Changing the Laryngoscope Blade and Its Effect on Laryngeal Visualization

To the Editor:
Amour and colleagues compared single-use with reusable metal laryngoscope blades and found better laryngeal exposure and more successful tracheal intubation with the former.1 Laryngeal visualization and subsequent tracheal intubation are dependent, however, on many other factors besides the blade type. Upper airway anatomy, experience of the laryngoscopist, adequate relaxation, patient’s head and neck position, external laryngeal manipulation, blade size, and the laryngoscope lifting force are all factors that can dramatically affect the ability to visualize the larynx.2 Therefore, to separate out the effect of one factor on laryngeal visualization, all of the other factors will have to be standardized. The authors should be applauded for trying to control most of the factors. Two important factors, however, were not addressed: the use of external laryngeal manipulation and the laryngoscope lifting force. There was no mention in the study of whether external laryngeal manipulation was used in some patients, all patients, or none; whether it was used during the first attempt, second attempt, both, or neither; and most importantly, whether the documented laryngoscopic grade was the one before or after its application, if it was applied. The use of external laryngeal manipulation can improve visualization by a whole grade and, in some patients, can be the factor that makes the difference between intubation failure and success.3 Similarly, there was no mention of whether any attempt was made to standardize the laryngoscope lifting force. Increasing the force can be accompanied by a change in the resultant view, and this increase can occur in response to a poor view without the laryngoscopist even being aware of it.4 The forces applied during laryngoscopy can be measured, and thus controlled, by a device that can be used for both clinical research and patient care purposes.5 There is no doubt that the metal single-use blade provided better illumination, but was the difference in the results solely caused by the light factor or also influenced by the effect of the other factors that were not addressed? The results could have been more informative if these two factors were also standardized, especially because, as the authors themselves mentioned, it is extremely difficult to keep such a study blinded.

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References

In Reply:
We thank Dr. El-Orbany and colleagues for providing us the opportunity to clarify several points from our study.1 As we clearly explained, “After muscle fasciculations had been observed to ensure adequate muscle relaxation, tracheal intubation was performed using an endotracheal tube systematically associated with an internal stylet and cricoid pressure (Sellick’s maneuver).”1,2 Therefore, in all patients during the intubation procedure (both first and second attempts), cricoid pressure was applied and maintained. However, a recent randomized study using a reusable metal blade demonstrated that the Sellick maneuver does not significantly increase the rate of failed intubations.3 In addition, as described in our study,1,2 the Cormack and Lehane score was obviously evaluated during cricoid pressure in both first and second attempts.

Because two recent studies demonstrated that peak force was not significantly different between single-use and reusable metal blades for tracheal intubation,4,5 and because force assessment markedly increases the complexity of the procedure and may influence the efficiency of an anesthesiologist in the specific case of patients undergoing general anesthesia requiring rapid sequence induction, the lifting force was not measured in our study. Moreover, Rassam et al.3 observed that the grade of anesthesiasts (trainee or consultant) did not significantly affect the mean peak force applied during laryngoscopy. We confirmed these findings because intubation performances were similar between senior anesthesiologists, junior anesthesiologists, and nurse anesthetists recruited to participate in this multicenter randomized study. Finally, as reported in Hastings’ study,4 lifting force is not significantly different among repeated laryngoscopies performed by the same anesthesiologist. In our study, first and second attempts were performed by the same operator. For all these reasons, we do not think that lifting force may have contributed to bias the results obtained in our study.


