

August 5, 2016

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 27039-Revised manuscript).

Title: Vitamin D and spine surgery

Author: Thomas Mabey, Weerasak Singhatanadgige, Wicharn Yingsakmongkol, Worawat Limthongkul, Sittisak Honsawek

Name of Journal: *World Journal of Orthopedics*

ESPS Manuscript NO: 27039

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated and Audio core tip has been provided.

2 Revision has been made according to the suggestions of the reviewer.

(1) Thank you for the excellent review on the rather innovative subject. Please just stress in Discussion the potential clinical implications in more detail if possible. Best wishes

Response: We have improved our manuscript and included more details in our minireview as the reviewer's suggestion, in page 9 and 10 and a reference in page 13.

"Low vitamin D status is associated with a variety of adverse outcomes following surgical procedures. In recent years, previous investigation has documented that serum 25(OH)D level at the time of operation is highly predictive of long term surgical outcomes compared to postoperative vitamin D status, and that benefits can be attained by vitamin D supplementation at the time of surgical procedures or thereafter^[20].

Vitamin D status is a prognosticator of extraskeletal abnormalities for which predispositions could be detected and deficiencies should be corrected before surgical treatments. Our recommendation for patients with vitamin D deficiency prior to elective spine surgery is as follows. In patients whose 25(OH)D is less than 20 ng/ml, treatment generally includes initial 50,000 IU loading dose of vitamin D orally once weekly for two to three months, and then 1,000 or more IU of vitamin D daily thereafter. After three months, serum 25(OH)D should be reassessed. In patients whose 25(OH)D is 20-30 ng/ml, treatment basically includes 1,000 IU of vitamin D by mouth daily, commonly for a three-month period. However, some patients may require higher doses. The ideal dose of vitamin D is determined by measuring serum 25(OH)D, and increasing the dose if serum vitamin D level is not within normal range. Once a normal level is achieved, continued therapy with 800 IU of vitamin D daily is generally suggested. Although various strategies could be used in treating vitamin D deficiency, a common overlooking in management is to discontinue treatment or administer inadequate vitamin D maintenance dosing when serum 25(OH)D level reaches the optimal range. It is, therefore, reasonable to routinely screen all patients undergoing spine fusion surgery for serum 25(OH)D levels, and those with vitamin D deficiency should be given vitamin D supplements."

"20. **Bashutski JD**, Eber RM, Kinney JS, Benavides E, Maitra S, Braun TM, Giannobile WV, McCauleyLK. The impact of vitamin D status on periodontal surgery outcomes. J Dent Res. 2011;**90**:1007-1012 [PMID: 21555774 DOI: 10.1177/0022034511407771]"

- (2) The authors need to add their recommendation how to treat patients with Vit D deficiency, high or low dose and for how long. when do you need to reassess Vit D level? What the authors recommendation for Vit D deficient patient who is going for spine fusion? Do you normalize the level before surgery or do you do the surgery and put them on Vit D after surgery?

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- (3) This a carefully conducted review of the literature related to the important issue of the influence of Vitamin D deficiency in the scarce result of spine surgery. It includes illustrative tables of the most important aspects of the selected studies in this specific field. The conclusions are important for the clinical practice and the suggested further studies are to be considered.

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- (4) The authors tried to review the relationship between vitamin D deficiency and spine surgery. This review was well written and discussed the important innovating issue. More detailed suggestions concerning how to normalize vitamin D level in patients with hypovitaminosis D before spine surgery might be useful for the readers.

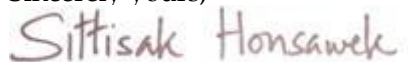
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3 References and typesetting were corrected.

Thank you again for publishing our manuscript in the *World Journal of Orthopedics*.

Sincerely yours,



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