

What's New in the Patient Safety World

December 2022

Scary Stat on Surgery in the Elderly

A pretty scary statistic emerged from a one-year follow-up on community-living patients, aged 65 years or older, who underwent major surgery. Gill and colleagues ([Gill 2022](#)) analyzed data on 5590 Medicare beneficiaries from the National Health and Aging Trends Study (NHATS).

The overall one-year mortality rate was 13.4%. That means that nearly 1 of every 7 community-living older US adults died in the year after major surgery. Mortality rates were 7.4% for elective surgeries and 22.3% for nonelective surgeries.

As you'd expect, mortality rates were greater as age increased. Mortality was highest for persons aged 90 years or older, intermediate for those aged 80 to 84 and 85 to 89 years, and lowest for those in the youngest 3 age groups. Unadjusted hazard ratios were 2.44 for those aged 80 to 84 years, 2.89 for those aged 85 to 89 years, and 6.06 for those aged 90 years or older.

Frailty and dementia played a major roles in the mortality risk. 1-year mortality was 6.0% for persons who were nonfrail, but 27.8% for those who were frail. Similarly, 1-year mortality was 11.6% for persons without dementia, but 32.7% for those with probable dementia.

And, of course, as pointed out in the editorial accompanying the Gill study ([Perone 2022](#)), the cumulative mortality over the course of the year suggests that death is not associated with surgery alone but also with chronic conditions (and changes derived from surgery) and the overall life expectancy of the population.

It is not clear what the 1-year mortality rate for a comparable population who did not have surgery would have been. But Gill et al. do state that the expected 1-year mortality rate for their analytic sample, based on actuarial life tables was only 4.9%, considerably lower than the 13.4% overall mortality rate reported in their study.

Gill and colleagues and the editorialists both point to programs such as the American College of Surgeons Geriatric Surgery Verification Program for recommendations

to improve outcomes after geriatric surgery (see our September 17, 2019 Patient Safety Tip of the Week “[ACS Geriatric Surgery Verification Program](#)”).

Some of our columns on preparation of patients prior to surgery:

- September 25, 2012 “[Preoperative Assessment for Geriatric Patients](#)”
- May 2016 “[Guidelines for Perioperative Geriatric Care](#)”
- April 10, 2018 “[Prepping the Geriatric Patient for Surgery](#)”
- January 15, 2019 “[Another Plus for Prehabilitation](#)”
- September 17, 2019 “[American College of Surgeons Geriatric Surgery Verification Program](#)”
- April 7, 2020 “[From Preoperative Assessment to Preoperative Optimization](#)”
- July 21, 2020 “[Is This Patient Allergic to Penicillin?](#)”

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](#)”
- November 2013 “[Predicting Perioperative Complications: Even Simpler!](#)”
- June 2014 “[Another Study Linking Frailty to Surgical Complications](#)”
- September 2, 2014 “[Frailty and the Trauma Patient](#)”
- February 17, 2015 “[Functional Impairment and Hospital Readmission, Surgical Outcomes](#)”
- June 2015 “[Get a Grip on It!](#)”
- January 26, 2016 “[More on Frailty and Surgical Morbidity and Mortality](#)”
- May 2016 “[Guidelines for Perioperative Geriatric Care](#)”
- May 31, 2016 “[More Frailty Measures That Predict Surgical Outcomes](#)”
- May 16, 2017 “[Are Surgeons Finally Ready to Screen for Frailty?](#)”
- February 2018 “[Global Sensory Impairment and Patient Safety](#)”
- April 10, 2018 “[Prepping the Geriatric Patient for Surgery](#)”

- January 15, 2019 “[Another Plus for Prehabilitation](#)”
- September 17, 2019 “[American College of Surgeons Geriatric Surgery Verification Program](#)”
- April 7, 2020 “[From Preoperative Assessment to Preoperative Optimization](#)”
- June 30, 2020 “[What Happens after Hospitalization?](#)”
- July 2020 “[Getting a Grip on Things](#)”
- January 2021 “[The Frailty Meter](#)”

References:

Gill TM, Vander Wyk B, Leo-Summers L, Murphy TE, Becher RD. Population-Based Estimates of 1-Year Mortality After Major Surgery Among Community-Living Older US Adults. JAMA Surg 2022; Published online October 19, 2022
<https://jamanetwork.com/journals/jamasurgery/article-abstract/2797666>

Perone JA, Anaya DA. Patient Experience Following Surgery in the Geriatric Population—Increased Relevance and Importance of Longer-Term Surgical Outcomes. JAMA Surg 2022; Published online October 19, 2022
<https://jamanetwork.com/journals/jamasurgery/article-abstract/2797673>

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