

When should surgeons retire?

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Everyone ages, and so do surgeons. No one seemed to mind that Professor Michael DeBakey was 88 years old and still performing open heart surgery when he operated on the Russian President Boris Yeltsin.¹ But is there a point beyond which the surgeon's age becomes a risk factor?

Unlike some other professions, surgery has no legislated or commonly accepted retirement age. In recent decades, a surgeon's age as a marker of performance has become the subject of debate.^{2,3} Currently, many surgeons in the United States are still practicing beyond 65 years of age.⁴ A 2006 report on Orthopaedic Practice in the United States revealed that the orthopaedic workforce continues to age and that 5% of all active orthopaedic surgeons in the United States are over the age of 70 years.⁵

Why are surgeons practising beyond what is considered "retirement age"? Rovit⁶ and Kirk⁷ provide compelling reasons that contribute to a prolonged surgical career. They assert that surgery is a very rewarding profession, associated with a high sense of value and satisfaction not paralleled in any other profession. Surgeons are inherently resistant to change, and do not adequately plan for retirement.

Should surgeons retire? Retirement is a natural conclusion of any career, but in respect of surgeons it is unconscionable that retirement should be based on age alone. As far back as 1792, Dr Thomas Percival addressed the duty of physicians to retire when "experiencing the wonted confidence of their peers". The practice of medicine is a fiduciary profession; it is incumbent on each practitioner to give up the task when skills have deteriorated.⁶ Some believe this point should be based on an empiric age. I would argue that the evidence using age as the sole measure of surgical competency is weak.

Besides knowledge, surgeons require skills and experience. It is generally agreed that deterioration of purely physical skills begins near the end of the third decade; and cognitive skills diminish later. Yet it is widely agreed that most surgeons reach their peak overall performance around 45–50 years, similar to chess players. For more than two decades, growing experience more than compensates for diminishing physical skills. So, it is not only wine and cheese that improve with age.²

Professions with a mandatory retirement age support the viewpoint that performance is inversely proportional to age. One such profession is the aviation industry. The over-arching mantra of the aviation industry is that the safety of the flying public is paramount. By the same token, protecting patients from unsafe surgeons can be considered of substantial interest to the public. Therefore some have

advocated a "one size fits all" compulsory retirement age for surgeons, irrespective of performance status, competence and the lack of empirical data to support this position.³

However, more nuanced observations seem to suggest that the relationship between age and performance is more complex, and for most procedures the age of a surgeon is a poor predictor of operative risk. Greenfield and Proctor have summarised the physiological processes of aging and shown that stamina, fine motor skills and cognition decrease with age.⁸ These declines are gradual and not uniform across populations; some learned tasks and physical memory are remarkably preserved over time. Deteriorating physical skills can be compensated for a long time by better decision making skills.⁸

Similarly, neurophysiological testing has revealed age-related decreases in certain cognitive functions; however, those required by surgeons such as verbal ability, spatial orientation and inductive reasoning (the ability to develop novel concepts or relationships) are remarkably preserved over time, and well beyond the age of 70 years.⁹ Trunkey and Botney developed the MicroCog test to assess the relationship between cognitive decline and competence. Most practising surgeons older than 60 years performed as well as younger colleagues in all areas of cognitive testing.¹⁰ So, "one size" does not fit all...

Good evidence to suggest that increasing surgeon age is a predictor of operative risk is lacking. Waljee et al. in 2006 reported that older surgeons (> 60 years) had higher rates of 30-day patient mortality when performing pancreatectomy, cardiac bypass surgery and carotid endarterectomy. The authors concluded that aging surgeons who gradually decrease the volume of complex procedures may experience a counterproductive deterioration in the skill sets necessary for safe conduct. This suggests that an "all or none" approach to complex procedures is better to maintain skills and a safe practice.³ Analogous to playing a musical instrument, performing high volumes of complex procedures (constant practice), rather than the age of the surgeon, determines the outcomes in complex surgery.

A surgeon may lose skills and other markers of competence at 60 years, while another may have these perfectly preserved at 70 years. The real question, therefore, is how does one assess competency? Present methods are not designed to detect age-related decline in performance.

Statutory bodies have mechanisms in place to discipline incompetent physicians who are found to be abusing substances, committing financial fraud and acts of sexual

impropriety with patients. They fail to identify or intervene in cases of age-related failing of a surgeon's competence.² Initial certification is aimed at assuring competence. In South Africa, this is lifelong and does not require re-certification. In the United States, surgeons are required to re-certify every 10 years. Re-certification is a weaker process at assuring competency: it tests knowledge, not physical skills or technical mastery; therefore, re-certification is unable to identify or deal with diminishing technical skills in the aging surgeon.² Self-assessment is inaccurate, largely due to the fact that the subjective perception of cognitive changes does not correlate with an objective assessment.¹¹

Rather than imposing a mandatory retirement age, methods aimed at ensuring competence in the aging surgeon are more appropriate. Credentialing bodies should apply focused psychomotor assessment of all practising surgeons from the age of 65 years as a requisite for ongoing practice. Regular physical examinations and eye checks, peer evaluation and early retirement planning are other suggestions proposed by Garrett et al.¹² It will ultimately be the objective definition of surgical skills and cognitive competence to ensure quality patient care – and not fear of legal retribution – that will drive transition from active practice to retirement.

A surgeon is a multi-faceted individual (diagnostician, technician, teacher, mentor, coach, and administrator) who spends a medical lifetime acquiring knowledge and skills. An arbitrary age should not herald the end of a career in totality. There is a continuous purpose and place for surgeons, and even after retiring from performing surgery, surgeons can continue to contribute in many ways.⁷ Perhaps if the aging surgeon realizes there are ways of making valuable contributions after placing the scalpel under lock and key, he or she might be more inclined to retire before skills deteriorate.

Until there is conclusive proof that increasing age correlates with a decline in performance and becomes a risk factor for

poor outcomes, retirement of surgeons should be a choice and not an age-related imposition. A challenge for the future is designing tools that can objectively assess technical skills and define age-related competence. This will assist surgeons in deciding when and if age dictates when they cease surgical patient care.

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