

VIEWPOINT

Assessing the Performance of Aging Surgeons

Mark R. Katlic, MD
Sinai Center for Geriatric Surgery, Department of Surgery, Sinai Hospital, Baltimore, Maryland.

JoAnn Coleman, DNP, ACNP-BC
Sinai Center for Geriatric Surgery, Department of Surgery, Sinai Hospital, Baltimore, Maryland.

Marcia M. Russell, MD
Department of Surgery, David Geffen School of Medicine at the University of California, Los Angeles; and Department of Surgery, VA Greater Los Angeles Healthcare System, Los Angeles, California.

The surgical workforce is aging. According to the Association of American Medical Colleges Physician Specialty Data Report, in 2017, 44.1% of 103 032 active surgeons in the United States were 55 years or older. The percentage of surgeons 55 years or older varies by surgical specialty, ranging from a low of 40.9% in vascular surgery to a high of 58.1% in thoracic surgery.¹ This is an important issue because older surgeons have more experience caring for patients, which needs to be balanced with the potential impairment in their ability to provide high-quality surgical care because of age-related functional limitations.

Surgeons are not immune to the decline in physical and cognitive function that accompanies human aging. Decrements in sensory function such as vision and hearing are expected as individuals age. Similarly, humans experience varying declines in visual-spatial ability, inductive reasoning, verbal memory, and other areas of cognition. An older physician's fund of knowledge and experience may not be sufficient to mitigate the inevitable changes in cognition and physical function.

Previous research tested surgeons in 3 areas: visual sustained attention, which addresses stress tolerance; reaction time, which addresses psychomotor abilities; and visual learning and memory, which addresses visual-spatial organization. In 1 study, surgeons (n = 359) performed better than the age-appropriate norms in psychomotor areas, although there was "considerable

ing, and carotid endarterectomy. However, the difference in outcomes was small and limited to surgeons having low procedure volumes.⁵

One explanation for the findings showing better outcomes for older surgeons is that the experience and decision-making of older surgeons contribute to the lower mortality through both improved patient selection and avoidance of high-risk procedures. For older surgeons, experience and judgment will likely compensate for some decrement in physical and cognitive function. The increased experience of older surgeons warrants a critical evaluation to balance the strength of their experience with the potential of cognitive and functional decline inherent with advancing age.

However, a few individual surgeons whose outcomes are not very good represent a significant challenge encountered by nearly every chief of surgery, vice president of medical affairs, or hospital president. Anecdotal reports range from concerns about older surgeons falling asleep during procedures, to perceptions that an older surgeon is unsafe to operate and should have privileges revoked.

Mandatory Retirement Age

Establishing a mandatory retirement age for surgeons would be a straightforward solution but would be illegal, inappropriate, and unfair because of the variability in function among older individuals of a given age.

The Equal Employment Opportunity Commission enforces the Age Discrimination in Employment Act (ADEA) of 1967, which outlawed forced retirement based on age. Congress has approved fixed retirement ages for a number of professions involved with public safety—commercial airline pilot (65 years), Federal Bureau of Investigation agent (57 years), National Park

Ranger (57 years), air traffic controller (56 years), and lighthouse operator (55 years)—but not for physicians. Mandatory retirement for surgeons does exist in some countries, such as Russia and China (in both countries, age 60 years for men and 55 years for women).

Individual variability in the rate of cognitive and physical decline—variability that increases with age—argues against having a mandatory retirement age for surgeons.⁶ Another reason not to pursue mandatory retirement age is that treatable causes of poor performance may be found such as medication adverse effects, depression, neurologic disease, sleep apnea, and correctable vision problems. An unintended consequence of a mandatory retirement age would be the depletion of surgeons who have long served rural communities where there is no immediate replacement surgeon available.

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decline with age" in virtually every test.² Compounding the problem, a lack of self-awareness is common. A survey of 995 surgeons found that most senior surgeons, defined as those older than 65 years, reported no changes in perceived cognitive abilities with age.³

Another study found that being operated on by an older surgeon did not adversely affect patient outcomes. In a study of nearly 900 000 Medicare beneficiaries, patients who had operations performed by older surgeons (older than 50-59 years and ≥ 60 years) had lower mortality than patients who had operations performed by younger surgeons.⁴ In contrast, another study examined the files of 461 000 Medicare patients reporting that when compared with younger surgeons (ages 41-50 years), older surgeons (older than 60 years) had higher operative mortality rates for pancreatotomy, coronary artery bypass graft-

Corresponding Author: Marcia M. Russell, MD, Department of Surgery, University of California, Los Angeles, 10833 Le Conte Ave, 72-227 CHS, Los Angeles, CA 90095 (mrussell@mednet.ucla.edu).

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In 1992, the American College of Surgeons (ACS) advocated for evaluation of an older surgeon's physical and cognitive function. At the time, the College recommended developing specific mechanisms to address problems related to age-related skill erosion by assessment of physical, psychological, and intellectual function.⁷ The ACS currently recommends voluntary physical examination, eye examination, and online screening tests of cognition for surgeons between ages 65 and 70 years.⁸ The ACS also encourages voluntary self-disclosure of any concerning age-related performance issues, and limitation of activities may be appropriate. Despite these recommendations there are no data available regarding how often this happens.

Several hospitals have adopted a Late Career Practitioner Policy in their medical staff bylaws. These hospitals typically require every physician and advanced practice clinician who applies for recertification and who is older than 70 years to undergo physical examination, eye examination, and cognitive screening. An example of a more comprehensive option for surgeons identified either through screening or performance issues identified by medical staff is a 2-day, multidisciplinary, objective, and confidential evaluation of a surgeon's physical and cognitive function.⁹ Surgeons undergo physical, neurologic, and ophthalmologic examinations in addition to neuropsychological and physical/occupational therapy testing. A confidential report is sent to the hospital medical staff that commissioned the evaluation and that will decide what, if any, action to take based on the objective information provided in the report. Options may include 1 or more of the following: continue full privileges; no privileges; no operating privileges; operating

privileges if assisted by another surgeon (routine vs only complex cases); assistant privileges only; focused review of cases (all vs certain number); or decreased work hours (eg, no on-call duties).

Surgical simulator testing is an option but is not yet developed enough to assess the technical skills any surgeon, regardless of age. Simulator testing requires costly equipment and examiner time—barriers that exist for any testing program. Additionally, there are 2 important limitations relating to the use of surgical simulator evaluation of aging surgeons. First, the simulation must be specialty-specific. An ophthalmologist, for example, could not be tested on a laparoscopic simulator. Second, the validity of simulator testing is unknown. Much of the research in surgical simulation training has focused on the evaluation of surgical trainees, and no studies have yet evaluated technical skills of aging surgeons.

Conclusions

Human faculties deteriorate with age, but there is great variability in this process among individuals. Decisions about surgical competency should be based on functional age and abilities rather than chronological age. This argues against a mandatory retirement age for surgeons. When questions arise regarding the competence of an older surgeon, there should be an objective evaluation of functional age. Optimally, this can be accomplished by the use of comprehensive cognitive, physical, and technical assessments of aging surgeons. Older surgeons may have greater judgment and decision-making capacity than younger surgeons that conceivably offset cognitive or technical declines. Striking the appropriate balance between patient safety and preservation of an effective surgical workforce remains a challenge.

ARTICLE INFORMATION

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