University of Virginia
Orthopaedic Surgery

Avoiding Readmissions

James A. Browne, MD

AAHKS Team Member Course

Disclosure

American Journal of Orthopedics: Editorial or governing board

Biocomposites Ltd: Paid consultant

DJ Orthopaedics: IP royalties; Paid consultant

Journal of Arthroplasty: Editorial or governing board

Radlink: Stock or stock Options

Radlink/DePuy: Paid consultant

Saunders/Mosby-Elsevier: Publishing royalties, financial or material support

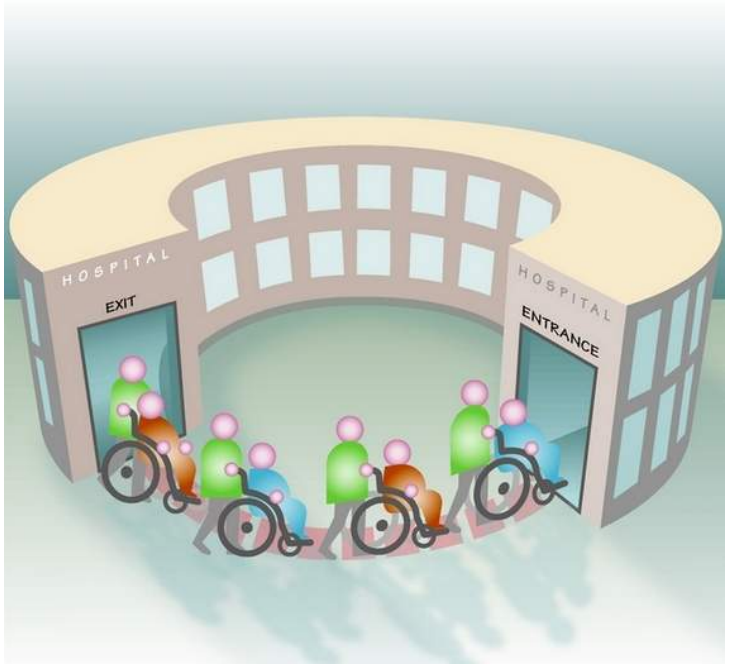
Southern Orthopaedic Association: Board or committee member

Introduction

- Readmissions are a huge target
- Cost Medicare $17.5 billion in 2010

Why Are Patients Readmitted?

- Six risk factors predictive of hospital readmission (Kansagara et al, JAMA 2011)
  - Medical comorbidities
  - Mental health
  - Illness severity
  - Prior medical use
  - Functional status
  - Socioeconomic factors



Risk Factors for Readmission THA

- Mednick et al, JBJS 2014

Risk Factors Associated With Hospital Readmission[10]

Factors	Description
Demographic	Morbid obesity (≥40 kg/m^2)
Comorbidities	Corticosteroid use preoperatively
Complications	Surgical site infection Pulmonary embolism Deep vein thrombosis Sepsis
Laboratory	Low serum albumin level

