFLD)
- EKG
- Chest Xray (if deemed necessary)
- Height and Weight (must be checked during surgical clearance appointment, measured (not stated) height required)
- Nicotine level as needed per surgeon requirement

Reviewed by Anesthesia

Criteria

- Healthy – no significant cardiac/pulmonary issues
- No sleep apnea – CPAP?
- BMI < 40
- Good family support at home



Social Factors/Support

Patient Social Factors

- Educated and motivated patient
- Patient has failed more conservative treatments
- Functionally independent
- Patient has a caregiver/coach to be at the center day of surgery
- Positive psychological outlook
- Patient must make a commitment to actively participate in recovery program day of surgery and after

Criteria

- BMI >39.9
  - Patients will be scheduled for a height / weight check at Wendover within two weeks of their date of surgery.
- Significant cardiac condition (e.g., significant valvular disease, CAD, CHF, uncontrolled hypertension, arrhythmia).
  - CAD diagnosed using stress test, echocardiogram, and / or cardiac catheterization. Patients with a history of cardiac stents and / or Coronary Artery Bypass Grafting (CABG) are automatically excluded
  - Patients diagnosed with non-obstructive CAD may be cleared by anesthesia if diagnostic testing is negative, heart function is normal, and the Duke Activity Status Index (DASI) and / or metabolic equivalent of task (MET) denotes an acceptable functional capacity as determined by anesthesia. These situations are to be reviewed on a case-by-case basis by anesthesia. Additional cardiac testing may be requested
  - No chronic / paroxysmal atrial fibrillation. Patients with a history of atrial fibrillation resolved by ablation may be cleared with a normal echocardiogram and normal sinus rhythm noted on the EKG.
- Evidence of pulmonary disease (e.g., severe COPD or emphysema, or home oxygen use
- History of significant GI issues (e.g., post-op ileus)

Criteria

- History of liver disease (e.g., Cirrhosis)
  - Patients with a history of non-alcoholic steatohepatitis (NASH), non-alcoholic fatty liver disease (NAFLD), or other liver condition will require liver enzymes as part of the pre-op lab work
- Chronic kidney disease stage 3b or greater. GFR must be greater than or equal to 45, Creatinine (Cr) less than 1.6
- Hematology issues (e.g., thrombocytopenia) (Factor V ok)
- Gyne-uro issues (e.g., active prostate CA)
  - Surgeon to prescribe Flomax to start 3 days prior to surgery if history of BPH, history of urinary retention
  - Patients who experienced post-op urinary retention after a prior surgery are acceptable for surgery if the following is met:
    - The patient has arranged with a urologist or PCP for a catheter to be placed while at the surgery center and is scheduled with the provider to have it removed after discharge. Timeframe for removal determined by urologist or PCP
- Major neurological issues (e.g., history of dementia, post-op delirium, prior CVA, advanced Parkinson's)
- History of major organ transplant
- Active oncological issues/cancer (other than skin)
- Chronic pain or under a pain contract
- Physical limitations that would impede patient's ability to participate in physical therapy prior to discharge (e.g., ambulating, navigating stairs, using walker / cane)
- Patients requiring spinal anesthesia

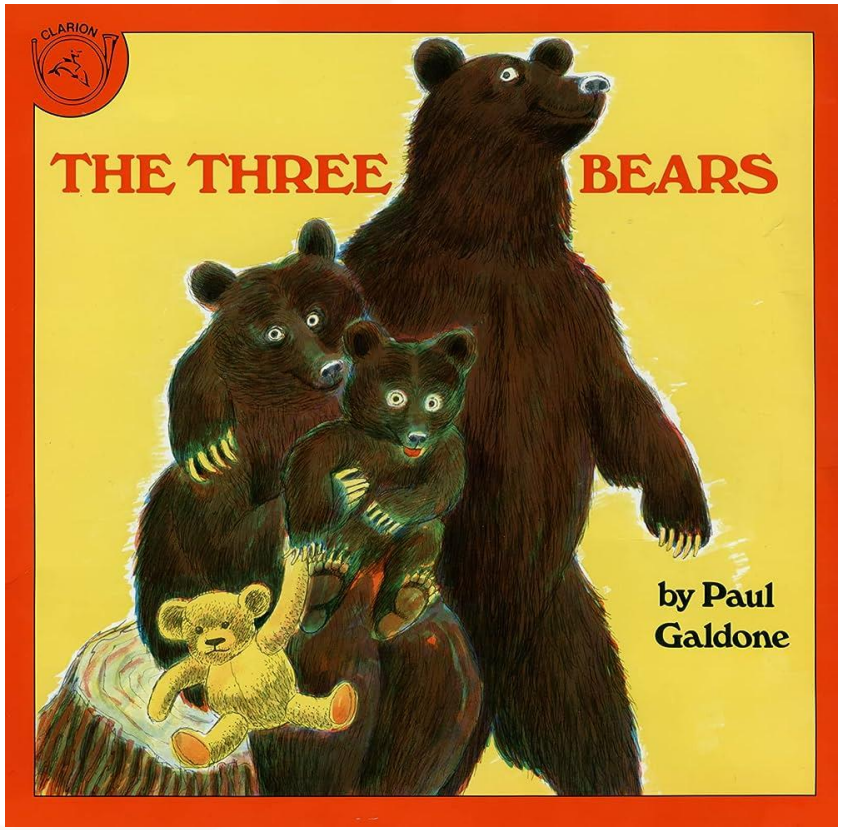
OrthoCarolina Pre-Surgical Optimization Requirements:

- Nicotine free for 30 days. Surgeon may require nicotine level
- Significant elevation of Hemoglobin A1c (A1c < 8 for diabetic patients). This is a standard recommended by multiple organizations including the American Diabetes Association and published in major medical journals including the Journal of the American Medical Association