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the manner decried by Butterworth and Rathmell. It is pos-
sible for an expert panel, through a medical education com-
pany, to build a sufficient barrier from the funding agency to
conduct their process without influence of a pharmaceutical
company that may have provided an unrestricted educa-
tional grant.2 “Appropriate” medical societies do not have a
monopoly on exceptional knowledge, opinion, or judgment.
The implication, by the use of the term “money… launder-
ing,” that an expert group convened by a medical education
company is conducting an illicit or intentionally deceptive ac-
tivity3 is inappropriate and misguided. I assume that Butter-
worth and Rathmell are concerned about conflict of interest.
Although that is an appropriate and important concern, we
should recognize that, in one way or another, we all have such
conflicts. Some may be directly financial; others may be more
subtle, but nevertheless, of at least equal importance and impact.
The ASA, with the guidance of James F. Arens, M.D., has
done a remarkable job and provided an extraordinary service
in producing a number of such documents. The formal pro-
cess of the ASA for expert-authored guidelines and param-
ters requires approval by the Society’s House of Delegates.
However, the origins of this approval process were not
necessarily altruistic and without fiscal motivation.4 Interest-
ingly, the ASA does not publish information regarding the
conflicts of interest that may exist for their experts, consult-
ants, and reviewers. Similarly, we do not know of the con-
licts of the members of the House of Delegates who must
approve each document—and notably, the House rejected
one such document.5
Such conflicts may not be trivial. For example, take the
practice guidelines for pulmonary artery catheterization6,7
and perioperative transesophageal echocardiography.8,9 Do
we know whether any of those involved (or members of their
families) in the construction or approval of the guideline had
a financial interest in any firm manufacturing or selling the
catheters, probes, or devices required for their use? Do we
know how many of these individuals billed separately for the
procedures?
The ASA and some component societies have apparently
voiced a negative opinion of proposals limiting the ability of
physicians to bill separately for such services.10 I do not mean to
imply any dishonesty or impropriety of those involved; nor am
I addressing the issue of billing per se, but rather I am noting the
potential for the appearance of a conflict of interest.
Note, in contrast, the full disclosure of the authors of a recent
recommendation regarding otitis media produced by an inter-
national group of experts whose meeting expenses were funded
by an unrestricted educational grant from a pharmaceutical firm
through a medical education company.2
Aside from the issue of direct financial conflicts, other
conflicts are possible. Does not a certain increased standing
and respect among one’s colleagues accrue from having par-
ticipated in expert panels? May such participation not lead to
other activities—such as lectures, visiting professorships, and
so forth—all of which may add to one’s status at an academic
institution and assist with promotion possibilities along with
the associated increase in standing and salary?

Conflicts of Interest in Expert-authored Practice Parameters, Standards, Guidelines, Recommendations

To the Editor:
Butterworth and Rathmell1 correctly point out that not all
groups are appropriately constituted or have “proper stand-
ing” to produce credible “consensus statements, guidelines,
and parameters.” They state that “it seems obvious that small
groups funded either directly or indirectly by pharmaceutical
companies (even when the money has been “laundered”
through a medical education company) lack standing. . . .”

I have participated in committees of the American Society
of Anesthesiologists (ASA) and other “appropriate medical
societies” that have produced practice parameters and stan-
dards, as well as groups of highly qualified experts funded in
the manner decried by Butterworth and Rathmell. It is pos-

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The author has served on committees of medical societies writing
guidelines and standards. He has also consulted for a medical
education company that has facilitated the writing of consensus
statements. The funding agency had no role in this letter.

References
1. Amour J, Le Manach YL, Borel M, Lenfant F, Nicolas-Robin
A, Carillon A, Ripart J, Riou B, Langeron O. Comparison of
single-use and reusable metal laryngoscope blades for oro-
tracheal intubation during rapid sequence induction of an-
esthesia: A multicenter cluster randomized study. ANESTHE-
SIOLOGY 2010; 112:325–32
P, Riou B, Langeron O: Comparison of plastic single-use and
metal reusable laryngoscope blades for orotracheal intuba-
tion during rapid sequence induction of anesthesia. ANESTHE-
SIOLOGY 2006; 104:60–4
3. Turgeon AF, Nicole PC, Trépanier CA, Marcoux S, Lessard
MR: Cricoid pressure does not increase the rate of failed
intubation by direct laryngoscopy in adults. ANESTHESIOLOGY
2005; 102:315–9
4. Evans A, Vaughan RS, Hall JE, Mecklenburgh J, Wilkes AR: A
comparison of the forces exerted during laryngoscopy us-
ing disposable and non-disposable laryngoscope blades.
Anaesthesia 2005; 58:869–73
5. Rassam S, Wilkes AR, Hall JE, Mecklenburgh JS: A compar-
ison of 20 laryngoscope blades using an intubating manikin: Visual analogue scores and forces exerted during laryngos-
and torque vary between laryngoscopists and laryngoscope

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