Meta-Analysis of Unplanned Readmission

- Ramkumar, Am J Orthop 2015

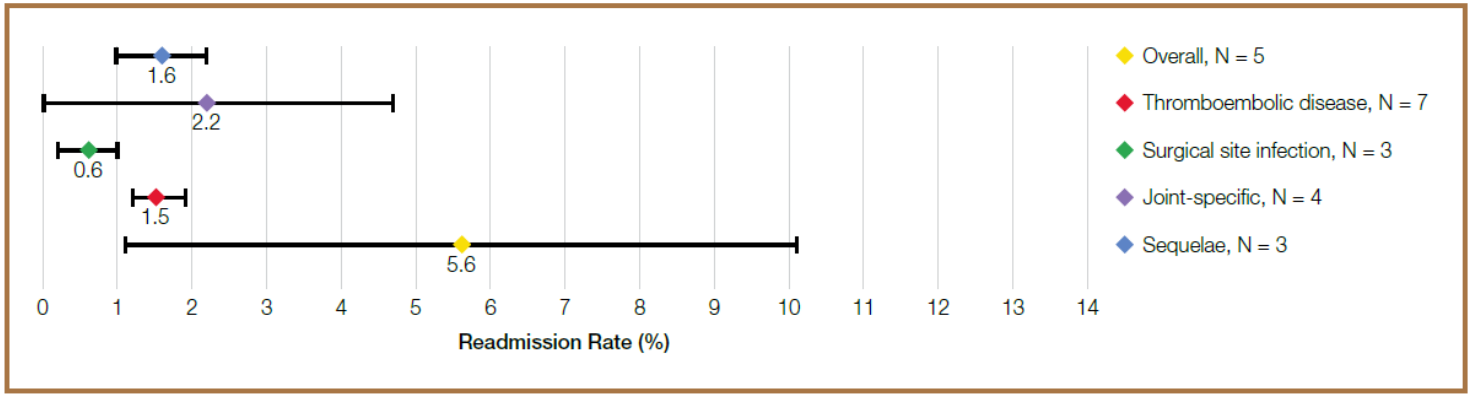


Figure 2. Overall and cause-specific total hip arthroplasty readmission rates at 30-day follow-up. N, number of studies that reported rates.

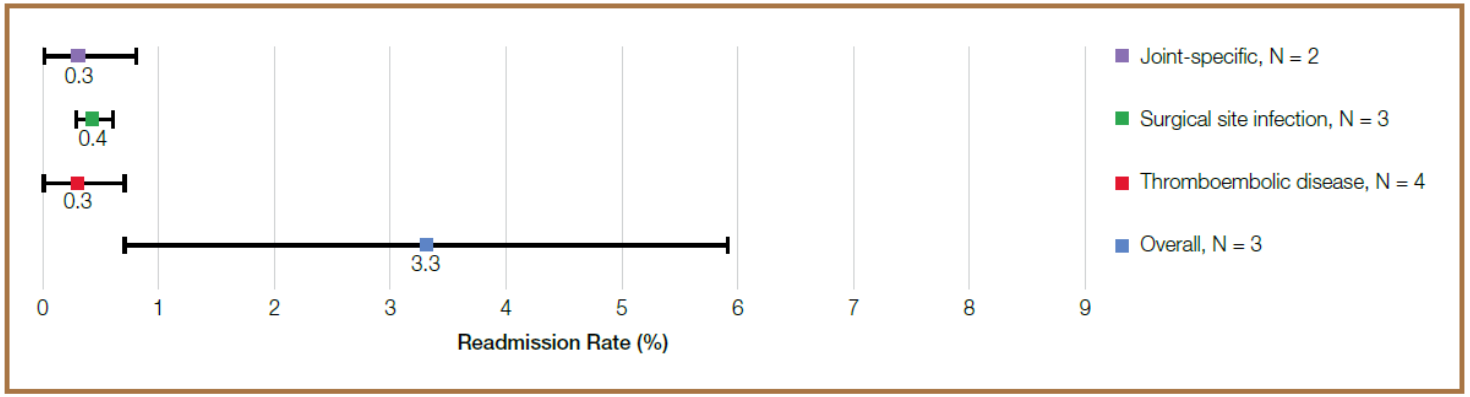
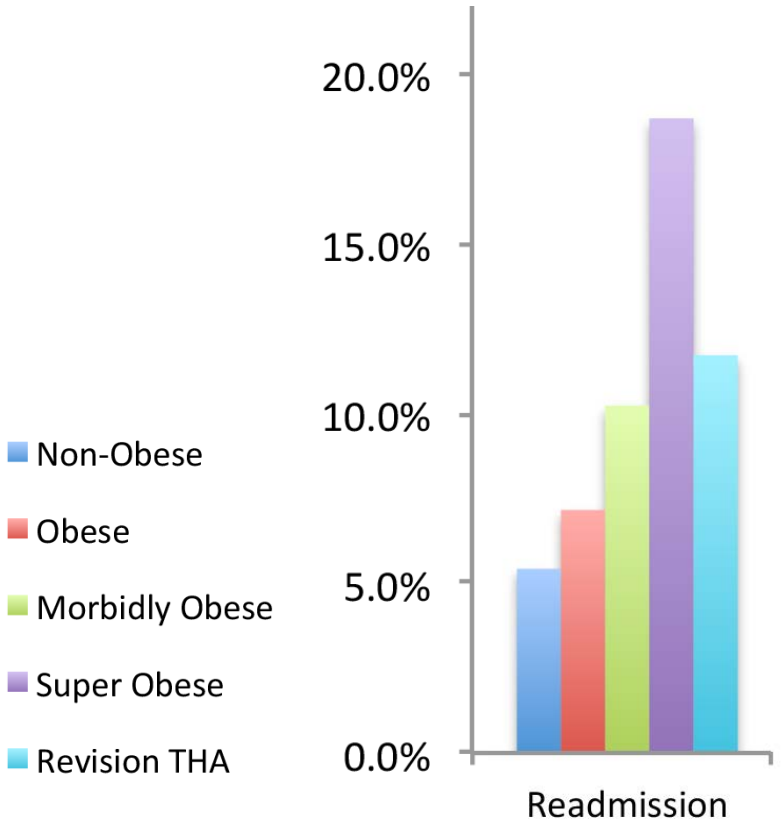


