2. Franks NP, Lieb WR: Do general anaesthetics act by competitive binding to specific receptors? Nature 1984; 310:599-601

3. Raines DE, Zachariah VT: Isoflurane increases the apparent agonist affinity of the nicotinic acetylcholine receptor. ANESTHESIOLOGY 1999; 90:135-46

4. Johansson JS, Eckenhoff RG, Dutton PL: Binding of halothane to serum albumin demonstrated using tryptophan fluorescence. ANESTHE-SIOLOGY 1995: 83:316-24

5. Johansson JS, Rabanal F, Dutton PL: Binding of the volatile anesthetic halothane to the hydrophobic core of a tetra- $\alpha$ -helix-bundle protein. J Pharmacol Exp Ther 1996; 279:56-61

6. Johansson JS: Binding of the volatile anesthetic chloroform to albumin demonstrated using tryptophan fluorescence quenching. J Biol Chem 1997; 272:17961-5

7. Franks NP, Jenkins A, Conti E, Lieb WR, Brick P: Structural basis for the inhibition of firefly luciferase by a general anesthetic. Biophys J 1998; 75:2205-11

8. Bigelow DJ, Thomas DD: Rotational dynamics of lipid and the Ca-ATPase in sarcoplasmic reticulum. J Biol Chem 1987; 262: 13449-56

9. Karon BS, Thomas DD: Molecular mechanism of Ca-ATPase activation by halothane in sarcoplasmic reticulum. Biochemistry 1993; 32:7503-11

10. Johansson JS, Zou H, Tanner JW: Bound volatile general anesthetics alter both local protein dynamics and global protein stability. ANESTHESIOLOGY 1999; 90:235-45

11. Davies LA, Klein ML, Scharf D: Molecular dynamics simulation of a synthetic four- $\alpha$ -helix bundle that binds the anesthetic halothane FEBS Lett 1999; 455:332-8

12. Cantor RS: The lateral pressure profile in membranes: A physica

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## Is the System at Fault, or Its Players?

To the Editor:-We read with great interest the article and accompanying editorial describing the mismatch between potential and actual claims and remedies in anesthesia malpractice litigation. The authors conclude that the discrepancy resides either in the peer review process of the study or in the legal system. Despite use of residents in training as peer reviewers, the authors argue for the latter. Both pairs of writers decry the existing tort system and put forward proposals for its overhaul. As a third interpretation, we suggest that the problem lies not so much in the system of litigation society has adopted, as in the training and credentialing of its practitioners. To scrap a system that has accomplished much good (handicap access, gender equity, the tobacco settlement to name a few) would be unwise. To do so at a moment in time when the personal injury tort system and its incentives represent the physician's best weapon in the battle for autonomy against managed care intrusions, would be foolhardy in the extreme. While the pathophysiology of contemporary malpractice litigation runs deep, we believe less radical solutions will be sufficient to meet the challenge of assuring heightened patient safety.

As a first step anesthesiologists must put our own house in order. Together with Liang and Cullen we share the call for a stronger focus on evidence-based medicine and safety outcomes, but this alone will fall far short. It is crucial that the principles of scientific medicine be introduced to first year medical students in depth, to include biostatistics, experimental design, hypothesis testing, epidemiology, and public health. Skilled use of these tools must be reinforced and sharpened during the years spent in residency and fellowship training. Wherever possible reliance on anecdote, peer pressure, appeal to authority, economic expectation, personal bias, and imposition from the boardroom must be abandoned before application of civil law instruments (e.g., expert witnesses, peer review) can be expected with

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 12. Cantor RS: The lateral pressure profile in membranes: A physication mechanism of general anesthesia. Biochemistry 1997; 36:2339-44 (Accepted for publication January 3, 2000.)
Ult, or Its Players?
maximal efficacy. Accusations of "junk science" in the courtroom ring hollow to the extent we are tolerant of junk science in the operating. hollow to the extent we are tolerant of junk science in the operating room, pain clinic, or intensive care unit.

Second, we advocate the founding of a Specialty Board of Lega Medicine. While comprehension of the framework of legal medicine must be part of every medical student's education as a requisite to graduation, the magnitude and subtlety of relevant law, and explosion in biomedical knowledge, warrant full specialty status for legal med cine practitioners. Proliferation of board accreditation is not to be lightly countenanced for fear of fractionating medical specialties along the faultlines of conflicting agendas. But legal medicine, which pene trates every aspect of anesthetic practice as well as that of our co leagues, carries the unique potential to promote coherence and unit in the face of mounting external threats. Only practitioners with mastery of both medicine and law will be equipped to negotiate the tidal changes we now face; those versed in one but not the other operate with an arm tied behind their backs.

