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CORRESPONDENCE

# Management of blood pressure alters cerebral oxygen saturation values in the beach-chair position

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**To the Editor,**

I read the article by Meex *et al*., who concluded that, under general anesthesia, more than 55% of patients in the beach-chair position (but not in the lateral decubitus position) experienced cerebral desaturation events.[1] Unfortunately, we know that some patients in the study did not achieve a mean blood pressure >60 mmHg as the authors reported a mean value of 59 mmHg (range 51-66 mmHg). This value seems to be significantly lower than that for patients in the lateral decubitus position.[1]

A stable hemodynamic state appears to be critical to avoid cerebral desaturation in the beach-chair position. Indeed, our previous studies demonstrated that general anesthesia with the patient in the beach-chair position did not alter cerebral oxygenation with or without the presence of cardiovascular risk factors as the cerebral tissue oxygenation index (TOI) was normal when the mean blood pressure was maintained at >60 mmHg.[2,3] It is also important to note that the cerebral TOI detected by NIRO-200 (Hamamatsu Photonics, Hamamatsu, Japan) is probably the most reliable parameter derived from cerebral near-infrared spectroscopy. This is because changes in the tissue hemoglobin concentration related to hypotension, which is capable of decreasing extracranial blood flow, do not affect TOI values.[4]

The FORE-SIGHT device, used by Meex *et al*., is still subject to extracranial contamination even with its updated algorithms.[5] Therefore, I recommend waiting for further studies that use other cerebral oximeters to determine whether maintaining the mean blood pressure at >60 mmHg prevents cerebral desaturation in the population studied by Meex *et al*.[1]

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This letter is accompanied by a reply. Please see Can J Anesth 2016; 63: this issue.

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