Figure 3. Overall and cause-specific total knee arthroplasty readmission rates at 30-day follow-up. N, number of studies that reported rates.

Modifiable Risk Factors: Obesity

- Obesity consistently linked to complications following TJA
- AAHKS Workgroup: Consider reducing weight if BMI>40
- Unclear if bariatric surgery will reduce risks



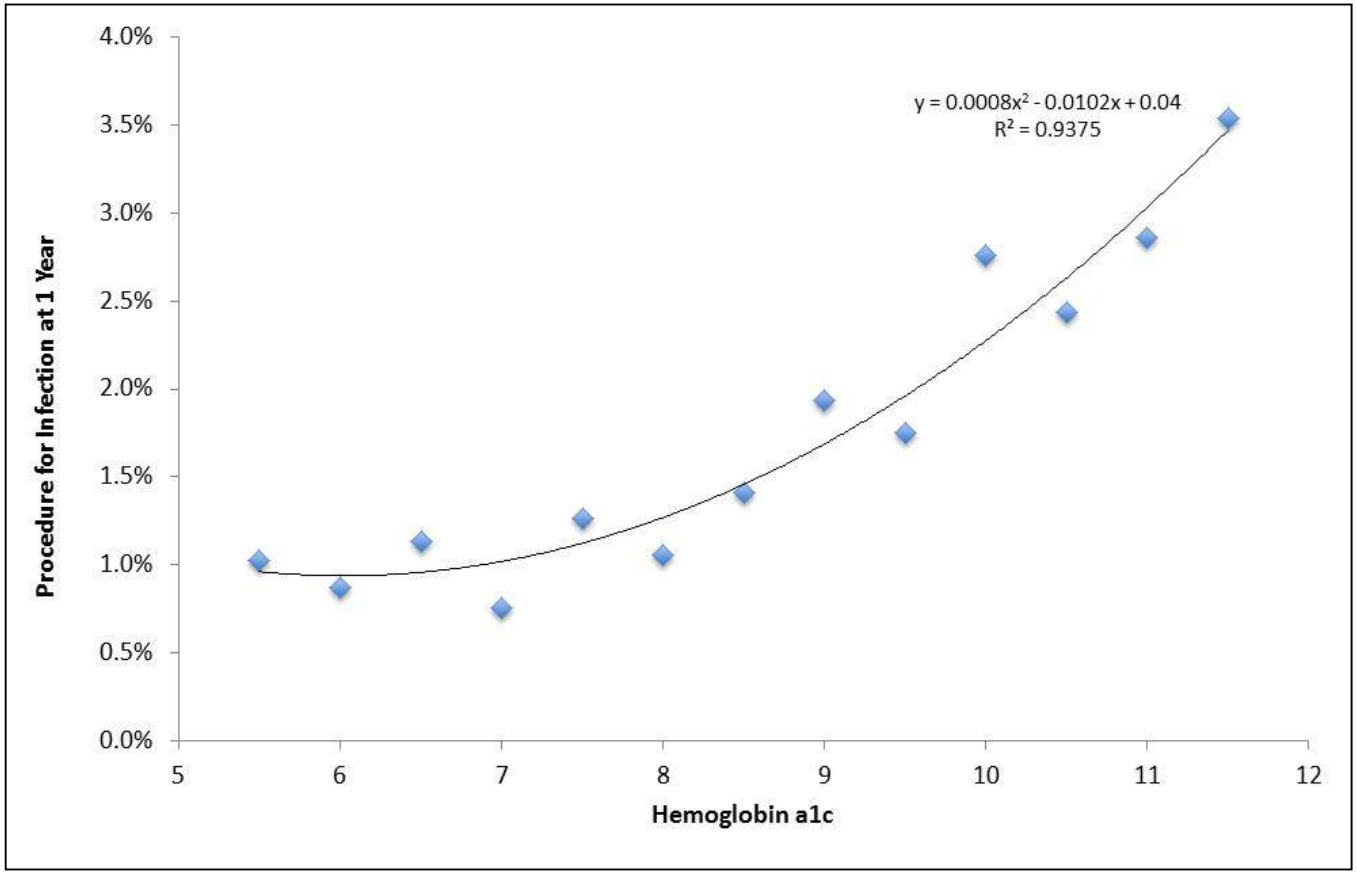
Werner, Browne, et al, J Arthroplasty, In Press

