

In Response

Citation for published version (APA):

Pieters, B. M., Theunissen, M., & van Zundert, A. A. (2018). In Response: Reflections on Combining the Bonfils Intubation Endoscope, the Macintosh Videolaryngoscope, and the Difficult Airway Response. *Anesthesia and Analgesia*, 127(1), 304-305. <https://doi.org/10.1213/ANE.0000000000003328>

Document status and date:

Published: 01/07/2018

DOI:

[10.1213/ANE.0000000000003328](https://doi.org/10.1213/ANE.0000000000003328)

Document Version:

Publisher's PDF, also known as Version of record

Document license:

Taverne

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Section Editor: **Raymond C. Roy**

Reflections on Combining the Bonfils Intubation Endoscope, the Macintosh Videolaryngoscope, and the Difficult Airway

To the Editor

We read with interest the recent article by Pieters et al¹ as to whether the practice they describe offers an alternative technique for patients who present with a difficult airway. While we celebrate efforts to advance laryngoscopy techniques for patients with difficult airways, we have 2 concerns.

We wonder how it was possible to blind the 2 anesthesiologists who were acting as independent reviewers of the laryngoscopy grade to the technique utilized based on pictures obtained during the intubation. As observed in Figure 2 of the article, the C-Mac Laryngoscope provides a square viewpoint (Figure 2A), and the Bonfils Intubation Endoscope (Figure 2B) provides a circular viewpoint.¹ Without cropping the pictures and risking interfering with an image obtained, it is obvious to the observer which image is from each airway device from the first glance.

We were also surprised by the high yield of difficult tracheal intubations (grade 3 or 4 on videolaryngoscopy) from the initial screening, with 90% of patients fulfilling that criterion, and nearly 60% of them having only a single predictor of difficult intubation. The various assessments used (Mallampati score, body mass index, external features of difficult intubation, and restricted range of movement of neck) are all widely utilized in predicting difficult direct laryngoscopy, albeit with a low positive predictive value.² However, the use of these tests have generally been found to be even less robust predictors of difficult videolaryngoscopy,³ and indeed, they have generally been associated with favorable laryngeal views.⁴

Sinead E. McCarthy, MSc, MB BCh, BAO, FCAI

Department of Anesthesia and Pain Medicine
University Health Network
Toronto, Ontario, Canada
sinead.mccarthy@one-mail.on.ca

Richard M. Cooper, BSc, MSc, MD, FRCPC

Department of Anesthesiology and Pain Medicine
Toronto General Hospital
University of Toronto
Toronto, Ontario, Canada

REFERENCES

1. Pieters BM, Theunissen M, van Zundert AA. Macintosh blade videolaryngoscopy combined with rigid bonfils intubation endoscope offers a suitable alternative for patients with difficult airways. *Anesth Analg*. 2018;126:988–994.
2. Shiga T, Wajima Z, Inoue T, Sakamoto A. Predicting difficult intubation in apparently normal patients: a meta-analysis of bedside screening test performance. *Anesthesiology*. 2005;103:429–437.
3. Cooper RM, Pacey JA, Bishop MJ, McCluskey SA. Early clinical experience with a new videolaryngoscope (GlideScope) in 728 patients. *Can J Anaesth*. 2005;52:191–198.

4. Aziz MF, Dillman D, Fu R, Brambrink AM. Comparative effectiveness of the C-MAC video laryngoscope versus direct laryngoscopy in the setting of the predicted difficult airway. *Anesthesiology*. 2012;116:629–636.

DOI: 10.1213/ANE.0000000000003327

In Response

We thank Drs McCarthy and Cooper for their interest in our article,^{1,2} and we would like to use this opportunity to answer their questions. First, blinding of the 2 anesthesiologists acting as independent reviewers of the laryngoscopy grade to the technique utilized was done using different pictures than the ones depicted in Figure 2 of the article. Both images were presented to the 2 blinded anesthesiologists showing only a circular viewpoint. In this way, images were similar and there was no risk in interfering with the image obtained. The viewpoints shown in Figure 2 are the viewpoints seen by the intubating anesthesiologist, who obviously was not blinded for the technique used. Second, in a busy 800–1000 annual case-load bariatric surgery center, it is likely that anesthesiologists are confronted with predicted and unanticipated difficult airways. Also, one of the investigators (A.A.v.Z.) has extensive experience in managing difficult airways. Because of his experience, patients from many different centers are referred to his practice, possibly contributing to the high yield of difficult tracheal intubations.

We are aware that premetrics of a difficult airway have a low positive predictive value, especially with videolaryngoscopy. Nevertheless, the American Society of Anesthesiologists guidelines for the management of difficult airways still recommend to evaluate the airway before induction of anesthesia.³ Our results show that when adequate neck movement is lacking, thyromental distance is <60 mm or when there is a history of difficult intubation, time until successful tracheal intubation is significantly longer.¹

The suggested technique which combines the Macintosh videolaryngoscope and a rigid bronchoscope is one of several options which can be used with difficult airways. Anesthesiologists may make a choice based on preferences and experience. Not all videolaryngoscopes can be used in our suggested technique, as bulky devices may not allow enough room to insert an additional scope in the patient's mouth.

