## Competing Interests

The author declares no competing interests.
Sven Goddon, M.D., University Hospital Erlangen, Erlangen, Germany. sven.goddon@kfa.imed.uni-erlangen.de

## References

1. Le Guen M, Grassin-Delyle S, Cornet C, Genty A, Chazot T, Dardelle D, Liu N, Dreyfus JF, Mazoit JX, Devillier P, Alvarez JC, Sessler DI, Fischler M: Comparison of the potency of different propofol formulations: a randomized, double-blind trial using closed-loop administration. Anesthesiology 2014; 120:355-64
2. Dahaba AA: Different conditions that could result in the bispectral index indicating an incorrect hypnotic state. Anesth Analg 2005; 101:765-73
3. Hemmerling TM, Fortier JD: Falsely increased bispectral index values in a series of patients undergoing cardiac surgery using forced-air-warming therapy of the head. Anesth Analg 2002; 95:322-3
(Accepted for publication May 21, 2014.)

## In Reply:

We thank Dr. Goddon for his interest in our recent study published in Anesthesiology ${ }^{1}$ about the comparison of different propofol formulations during induction of general anesthesia.

First, the aim of our study was not to perform a pharmacokinetic study. Our primary outcome was the required dose of propofol with or without lidocaine to achieve induction of general anesthesia. Induction was defined using bispectal index that indirectly measured the cortical effect of propofol infusion. A secondary outcome was calculated and measured propofol and lidocaine plasma concentrations as indicated in the article. This was performed only in Foch Hospital and not in other centers (for logistic reasons). No stratification was planned in the randomization and this explained an imbalance between the six groups. Our text was extremely cautious: "These results should be guardedly analyzed for several reasons: assays were done on a limited number of patients, blood samples were never taken during a steadystate period because induction is per se an unstable period and because closed-loop propofol administration consisted in several consecutive boluses at short intervals, arteriovenous difference is probably higher during such a period than during a maintenance period, [...]". A cross-over study, suggested by Goddon, cannot be considered in patients in comparison to healthy volunteers. This inevitably induces intervariability difference but represents real life.

The second point underlined by Goddon is the question of data handling when patients did not reach induction at 360 s . We have arbitrarily limited the x -axis of figure 2 (duration of anesthetic induction) to 360 s , but no data were retrieved in the analysis.

The third point is artifacts. Bispectal index has numerous possible artifacts; they were well described by Dahaba. ${ }^{2}$ Our inclusion criteria considered some of them. ${ }^{1}$ In the Materials and Method section, we allowed the possibility to "gently" ventilate patients in case of significant drop in oxygen saturation ( $\mathrm{SpO}_{2}<92 \%$ ) during induction. This rescue maneuver could modify bispectal index, if painful, but we did not record the number of such interventions.

Finally, we agree with Dr. Goddon: pain and time required for induction cannot be separated. Our article reported the differences for these parameters between formulations of propofol (long-chain triglycerides versus mixture of longand medium-chain triglycerides) and between formulations mixed with either saline solution or lidocaine $1 \%$.

As a conclusion, our method is probably not perfect but allows a standardization of anesthesia limiting human bias. We also want to draw anesthesiologists' attention to the fact that there are extremely different formulations for propofol from one country to another and sometimes in the same country.*

## Competing Interests

The authors declare no competing interests.
Morgan Le Guen, M.D., Marc Fischler, M.D. Hôpital Foch, Suresnes, France, and University of Versailles Saint-Quentin en Yvelines, France (M.F.). m.fischler@hopital-foch.org

## References

1. Le Guen M, Grassin-Delyle S, Cornet C, Genty A, Chazot T, Dardelle D, Liu N, Dreyfus JF, Mazoit JX, Devillier P, Alvarez JC, Sessler DI, Fischler M: Comparison of the potency of different propofol formulations: A randomized, double-blind trial using closed-loop administration. Anesthesiology 2014; 120:355-64
2. Dahaba AA: Different conditions that could result in the bispectral index indicating an incorrect hypnotic state. Anesth Analg 2005; 101:765-73
(Accepted for publication May 21, 2014.)

* Available at: http://www.drugs.com/international/propofol.html. Accessed June 19, 2014.