Modifiable Risk Factors: DM

- Uncontrolled DM associated with infection and medical complications following TJA
- Perioperative hyperglycemia correlated with infection – tight glucose control important
- Preoperative optimization of hemoglobin A1c (three month average plasma glucose concentration) controversial

Modifiable Risk Factors: DM

- Cancienne, Werner, Browne, In Press



Inflection of ROC curve between 7 and 8

Modifiable Risk Factors: Smoking

- Predictor of wound and cardiopulmonary complications
- Randomized trial of smoking cessation 6 to 8 weeks prior to TJA significantly reduced complications (Moller, Lancet 2002)
- Consider postponing surgery in particularly high risk patients

Modifiable Risk Factors: CV Disease

- Requires careful attention
- TJA places demand on CV system
- Perioperative management with medical specialists to optimize disease
- Discontinuing Plavix individualized
- Beta blockers prior to TKA associated with reduced potential for myocardial ischemia

Modifiable Risk Factors: Neurocognitive and Psychological Problems

- Strong evidence that modifiable risk factors associated with low treatment adherence
- Pain catastrophizing and poorly compensated pain beliefs associated with poor outcomes
- Depression associated with increased risk of complications
- Cognitive behavioral therapy (CBT) improves coping skills prior to TJA

Modifiable Risk Factors: Deconditioning

- Ambulatory status and general mobility is an important predictor of outcome with TJA
- Prehabilitiation has been shown to reduce LOS and increase discharge to home
- Discharge to SNFs associated with increased risks of readmission
- Planning for post-discharge needs can prevent social readmissions

Reducing Complications

- Decrease surgical site infection rates
  - Consider best practices including MRSA screening, standardized prophylaxis, etc
- Reduce VTE and bleeding complications
  - Know your own data!
- Manage medical comorbidities postop
  - Dedicated hospitalist service, early outpatient follow-up
- Institute outpatient pathways for work-up and treatment of DVT

Jordan et al, Am J Orthop, Nov 2012

Following Discharge

- Communication is critical!
- Maximize discharges to home
- Develop relationships with SNFs
- Consider contracts with your patients

Tips for Success

- Know your own data
- Review every readmission