Barbe M. Pieters, MD, PhD

Department of Anesthesiology
University Medical Centre Utrecht
Utrecht, the Netherlands
bmapieters@gmail.com

Maurice Theunissen, MSc, PhD

Department of Anesthesiology and Pain Management
Maastricht UMC+
Maastricht, the Netherlands

Andre A. van Zundert, MD, PhD, FRCA, EDRA, FANZCA

Department of Anesthesia & Perioperative Medicine
Royal Brisbane & Women's Hospital
The University of Queensland
Brisbane, Queensland, Australia

REFERENCES

1. Pieters BM, Theunissen M, van Zundert AA. Macintosh blade videolaryngoscopy combined with rigid Bonfils intubation endoscope offers a suitable alternative for patients with difficult airways. *Anesth Analg*. 2018;126:988–994.
2. McCarthy SE, Cooper RM. Reflections on combining the Bonfils Intubation Endoscope, the Macintosh videolaryngoscope, and the difficult airway. *Anesth Analg*. 2018;127:304.
3. Apfelbaum JL, Hagberg CA, Caplan RA, et al; American Society of Anesthesiologists Task Force on Management of the Difficult Airway. Practice guidelines for management of the difficult airway: an updated report by the American Society of Anesthesiologists Task Force on Management of the Difficult Airway. *Anesthesiology*. 2013;118:251–270.

DOI: 10.1213/ANE.0000000000003328

Integrative Pain Management Must Include Diet Considerations

To the Editor

We read with great interest the article on integrative pain management by Lin et al.¹ However, we were disappointed that the manuscript did not include a discussion of dietary approaches to pain management. According to a current definition from the University of Arizona (<https://integrativemedicine.arizona.edu/about/definition.html>), “Integrative Medicine is healing-oriented medicine that takes account of the whole person, including all aspects of lifestyle.” Key principles of integrative medicine include the following: (1) using both conventional and alternative methods to facilitate the body’s innate healing capacity; and (2) taking into account ALL factors that influence health and wellness including mind, body, spirit, and community.

Diet profoundly impacts the body and is a central tenet of integrative health. Food choices influence both wellness and disease. Thus, patterns of eating, such as the anti-inflammatory diet, are cornerstones of integrative management of many conditions, including chronic pain. While a Mediterranean diet is beneficial to cardiovascular health, several lines of evidence support the notion that an anti-inflammatory diet is also effective against chronic pain. For example, mechanistic research has verified the anti-inflammatory properties of oleocanthal, a phenolic compound found in extra virgin olive oil.² Further, obese individuals who eat a diet that includes anti-inflammatory foods report significantly less pain.³

The article by Lin et al¹ covers many important areas of integrative medicine, but diet was conspicuously absent. Although more definitive studies are eagerly anticipated, dietary interventions should be carefully considered for patients with chronic pain. Given the mounting evidence of efficacy, such interventions can play a significant role in breaking our nation’s dependency on opiates.

Jeffrey Marc Taekman, MD

Department of Anesthesiology
Duke University School of Medicine
Durham, North Carolina

Conflicts of Interest: R. Bonakdar received royalties related to publications from Lippincott, Oxford University Press, and Elsevier. He is a consultant in the area of pain management: Thorne Research, Metagenics, and American Specialty Health.

Center for Integrative Medicine
University of Arizona
Tucson, Arizona
jeffrey.taekman@duke.edu

Robert Bonakdar, MD, FAAP, FACN
Scripps Center for Integrative Medicine
Scripps Clinic
San Diego, California

REFERENCES

1. Lin YC, Wan L, Jamison RN. Using integrative medicine in pain management: an evaluation of current evidence. *Anesth Analg*. 2017;125:2081–2093.
2. Beauchamp GK, Keast RS, Morel D, et al. Phytochemistry: ibuprofen-like activity in extra-virgin olive oil. *Nature*. 2005;437:45–46.
3. Emery CF, Olson KL, Bodine A, Lee V, Habash DL. Dietary intake mediates the relationship of body fat to pain. *Pain*. 2017;158:273–277.

DOI: 10.1213/ANE.0000000000003347

In Response

Thank you for forwarding the letter to us from Drs Taekman and Bonakdar.¹ We very much welcome their interest in and feedback on our review article on the role of integrative medicine in pain management, particularly as it might help to reduce reliance on prescription opioids.² We recognize that we did not emphasize the importance of dietary approaches to pain in our article, and we are grateful to them for alerting us to the articles by Beauchamp et al³ and Emery et al.⁴ We identified specific inclusion and exclusion criteria of the articles we accepted in our review in the Methods section, and neither of the articles by Beauchamp et al³ and Emery et al⁴ would have met our inclusion criteria. The article by Beauchamp et al³ shared evidence of the role of extra virgin olive oil as a natural anti-inflammatory compound, but its effect has not been examined in a controlled trial among persons with chronic pain. The recent study by Emory et al⁴ included self-reported food recall among healthy men and women and concluded that dietary intake mediates both body fat and pain. They did not use a randomized study design, and the study was related as much to body mass index as bodily pain.

Although we agree that diet is important in remaining healthy and in managing weight, the scientific evidence for specific diets to improve chronic pain is lacking. We examined the evidence of glucosamine and chondroitin for pain management in our article and found very little support for these supplements in treating chronic pain. There may be anecdotal evidence for the benefit of a Mediterranean diet, particularly with the use of extra virgin olive oil in managing cardiovascular health, but evidence for the effectiveness of this diet in treating chronic pain is scant. We would highly encourage further investigation in how diet and food supplements can improve chronic pain; however, we do not believe that any of the current studies on diet and pain would have met the inclusion criteria we established for our review. A search of the current Cochrane Systematic Reviews also offers no reliable support of different diets on rheumatoid arthritis or other types of chronic pain, and highlights some potential adverse effects of the diets studied.⁵ To our knowledge, there are also no rigorous studies