

The authors declare no conflict of interest.

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“Everybody-Knows-isms” and Unloading the Dice A Reply to Drs YaDeau and Liguori

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To the Editor:

In a recent editorial,¹ we tried to highlight the fact that what everybody knows is not always based on scientific facts, but often on dogma, tradition, custom, and even fantasy. Drs YaDeau and Liguori² submitted a letter to the editor raising concerns about implications of cheating, fraud, and scientific misconduct. The editor-in-chief did a great job of explaining what we meant by “the dice are loaded,”³ but we feel we should elaborate on this considering the magnitude of the misinterpretation and sentiments raised in their letter.

It is unfortunate that referencing a superb anatomic description to question

the scientific merit of some modern pain management techniques⁴ is misinterpreted as implication of cheating or scientific misconduct. This discourse should not create antagonism or defensiveness among scientists. If we cannot have honest discussions and process differing viewpoints about current dogma and tradition, can we truly apply intellectual honesty to decision making about our practices and procedures? We referenced the elegant article by Bendtsen et al⁴ to imply that if the dice are loaded (based on the anatomic description) against certain techniques that are now commonplace it will be impossible to win in the long run. There was no intention to imply that techniques that do not deliver the promised efficacy are being pushed despite knowledge of this.

Let us explain with a few very well-known examples of “everybody-knows-isms”:

1. Everybody knows that you cannot use nerve blocks if there is a danger of acute compartment syndrome. Or do we? It seems that pain from this syndrome is ischemic pain, reaching our brains via the sympathetic nerves that run with nerves and blood vessels. Because nerve blocks, except perhaps epidural blocks, do not block all the sympathetic nerves, there is ever-growing evidence that regional anesthesia does not block ischemic pain,^{5–8} and ischemic pain has a different cerebral target than somatic pain.⁹ Some even suggest that breakthrough pain in the presence of low-dose nerve blocks can even be diagnostic of acute compartment syndrome.^{5,8} Surgeons, however, continue to use morphine, which is a potent analgesic against pain—including ischemic pain, which it effectively hides (unlike regional anesthesia).
2. Everybody knows that femoral nerve blocks may inhibit quadriceps muscle function. As we tried to point out in our editorial,¹ arthrogenic muscle inhibition (AMI)¹⁰ and the surgery itself are the major inhibitors of quadriceps muscle function after total knee arthroplasty, lasting up to 18 months. Yet we should not offer patients 3- to 4-day nerve blocks for pain relief, because... everybody knows?
3. Everybody knows that quadriceps function is essential for rehabilitation after knee surgery, so continuous peripheral nerve block should be minimized as much as possible to allow rehabilitation to begin. But is this true? If baseline muscle weakness, surgical trauma, and AMI contribute to muscle weakness that persists for months, then perhaps, instead of shortening the duration of the continuous peripheral nerve block, we should look to extend its use to help temper the physiologic response to pain

by blocking the AMI neural pathway,¹⁰ paradoxically hastening recovery of muscle function.

And this list goes on and on: Everybody knows intraneural injection causes nerve damage; everybody knows you cannot do nerve blocks in anesthetized or sedated patients; everybody knows ultrasound makes nerve blocks safer and more effective; everybody knows segmental thoracic epidural block causes hypotension; everybody knows that bupivacaine is more toxic than ropivacaine, which has motor-sparing properties—but unfortunately, each of these and the plethora of other “everybody-knows-isms” lack solid scientific basis. They all are mostly false and, at least potentially, harmful to patients. But so it goes, everybody knows. The dice are loaded in favor of dogma, tradition, custom, prevailing wisdom, and fantasy. This certainly does not suggest the literature or its creators are dishonest or “cheating.”² It only strongly suggests that we should read the literature, follow its scientific conclusions, and, in the interest of our patients, challenge our “everybody-knows-isms.”

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