## Practice Guidelines for the Perioperative Management of Patients with Obstructive Sleep Apnea: Navigating through Uncertainty

## To the Editor:

We read with interest the update of "Practice Guidelines for the Perioperative Management of Patients with Obstructive Sleep Apnea," by the American Society of Anesthesiologists Task Force on Perioperative

Management of Patients with Obstructive Sleep Apnea. ${ }^{1}$ However, it is our belief that the document, although flawless from a methodological point of view, fails to convey the intended message to the reader. We found that all the recommendations listed in the document defer from the final decision to the clinicians, leaving "too much room" for individual maneuvers. As a matter of fact, as far as patient's safety is concerned, the document falls short of the aim of a guideline, which should be able to indicate the best among all possible options. A few points seem more critical than the others:

1. Preoperative evaluation. It is recommended in a general way to consider the possibility of sending a patient suspected of being susceptible to obstructive sleep apnea (OSA) to the sleep physician for further diagnosis and therapy. In the present Guidelines, it is surprising and unjustified, that on the basis of the evidence, authors do not recommend the use of the STOP BANG questionnaire. This simple questionnaire has been shown to identify patients at risk of moderate-to-severe OSA, ${ }^{2}$ with reasonable certainty and can be easily implemented in the clinical setting. More importantly it is able to identify patients with increased risk of perioperative complications, proving to be an excellent tool for triage of surgical patients, ${ }^{3}$ requiring a limited and predictable amount of time, a crucial issue in the busy setting of daily hospital practice.
2. Assessment of perioperative risk. The suggested scoring system for preoperative risk from OSA, although very practical and interesting from a clinical point of view, has never been validated. The proposed scoring system could potentially work with patients with a polisomnographic diagnosis of OSA severity. Nevertheless, how do we manage a suspected OSA patient where the degree of OSA is merely supposed? Again the STOP BANG questionnaire can be used as a triage tool, providing an estimate of the severity of OSA. Indeed the probability of OSA increases with the increase of the score, with a cut-off of 5 as an optimal compromise to reduce the number of false positives. ${ }^{3}$
3. Criteria for discharge to unmonitored settings. The Guidelines state that in order to decide if the patient should to be discharged to an unmonitored bed, it is necessary to observe "patients in an unstimulated environment, preferably while asleep." ${ }^{1}$ This is a generic statement (i.e. for how long should the observation period last?), equivalent to tossing a coin and awaiting a heads or tails outcome. Patients with OSA are at risk of complications even in the days following surgery. ${ }^{4}$ A decision based on such criteria would expose them to a foreseeable risk.

In conclusion, the evidence that patients with OSA are at increased risk of perioperative complications is well established. ${ }^{5}$ As such, it is imperative to adopt strategies to reduce perioperative risk. The implementation of such strategies requires expenditure, however, this does not justify a lack of clarity. Patient safety requires us to unambiguously inform
anesthesiologists of the best strategies to use in the front line rather than generic suggestions, which leave them navigating in a detrimental sea of uncertainty.

## Competing Interests

The authors declare no competing interests.

Ruggero M. Corso, M.D., Cesare Gregoretti, M.D., Alberto Braghiroli, M.D., Francesco Fanfulla, M.D., Ph.D., Giuseppe Insalaco, M.D., Ph.D. "G.B. Morgagni" Hospital, Forlì, Italy (R.M.C.). rmcorso@gmail.com

## References

1. Practice guidelines for the perioperative management of patients with obstructive sleep apnea: An updated report by the American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Obstructive Sleep Apnea. Anesthesiology 2014; 120:268-86
2. Chung F, Subramanyam R, Liao P, Sasaki E, Shapiro C, Sun Y: High STOP-Bang score indicates a high probability of obstructive sleep apnoea. Br J Anaesth 2012; 108:768-75
3. Corso R, Petrini F, Buccioli M, Nanni O, Carretta E, Trolio A, De Nuzzo D, Pigna A, Di Giacinto I, Agnoletti V, Gambale G: Clinical utility of preoperative screening with STOP-Bang questionnaire in elective surgery. Minerva Anestesiol 2013 [Epub ahead of print]
4. Chung F, Liao P, Elsaid H, Shapiro CM, Kang W: Factors associated with postoperative exacerbation of sleep-disordered breathing. Anesthesiology 2014; 120:299-311
5. Memtsoudis SG, Stundner O, Rasul R, Chiu YL, Sun X, Ramachandran SK, Kaw R, Fleischut P, Mazumdar M: The impact of sleep apnea on postoperative utilization of resources and adverse outcomes. Anesth Analg 2014; 118:407-18
(Accepted for publication June 3, 2014.)

## Read the Fine Print: Updated Sleep Apnea Guidelines and Risk Stratification

## To the Editor:

The recent update of the report "Practice Guidelines for the Perioperative Management of Patients with Obstructive Sleep Apnea" by the American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Obstructive Sleep Apnea did not provide any new recommendations. ${ }^{1}$ Like its predecessor, the updated version includes "table 2," a scoring system for perioperative risk for obstructive sleep apnea. This table allows the reader to assign a numerical score for severity of sleep apnea, invasiveness of surgery and anesthesia, and requirement for postoperative opioids. The overall score yields an estimate of perioperative risk. By its very design, the scoring system appears scientific and precise.

A footnote to the table states: "This example, which has not been clinically validated, is meant only as a guide, and clinical judgment should be used to assess the risk of an individual

