

regression model should be interpreted as follows: adjusting for covariates of interest, the study authors asked whether burst suppression was associated with delirium. We reported point estimates and 95% CI for this association, and others, to allow readers to evaluate our effect sizes and their plausible values. Thus, we fittingly minimized the sole use of *P* values for inferences as we fully understand that the use of null hypothesis testing can be challenging in analyses with nontrivial model uncertainties. Draper<sup>4</sup> provides additional background that helps with interpreting and assessing model uncertainties. Nevertheless, we reported False Discovery Rate *P* values to help the reader interpret hypothesis tests where appropriate (*i.e.*, univariate regression) throughout the article.

We acknowledge that most studies are rarely definitive. As such, and as stated in our Discussion,<sup>2</sup> our study would benefit from replication studies, including those that adjust for covariates such as dexmedetomidine or multi-component delirium prevention interventions. However, we believe that the burst-suppression findings and the potentially modifiable physical function findings we reported deserved due emphasis because they are biologically plausible and have clinical implications.

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### Competing Interests

Dr. Akeju has received speaker's honoraria from Masimo Corporation (Irvine, California) and is listed as an inventor on pending patents on electroencephalography monitoring and sleep that are assigned to Massachusetts General Hospital (Boston, Massachusetts). Dr. Houle reports financial relationships with GlaxoSmithKline (Brentford, London, United Kingdom), Eli Lilly (Indianapolis, Indiana), and StatReviewer (North Andover, Massachusetts). The remaining authors declare no competing interests.

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## Balanced Crystalloid versus 0.9% Sodium Chloride: What We Overlook in Our Research

### To the Editor:

Infusions of crystalloid solutions are currently recommended for the treatment of critically ill patients with various pathologic conditions, including bleeding, sepsis, and trauma.<sup>1–3</sup> A large number of prospective randomized multicenter studies on the comparative analysis of 0.9% sodium chloride and balanced crystalloid have examined their efficacy and safety. However, the answer to the question of whether the crystalloid composition affects the treatment outcome in critically ill patients has not yet been received.<sup>1</sup> It should be noted that currently, when assessing the pharmacodynamic effects of crystalloid solutions, their actual physicochemical parameters, such as osmolality and pH, are not taken into account. Researchers prefer to use theoretically calculated parameters, and in our opinion, this reduces the accuracy of the results. The fact is that the theoretical osmolality values of solutions can differ significantly from their actual osmolality values. We suggested that the same crystalloid solutions provided by different manufacturers may have different values of both osmolality and pH. To prove that, we studied physicochemical parameters (osmolality

and pH) of 0.9% sodium chloride by different manufacturers. We chose 0.9% sodium chloride because this crystalloid solution is used as a reference in all randomized controlled studies on the pharmacodynamics of crystalloid solutions. The analysis of 0.9% sodium chloride osmolality was carried out with the help of vapor pressure osmometer model 5600 (Wescor Inc., USA). The actual pH of each solution was determined using the product specification sheet of 0.9% sodium chloride of a certain series. The analysis of the studied physicochemical parameters of certain series of 0.9% sodium chloride by eight different manufacturers revealed that the osmolality value range was from 278 mmol/kg (270319 series, Biosintez, Russia) to 305 mmol/kg (160115 series, Zavod Medsintez, Russia), and the pH value range was from 5.4 (14791119 series, Grotex, Russia) to 6.3 (B7571218 series, Pharmasintez Tyumen, Russia). The results obtained indicate that 0.9% sodium chloride by different manufacturers has different physicochemical properties. Considering the fact that during the treatment of critically ill patients 0.9% sodium chloride can be introduced into the patient's body in large volumes, the osmolality and pH of the solution may have a great impact on the pharmacodynamic effect. Determining the actual values of the physicochemical parameters of 0.9% sodium chloride and balanced crystalloid can increase the accuracy of the results of randomized multicenter studies in the future.

### Competing Interests

The authors declare no competing interests.

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## A Contemporary Reading List

### To the Editor:

Have time to read during the pandemic? Want to explore ideas about clinical care, humanism in medical practice, and how best to promote wellness and support diversity and inclusion?

A reading list can help you gather information from multiple authors who have tackled these issues. Viewing and analyzing their perspectives, revealed in the books they have written, will expand your ability to formulate your mindset on these ponderables.

Educator Edward C. Halperin, M.D., M.A. (Chancellor/Chief Executive Officer, New York Medical College, and Provost for Biomedical Affairs Touro College and University System, New York), recently developed an insightful perspective to answer these questions.<sup>1</sup> Halperin was asked by a second-year medical student how to answer the first-year medical student's query about what to read before entering medical school. In crafting an answer, Halperin recognized that a meaningful recommendation comes from the universe of books that a physician-in-training (I submit that the same is true for physicians and anesthesiologists and intensivists, specifically) can read from a variety of venues: novels, books about medical heroes, specialties, race and medicine, infectious disease and diagnostics, and mortality or the nature of medical practice.<sup>1</sup>

In a concise and poignant manner, Halperin provided the requested reading list, employing mini "book reviews" of different works from the aforementioned categories. Halperin's perspective provides examples of classics in each of the six categories with comparative and contrasting observations of their educational value.

Peruse Halperin's reading list and gain insight into medical practice, wellness, diversity, and inclusion. Halperin aptly reminds us:

"This confirms the wisdom of the late Edmund Pellegrino[\*], 'Medicine is the most scientific of the humanities and the most humane of sciences. It bridges the physical state of the human being with her

\*"Edmund D. Pellegrino (June 22, 1920 to June 13, 2013)...an American bioethicist and academic...Pellegrino was a distinguished professor of medicine and medical ethics and the Director of the Kennedy Institute of Ethics at Georgetown University...an expert both in clinical bioethics, and in the field of medicine and the humanities, specifically, the teaching of humanities in medical school..." From: Wikipedia contributors. Edmund Pellegrino. Wikipedia, The Free Encyclopedia. August 2, 2020 at 23:08 UTC. Available at: [https://en.wikipedia.org/wiki/Edmund\\_Pellegrino](https://en.wikipedia.org/wiki/Edmund_Pellegrino). Accessed October 11, 2020.