

Pursuing the truth

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As the Editor-in-Chief, I receive constant feedback from readers either directly via email or indirectly through social media posts. The communications are typically appreciative and supportive. On occasion, however, they are negative. I make every effort to resolve concerns which are usually related to an author's disagreement with the rationale for a rejection decision. One recent area of indirect public feedback was quite novel, suggesting that *Regional Anesthesia & Pain Medicine* favors studies that are not supportive of regional anesthesia.^{1,2} I thought this criticism would be a great opportunity to share the philosophy of our editorial board regarding the difference between advocacy and science.

Unequivocally, this is a wonderful time to be part of the regional anesthesia and pain medicine community. Our Journal, ASRA Pain Medicine, and researchers are relentless in their efforts to expand options for clinicians to mitigate the deleterious health impacts of acute and chronic pain. From presurgical cyroneurolysis to vagus nerve stimulation, emerging technologies are challenging conventional pain paradigms. Growth is by no means limited to advanced interventional technology, with examples that include transitional pain and addiction medicine services, novel pharmaceuticals, innovative block techniques, regenerative medicine, biomarker identification, enhanced recovery programs, and pain-related psychiatric interventions. These assets give us the best chance in decades to meaningfully improve perioperative medicine and population health.

Although there is justifiable excitement about current and evolving therapies, there should also be caution. Approximately 40% of the evidence-based standards of care are found to be wrong or harmful within 10 years of their issuing.³ This sobering statistic likely stems from a multitude of reasons including limitations in external validity of some controlled trials or unmeasured confounding with observational data. Pepper in financial conflicts, research misconduct, publication bias, and data fabrication, and one can see why many question the accuracy and precision of published research. In a survey published in the journal *Nature*, more than 70% of the scientists indicated that they have failed to reproduce previously published work of other scientists. Moreover, over 50% indicated they could not even reproduce their own work!⁴

Ideally, researchers should have a strong sense of *Equipose* as they embark on exploring a topic of interest. In medical research, clinical equipose refers to a complete lack of preference for a specific intervention.⁵ The equipose principle can refer to an individual clinician (eg, primary investigator in a controlled trial) or to a group, such as a panel of experts working on a guideline document. The

latter would be an example of collective equipose. This state of neutrality has been labeled as a foundational ethical concept for the conduct of human research.^{5,6} Equipose does not simply mean uncertainty in the value of various treatments. For instance, a researcher could be uncertain about outcome(s) between groups, but favor a specific intervention due to, for example, familiarity or financial conflicts.

Here at *Regional Anesthesia & Pain Medicine*, we understand that equipose is likely an aspirational concept for many clinicians and researchers. It is extremely difficult to purge one's passions, conflicts, and experiences in order to tackle a research question. For me, I lack equipose in regards to ultrasound guidance versus nerve stimulation. In contrast, I maintain a strong sense of neutrality in the spinal versus general anesthesia debate. Regardless of how I may personally feel about a specific intervention, *Regional Anesthesia & Pain Medicine's* Editorial Process is fully committed to having no preference for any intervention or outcome. We have previously published our core principles of acceptance which include components of validity, relevancy, effect size, and precision.⁷ Within this principled framework, we celebrate and support all study designs and outcome results. We follow the science wherever it may take us, even if the results are not popular. There is no doubt that within the peer review process, the most sought-after manuscript is a crisp and succinctly written Randomized Controlled Trial that identifies a large effect size with tight precision for a new meaningful intervention. However, we feel strongly that negative studies and non-inferiority studies are equally important and exciting. Moreover, studies that identify complications and limitations of popular therapies are critical to provide the information that both clinicians and the public rightfully deserve. For instance, we were delighted to support the excellent work of Xu and colleagues who examined the rate of respiratory complications in the setting of continuous interscalene blocks.⁸ Their findings are critical for perioperative planning, especially when considering an ambulatory setting for patients with lung disease. Such reporting could be considered 'bad news' by some regional anesthesia enthusiasts and entrepreneurs, but for the front-line clinician and patient, the information is ethically and strategically necessary to fully inform decision making.

Science is not advocacy or entrepreneurship. Science is an iterative, and, at times, a messy process. It may occasionally make us feel disappointed, or even uncomfortable. Negativity to emerging research that challenges a central dogma may be the result of confirmation bias which is particularly present with financially or emotionally charged



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issues.⁹ If physicists are still questioning the actual speed of light, anesthesiologists should certainly be empowered to re-examine the potential benefits of spinal anesthesia over general anesthesia, even if the results are negative and disruptive.¹⁰ We salute our clinical and research community who constantly challenge the status quo in an unyielding effort to optimize quality and safety. *Regional Anesthesia & Pain Medicine* supports all those who are brave enough to share their research in a public forum regardless of whether or not it fits the story you or others had hoped for. This is true science. We will continue to accept your work regardless of which side of the null hypothesis the results land on. Thank you for pursuing the truth at all costs!

Correction notice This article has been corrected since it published Online First. The last sentence of the fourth paragraph has been amended.

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