



THE AGA KHAN UNIVERSITY

eCommons@AKU

Department of Anaesthesia

Medical College, Pakistan

March 2017

Another approach for prone positioning under general anaesthesia

Dileep Kumar

Aga Khan University, dileep.kumar@aku.edu

Mohammad Hamid

Aga Khan University, mohammad.hamid@aku.edu

Kelash Kumar

Follow this and additional works at: https://ecommons.aku.edu/pakistan_fhs_mc_anaesth



Part of the [Anesthesia and Analgesia Commons](#), and the [Anesthesiology Commons](#)

Recommended Citation

Kumar, D., Hamid, M., Kumar, K. (2017). Another approach for prone positioning under general anaesthesia. *Indian Journal of Anaesthesia*, 61(3), 278-279.

Available at: https://ecommons.aku.edu/pakistan_fhs_mc_anaesth/178

Another approach for prone positioning under general anaesthesia

Sir,

Rotation and overextension of neck movement during prone positioning may impair blood flow in carotid and vertebral arteries that may lead to serious consequences such as cerebral^[1] and cerebellar infarction,^[2] hemiparesis,^[1] quadriplegia^[2] and phrenic nerve injury.^[3] There are few patients who are prone to such complications due to the presence of pre-existing conditions such as unrecognised stenosis of carotid or vertebral arteries, presence of cervical osteophytes and vascular atherosclerosis.^[4] Hypotension during positioning, the absence of monitoring and transient incomplete or complete occlusion of these vessels may lead to thrombosis and embolism.^[5] Intensive

precautions and application of different modalities for prone positioning in surgical patients with known cervical pathology have been advocated.^[6]

Safe anaesthesia evolved incessantly by invention of new methods. We suggest a new method for prone positioning to improve patient outcome. The conventional method solely relied on anaesthesiologist's vigilance to position patient into the prone position to avoid serious adverse events. However, we believe that the conventional method may result in minimal malalignment in expert hands as compared to significant neck instability in the hands of novices.

We suggest the following method to position the anaesthetised patient into prone position. The initial few steps are similar to the conventional method. The anaesthesiologist stands on patient's head end and other team members on either side of the patient and the foot end. The patient's positioning movement is

started once coordination among the team members is achieved at a loud count of 'one-two-three'. Our method is to fix the right-hand index and middle finger on patient's thoracic vertebral spinous process in V shape [Figure 1] and thumb, ring and little finger to lock the cervical spine. The palm is placed underneath the patient's occiput [Figure 2]. The anaesthesiologist's left hand holds the endotracheal tube and stabilises the patient's head for right lateral direction for the prone positioning [Figure 2]. The anaesthesiologist's hands will be switched other way for the left lateral direction for the prone positioning. The whole team at the loud count of three turns the patient prone while anaesthesiologist not only stabilises the head and neck but also keeps the cervical spine aligned with thoracic spine and preventing the flexion, extension and rotation of head.

We believe our suggested prone positioning method enhances the patients' safety by locking and aligning the cervical spine with thoracic spines in patients with



Figure 1: The fixation of right-hand index and middle finger on patient's thoracic vertebral spinous process in V shape for spine alignment

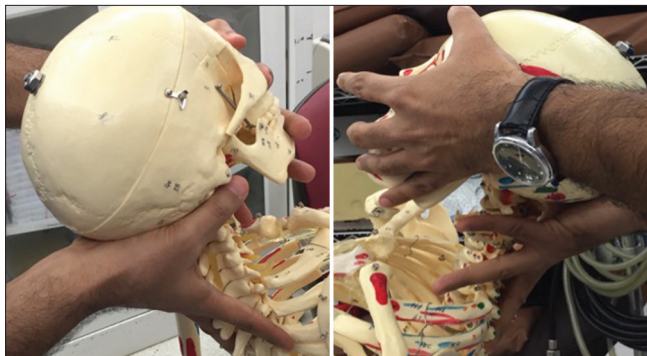


Figure 2: The right-hand thumb, ring and little finger for locking the cervical spine and palm rest underneath the patient's occiput and left hand holding the endotracheal tube and stabilising the patient's head

asymptomatic or underlying cervical spine pathology undergoing surgery. In our institution, this method has restricted the unwanted spine movement in expert as well as novice hands.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Dileep Kumar, Mohammad Hamid, Kelash Kumar

Department of Anesthesia, Aga Khan University, Karachi, Pakistan

Address for correspondence:

Dr. Dileep Kumar,
Department of Anesthesia, Aga Khan University,
P. O. Box 3500, Stadium Road, Karachi, Pakistan.
E-mail: dileep.kumar@aku.edu; dkhiloi@gmail.com

REFERENCES

1. Gould DB, Cunningham K. Internal carotid artery dissection after remote surgery. Iatrogenic complications of anesthesia. *Stroke* 1994;25:1276-8.
2. Langmayr JJ, Ortler M, Obwegeser A, Felber S. Quadriplegia after lumbar disc surgery. A case report. *Spine (Phila Pa 1976)* 1996;21:1932-5.
3. Wakeno M, Sakamoto S, Asai T, Hirose T, Shingu K. A case of diaphragmatic paralysis in a patient with diabetes mellitus after surgery in prolonged prone position. *Masui* 2001;50:1019-21.
4. Wang LC, Liou JT, Liu FC, Hsu JC, Lui PW. Fatal ischemia stroke in a patient with an asymptomatic carotid artery occlusion after lumbar spine surgery – A case report. *Acta Anaesthesiol Taiwan* 2004;42:179-82.
5. DePasse JM, Palumbo MA, Haque M, Ebersson CP, Daniels AH. Complications associated with prone positioning in elective spinal surgery. *World J Orthop* 2015;6:351-9.
6. Kwee MM, Ho YH, Rozen WM. The prone position during surgery and its complications: A systematic review and evidence-based guidelines. *Int Surg* 2015;100:292-303.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.IJA_543_16

How to cite this article: Kumar D, Hamid M, Kumar K. Another approach for prone positioning under general anaesthesia. *Indian J Anaesth* 2017;61:278-9.

© 2017 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.