Personal comfort level

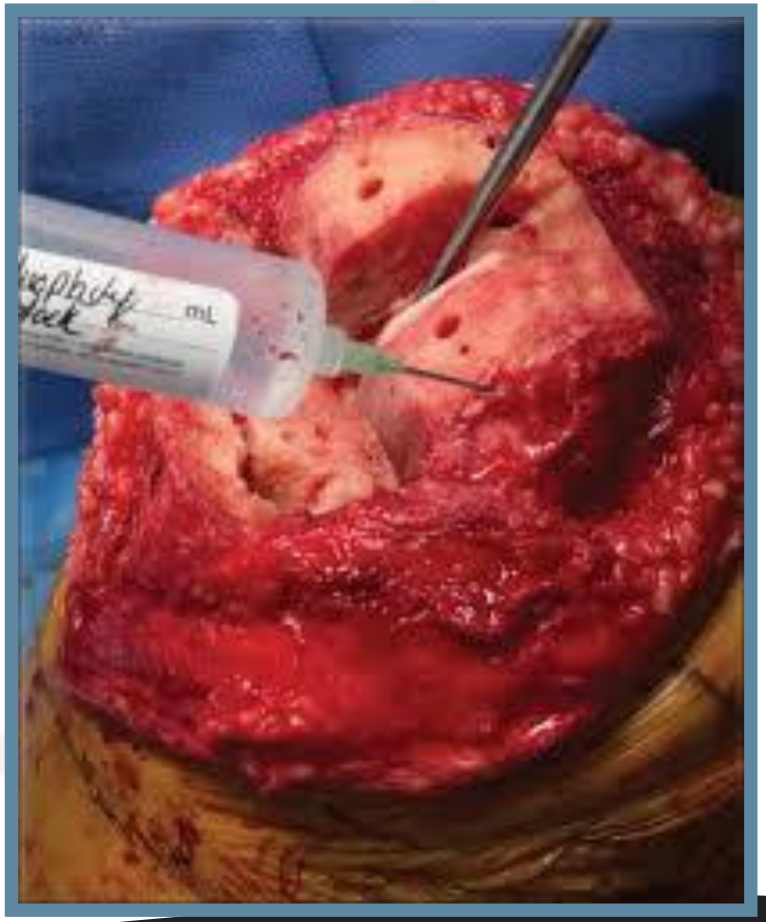
- This will vary
- No heart/lung issues
- <75 years old *
- OSA with good CPAP use
- No chronic narcotic use

- Straight forward orthopaedically



TKA Analgesia

- Multimodal
- Intra-articular injection
  - “R-E-C-K”
  - Ropivocaine
  - Epinephrine
  - Clonidine
  - Ketorolac



PACU

- Clothes on
- Pain control
- Anti-Nausea
- PT

Robotics in the ASC?

- Efficient
- Time neutral
- Cost Neutral

Efficiency in Robotics – Be independent

- Be able to run everything yourself
- Do not rely on the rep
- You know what you are thinking
- Master your craft

Efficiency in Robotics

- Do the Dance with your assistant
- Be Self sufficient
- Aware of the Arrays and sightlines
- Assist only when necessary

Why Robotics in the ASC?

- Precision
- Eliminate Outliers
- Ability to “dial” in your balance
- Less Soft tissue release

Why Robotics in the ASC?

- Allows me to perform patient specific alignment (PSA) techniques with precision
- Easy to teach
- Move toward cementless TKA fixation
- Simple, efficient registration
- Effective, efficient planning
- Efficient, precise bony resections

Surgeon Advantages of Robotics

- More Fun
- Elimination of outliers
- Dialing in balance
- Data collection

- Decrease physical nature of performing surgery
  - Increase longevity
  - Decrease joint issues

Are Robots here to stay?

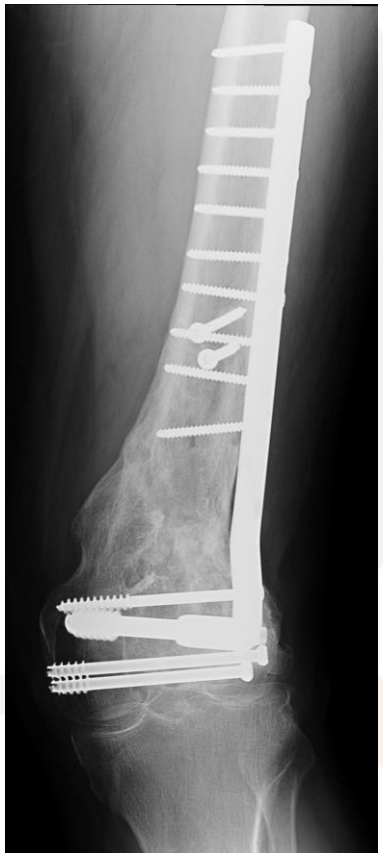
- YES!
- Pursue responsibly
- Need Data
- Potential for superior outcomes

So should we take them *all* to the ASC?

- High Success Rates
- Low complication rate
- Low readmission rates

- High Patient Satisfaction

ANSWER: “Probably Not”



Optimal Venue for Total Joints

"MOST"

- ***However -Most*** patients can safely be done in an ASC in 2023

ASC is Not for Everyone

- Red Flags:
  - Major Cardiopulmonary disease
  - No family support
- Need Surgeon Commitment

“But for Most”

- Safe
- Efficient
- Less Cost
- High Patient Satisfaction

OrthoCarolina

HIP & KNEE CENTER

Thank You

We are what we repeatedly do,
Excellence then, is not a single act, but a habit
-Aristotle