Third, efficient execution of the existing system obliges the legation profession to create a corresponding Medical Malpractice Bar, with documentation of an undergraduate degree in the life sciences, specialty training during law school, passage of a rigorous exam, and continuing legal education to retain the credential. Precedent for such a scheme may be found in the successful operation of the Intellectual Property Bar. Factual arguments before a jury selected from the community must be preserved, but with courts controlled by a specifically skilled and experienced judiciary.

In the survey, 13 individuals were harmed by deviations from standard care determined by peer review, yet none resulted in legal action. Were the circumstances of disclosure to these patients at the time of the injury investigated? Did the injured patients seek legal counsel but receive advice against taking action? Full disclosure accompanied by an informed decision under counsel not to file suit entails substantially different interpretations of the data (e.g., legal malpractice) than incomplete, delayed or failed disclosure (e.g., negligent or intentional medical cover-up). Do the authors and their peer reviewers believe these patients should now be contacted? If not, why not?

As medicine forgoes patient-centered decision-making in favor of population-based determinations aimed at marshaling scarce resources, physicians must be reminded that the legal system will not undergo a parallel transformation. If doctors and other caregivers believe their patients deserve at least the level of personal zealous representation available to a client in a law office, they must also perceive that a tort system, modified to increase the skill level of its actors, is their last, best defense. Society does not tolerate induction of a coma or neuraxial blockade by the unskilled. Should we be surprised

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## The Purpose of Peer Review

To the Editor:-Edbril and Lagasse's article1 tends to imply that their method of "structured peer review" is more accurate and reliable in detecting deviations from accepted standards of care than the legal system. Edbril and Lagasse offer their method to the legal system to assist it in its determinations: "If peer review could aid the legal system as a means of detecting deviations from the standard of care, it would offer the advantages of being more applicable to judging clinical competence and more justifiable in compensating injured patients." Their assumption of the accuracy of such a system makes it appropriate to examine the basis for this assumption, and, in addition, makes it worthwhile to consider the purpose of peer review.

Their system categorizes each and every untoward event into one of a small number of categories of "error." Is such a system truly accurate? Are we always able to categorize every event? Are not some events simply not able to be assigned to any category? A similar article by Liang<sup>2</sup> suggests that there is more than one opinion on this subject. In Liang's study, twelve clinical scenarios very similar to Edbril and Lagasse's "narrative of the events" were reviewed and evaluated by 11 faculty members at a Harvard teaching hospital with an average of 15.4 yr of experience. Approximately, one in five of the evaluations was, "Can't Tell."

A "Can't Tell" evaluation is not unexpected given the uncertainties present in all medical care and given the enormously reduced data sets being evaluated by the two groups of anesthesiologists. Recall that meetings of the peer review committee in Edbril and Lagasse's are reviewing "abstracts," sometimes prepared with the assistance of the anesthesiologist(s) involved, sometimes not.

The extraordinary element in Edbril and Lagasse's article, however, is the misunderstanding of the peer review system that it promotes.

Traditionally, the role of peer review has been the prevention of untoward events in the future. Anonymity is guaranteed the particity pants to permit them to freely discuss cases that they might otherwise feel inhibited in discussing for fear of accusation and blame: all in an effort to prevent future harm to patients.<sup>3</sup> To change the emphasis in peer review to fault finding and calculating patient compensation wik have a profound chilling effect on this process. How many patients with suffer in the future because potentially useful lessons derived from the peer review process are lost because of fear and dishonesty promote peer review process are lost because of fear and dishonesty promotegy by a draconian spirit of crime and punishment which would now enter this process? John Gage, M.D. Associate Professor of Anesthesiology State University of New York at Stony Brook, Stony Brook, NY 11794-8480 References 1. Edbril SD, Lagasse RS: The relationship between malpractice litigation and human errors. ANESTHESIOLOGY 1999; 91:848-55

litigation and human errors. ANESTHESIOLOGY 1999; 91:848-55

2. Liang BA: Clinical assessment of malpractice case scenarios in an anesthesiology department. J Clin Anes 1999; 11:267-79

3. Cooper JB, Newbower RS, Long CD, McPeek B: Preventable anesthesia mishaps: A study of human factors. ANESTHESIOLOGY 1978; 49:399-406

(Accepted for publication January 10, 2000.)

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(Accepted for publication January 10, 2000.)

when the bar to practice within a complex and evolving system is so

low for physicians and lawyers alike?