Who has a HbA1c cutoff for elective spine surgery?

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objectives
• name 3 conditions that predict spine complications
• preoperative medical consultation: describe the evidence

Evidence for medical conditions causing complications
• cardiac disease, steroid use, ASA>2 predict 30 day complications; diabetes does not (Schoenfeld et al 2011 JBJS 93:1577 Retrospective NSQIP database)
• modest complication increase: DM, obesity, cardiac disease; substantial complication and mortality increase: chronic lung diseases (Deyo et al 2010 JAMA 303:1259 Retrospective Medicare database)
**diabetes**

- HbA1c >6.1 increased LOS, $ in spine surgery: "We believe that HbA1c should be considered in the routine preoperative workup of spine surgery patients." (Walid et al 2010 J Hosp Med 5:E10 Retrospective)
- DM: 20% (vs 3%) nonunion, more LBP; poorer improvement in LBP if HbA1c >6.5 in lumbar fusion (Takahashi et al 2013 Spine 38:516 Retrospective)
- DM: increased risk complications, LOS, $ in lumbar fusion (Browne et al 2007 Spine 32:2214 Retrospective

**poorly controlled diabetes**

- HbA1c >7: 35% (vs 0%) wound infection TL fusion (Hikata et al 2014 J Ortho Sci 19:223 Retrospective)
- Poorly controlled DM: increased cardiac complications, DVT, post-op shock, LOS, $, inpatient mortality (Guzman et al 2014 Spine 39:1596 Retrospective NIS)

**Other things we think about**

- Nicotine
- Osteoporosis
- Obesity
- drug use
- holding anticoagulants

**Evidence for/against preoperative medical consultation**

"Medical consultation before major elective noncardiac surgery is associated with increased mortality and hospital stay, as well as increases in preoperative pharmacological interventions and testing."

Wijeysundera et al (2010)

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**Evidence against > for preoperative medical consultation**

- Reduced OR delays; no difference in LOS, complications (Macpherson et al (1994) Med Care 32:498 RCT)
- Hospitalist preop clinic: reduced inpatient mortality, LOS for ASA>=3; more beta blockers and tests (Vazirani et al (2012) J
Evidence for/against preoperative Anesthesia consultation

"...associated with reductions in hospital length-of-stay, but not postoperative mortality. In addition, rates of specialized preoperative cardiac testing are increased following anesthesia consultation but the value of these tests remains debatable."

Wijeysundera et al (2011)

Summary

- Medical conditions most impactful on spine surgery outcomes:
  - 1. heart disease
  - 2. diabetes
  - 3. steroid use
  - 4. lung disease
  - 5. obesity
- Evidence does not support preoperative medical consultation, although Anesthesia consultation or Hospitalist preop clinic appear promising

What we do

- Checklist
- Preop check HbA1c (cutoff 8.5), nicotine (6wk/6mo), DEXA, Utox
- Switched preop consultation to Anesthesia
- Hold coumadin, ASA 5 days/1wk

What will you do?

1.
2.
3.