

Spine Surgery in Geriatric Patients: Recommendations of the German Society for Orthopaedics and Trauma (DGOU)

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Geriatric patients with spinal pathologies are an increasing entity. The worldwide percentage of people aged over 65 is currently 10% but increases steadily and will have reached 16% of the global population by 2050. In some regions like North America (17%) and Europe (19%) their portion already exceeds this threshold. Regarding octogenarians, a hundred percent increase is expected until 2050 worldwide. Europe will then have the highest proportion of people over 80 with about 10%.

Although many elderly people are still quite healthy and active their health condition will inevitably decrease over time. Terms like frailty and sarcopenia have become keywords in medical care and it has been shown that they significantly influence the outcome of surgical treatment. Likewise pediatric patients are not small adults, geriatric patients are not just old adults. Geriatric medicine has become a highly specialized field in medicine, and rightly so.

In many places in the world spinal geriatric medicine is still restricted to conservative therapy only. Ignorance, fear of complications and undesired outcome, or lack of adequate implant technology are possible reasons for that. Notably, very few high-quality studies exist regarding surgical treatment of spinal pathologies. Furthermore, most of the scientific work is restricted to degenerative diseases. As a result, the evidence for surgical treating of spinal trauma and pathological instabilities in geriatric patients is remarkably low.

In contrast to other regions, surgeons in German speaking countries have been always rather aggressive in treating trauma and infections even in the elderly. Thus, both good and bad experiences have been made and many lessons have been learned.

The main goals of medical treatment in geriatric patients are to restore mobility and independency, to effectively treat pain, and to avoid complications caused by the treatment or consequences by the pathology itself.

This special issue of the Spine Section of the German Society for Orthopaedics and Trauma (DGOU) aims to provide the actual knowledge and treatment strategies for geriatric patients suffering from traumatic, insufficiency, or pathological fractures/instabilities of the cervical and thoracolumbar



spine. The articles base on systematic and narrative reviews, treatment recommendations after consensus processes, and the results of a prospective multicenter study.

Osterhoff et al and Spiegl et al focus on the upper cervical spine, a region frequently affected by trauma in elderly patients. Odontoid fractures with or without concomitant atlas fractures are a matter of ongoing debates. The authors provide the results of their systematic reviews and illustrate treatment algorithms already used in daily clinical practice.

Ullrich et al, Osterhoff et al, and Spiegl et al present short-term results from the prospective EOFTT (Evaluation of the Osteoporotic Fracture classification, Treatment score and Therapy recommendations) multicenter study. Osteoporotic fractures of type OF 4 and OF 5 are potentially unstable and frequently undergo surgical treatment. The decision whether to operate or not can be made by using the recently developed OF score, an easy tool incorporating radiological and clinical data of the patients. The results of the clinical evaluation of the OF score as well as of the treatment of the OF 4 and OF 5 fractures are described by the authors.

As mentioned above, the conservative treatment of osteoporotic vertebral fractures is common and remains the standard of care for the majority of patients. Heyde et al systematically reviewed the literature on evidence for the use of orthoses. Their results are quite disillusioning.

A common complication in spinal surgery for geriatric patients is implant failure. Schömig et al propose several strategies to avoid this undesirable issue in their narrative review.



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Besides implant associated problems the medical condition of the patients plays a crucial role. Scheyerer et al performed a systematic review identifying non-adjustable as well as adjustable risk factors which should be considered preoperatively in terms of risk assessment.

Treatment of spondylodiscitis in geriatric patients can be very challenging. Von der Höh et al performed a literature research and discuss the most important medical aspects to consider. As a result, the authors provide a meaningful treatment algorithm.

Finally, Disch et al describe the multidisciplinary management of pathological fractures in patients with multiple myeloma.

This special issue hopefully supports clinicians and surgeons in their daily practice and decision-making process. Although the recommendations are supported by the evident literature the authors confess that the evidence behind it is rather scarce. David Hume once declared “A wise man proportions his beliefs to the evidence”. Thus, the members of the Spine Section of the German Society for Orthopaedics and Trauma (DGOU) are carrying on seeking evidence.

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