# What's New in the Patient Safety World

# November 2013

# Predicting Perioperative Complications: Even Simpler!

Our September 3, 2013 Patient Safety Tip of the Week "Predicting Perioperative Complications: Slow and Simple" showed a simple way of predicting postoperative complications. Now we'll show you an even simpler way!

Our regular readers know we've long advocated major change in the way we prepare patients, particularly the elderly, for surgery (see our August 17, 2010 Patient Safety Tip of the Week "Preoperative Consultation – Time to Change" and the multiple columns listed at the end of this column). Historically the pre-op workup has included multiple testing that has little impact on patient outcomes and we continue to see lots of unnecessary testing and lack of focus on potentially more meaningful evaluations. For example, identification of patients at risk for delirium, those who are frail, and those who have diagnosed or undiagnosed sleep apnea is much more likely to identify patients at risk for complications than doing extensive cardiac studies in patients lacking a history of heart disease.

Assessments of frailty are particularly strong predictors of postoperative complications. We've done multiple columns on the ability of measures of **frailty** to predict postoperative complications, morbidity and mortality, and discharge to institutional settings. We have previously highlighted the contributions by Makary and colleagues (Makary et al 2010) and Robinson and colleagues (Robinson 2009, Robinson 2011, Robinson 2013a, Robinson 2013b) in predicting postoperative complications based on frailty measures. And a new study using the Hopkins Frailty Score found that scoring in the "frail" or "intermediately frail" ranges predicted postoperative complications (Revenig 2013).

Many of those studies looking at frailty have emphasized gait speed or the ability of the **Timed Up and Go test** (see our November 2011 What's New in the Patient Safety World column "Timed Up-and-Go Test and Surgical Outcomes") to predict postoperative morbidity and complications. Our September 3, 2013 Patient Safety Tip of the Week "Predicting Perioperative Complications: Slow and Simple" highlighted a study by Robinson's group (Robinson 2013b) that found a slower Timed Up and Go predicted increased postoperative complications and 1-year mortality across surgical specialties and that, regardless of operation performed, the Timed Up and Go compared favorably to more complex risk calculators at forecasting postoperative complications.

Now a new study from Robinson's group (Jones 2013) demonstrates an even simpler yet very powerful way to predict postoperative complications: **just take a fall history!** The researchers looked at 235 patients aged 65 and older who were going to have colorectal or cardiac surgery and compared those who had fallen at least once in the previous 6 months (about a third of the group) with those lacking a history of falls. Independent of advancing age, those who had a history of a fall were more than twice as likely to have a postoperative complication after either type of surgery. Moreover, those with a history of falls had a higher likelihood of discharge to institutional care and higher likelihood of 30-day readmission. There was also a correlation between the number of falls and the number of postoperative complications.

Just taking that history of falls was comparable to using the Charlson (comorbidity index) score and was favorable to using the ASA score or chronological age for predicting postoperative complications.

The authors note that a history of falls potentially can be taken from several areas of the medical record and might easily be incorporated into data sets like the NSQIP database, from which pre-op risk calculations are made (see our September 3, 2013 "Predicting Perioperative Complications: Slow and Simple" regarding the ACS NSQIP Surgical Risk Calculator).

Simple! But elegant! Robinson's group continues to add practical contributions to the management of geriatric patients.

**Some of our prior columns on preoperative assessment and frailty:**

- March 31, 2009 "Screening Patients for Risk of Delirium"
- January 26, 2010 "Preventing Postoperative Delirium"
- June 2010 "The Frailty Index and Surgical Outcomes"
- August 17, 2010 "Preoperative Consultation – Time to Change"
- August 31, 2010 "Postoperative Delirium"
- August 9, 2011 "Frailty and the Surgical Patient"
- September 2011 "Modified HELP Helps Outcomes in Elderly Undergoing Abdominal Surgery")
- October 18, 2011 "High Risk Surgical Patients"
- November 2011 "Timed Up-and-Go Test and Surgical Outcomes"
- April 3, 2012 "New Risk for Postoperative Delirium: Obstructive Sleep Apnea"
- August 7, 2012 "Cognition, Post-Op Delirium, and Post-Op Outcomes"
- August 14, 2012 "Gait Speed: A New Vital Sign?"
- September 25, 2012 "Preoperative Assessment for Geriatric Patients"
- September 3, 2013 "Predicting Perioperative Complications: Slow and Simple"

**References**:


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ACS NSQIP Surgical Risk Calculator
http://www.riskcalculator.facs.org/

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