



## Editorial



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See the article “Is Spinal Surgery Safe for Elderly Patients Aged 80 and Above? Predictors of Mortality and Morbidity in an Asian Population” via <https://doi.org/10.14245/ns.1836336.168>.



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# Spine Surgeons Are Facing the Great Challenge of Contributing to the Realization of a Society of Health and Longevity

Based on United Nations' statistics, the world population now exceeds 7.7 billion, and is projected to reach 9.7 billion in the next 30 years. Although the average lifespan has lengthened markedly, birth rate trends have declined globally.<sup>1</sup> The global aging of society is now an international topic. The global proportion of senior citizens over 65 years old is 9% as of 2019, but may exceed 16% in the next 30 years. Actually, the proportion over 65 years old in Japan has already exceeded 25%, ahead of any other country in the world. Primary medical goals for elderly individuals may include independence in daily life, maintenance of walking ability and participation in social activities. Elderly individuals who have overcome or obtained relief from cancer, stroke and lifestyle-related diseases may face the difficulties of joint or spinal pathologies associated with aging in the latter stage of life. Needless to say, spinal pathologies of aging are now one of the most important issues that we spine surgeons must increasingly address. The main points in spine surgery for elderly patients are: (1) surgical indications; (2) minimally invasive procedures; and finally (3) safe perioperative management. Surgical management of elderly patients with modest neurological impairment remains contentious.<sup>2</sup> On the other hand, surgery for severe spinal conditions such as adult spinal deformity or osteoporotic vertebral fracture has been gaining increasing attention as a serious issue.<sup>3,4</sup> Surgical excellence in preoperative assessment and perioperative best care is one of the key elements to success.

In this clinical article entitled “Is Spinal Surgery Safe for Elderly Patients Aged 80 and Above? Predictors of Mortality and Morbidity in an Asian Population,” the authors conducted a retrospective institutional case review of patients over 80 years old who underwent spine surgery during the study period from 2003 to 2015.<sup>5</sup> Mortality and morbidity rates over a 2-year postoperative period were analyzed. The authors demonstrated that clinical factors significantly associated with mortality included multiple comorbidities, nondegenerative etiologies and the presence of vertebral fractures. The overall morbidity rate was 48.9%, and 17% of the cohort experienced major complications. The article depicts the real world of spinal surgery for elderly patients, and successfully highlights the importance of perioperative risk management for this demographic.

To make spine surgery a much more reliable and convincing entity in the next 30 years, we spine surgeons are facing the great challenge of contributing to the realization of a society of health and longevity. Recent technical innovations, including imaging technology, applications of artificial intelligence to spine surgery, computer-based navigation systems and robotic technologies are worthy of note, and appear very promising.<sup>6-11</sup> We look forward to seeing the brilliant future of spine surgery, although the importance of best surgical

performance in daily surgery must not be forgotten.

## CONFLICT OF INTEREST

The authors have nothing to disclose.

## REFERENCES

1. United Nations. World Population Prospects 2019: Highlights [Internet]. New York: United Nations, Department of Economic and Social Affairs, Population Division; [cited 2019 Jun 10]. Available from: [https://population.un.org/wpp2019/Publications/Files/WPP2019\\_10KeyFindings.pdf](https://population.un.org/wpp2019/Publications/Files/WPP2019_10KeyFindings.pdf).
2. Naito K, Yamagata T, Ohata K, et al. Management of the patient with cervical cord compression but no evidence of myelopathy: what should we do? *Neurosurg Clin N Am* 2018; 29:145-52.
3. Diebo BG, Shah NV, Boachie-Adjei O, et al. Adult spinal deformity. *Lancet* 2019;394:160-72.
4. Thomas K, Wong KH, Steelman SC, et al. Surgical risk assessment and prevention in elderly spinal deformity patients. *Geriatr Orthop Surg Rehabil* 2019;10:2151459319851681.
5. Tan JY, Kaliya-Perumal AK, Oh JY. Is spinal surgery safe for elderly patients aged 80 and above? Predictors of Mortality and Morbidity in an Asian Population. *Neurospine* 2019;16: 764-9.
6. Uda T, Takami T, Tsuyuguchi N, et al. Assessment of cervical spondylotic myelopathy using diffusion tensor magnetic resonance imaging parameter at 3.0 tesla. *Spine (Phila Pa 1976)* 2013;38:407-14.
7. Shimokawa N, Takami T. Surgical safety of cervical pedicle screw placement with computer navigation system. *Neurosurg Rev* 2017;40:251-58.
8. Joseph JR, Smith BW, Liu X, et al. Current applications of robotics in spine surgery: a systematic review of the literature. *Neurosurg Focus* 2017;42:E2.
9. Ghasem A, Sharma A, Greif DN, et al. The arrival of robotics in spine surgery: a review of the literature. *Spine (Phila Pa 1976)* 2018;43:1670-7.
10. Rindler RS, Chokshi FH, Malcolm JG, et al. Spinal diffusion tensor imaging in evaluation of preoperative and postoperative severity of cervical spondylotic myelopathy: systematic review of literature. *World Neurosurg* 2017;99:150-8.
11. Ghogawala Z, Dunbar MR, Essa I. Lumbar spondylolisthesis: modern registries and the development of artificial intelligence. *J Neurosurg Spine* 2019;30:729-35.



Title: Ma Jolie  
Artist: Pablo Picasso  
Year: 1911-12

*Ma jolie* (My pretty girl) was the refrain of a popular song performed at a Parisian music hall Picasso frequented. The artist suggests this musical association by situating a treble clef and music staff near the bold, stenciled letters. *Ma jolie* was also Picasso's nickname for his lover Marcelle Humbert, whose figure he loosely built using the signature shifting planes of Analytic Cubism. This is far from a traditional portrait, but there are clues to its representational content. The central triangular mass subtly indicates the shape of a woman's head and torso, and a group of six vertical lines at the painting's lower center represent the strings of a guitar, which the woman strums. In Cubist works of this period, Picasso and Georges Braque employed multiple modes of representation simultaneously: here, Picasso combined language (in the black lettering), symbolic meaning (in the treble clef), and near abstraction (in the depiction of his subject).

More information: <https://www.moma.org/collection/works/79051>  
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