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In Reply:—We agree with Ms. Stratton that the *t*-test was an inappropriate test to use in comparing the values in tables 2 and 5 of our recent article.[1] Indeed, we are not aware of any test that would be useful in comparing means derived in the fashion presented in tables 2 and 5. Nonetheless, these tables contain useful information for investigators in the field, with the caveat that the data are not derived from independent samples. However, the use of the *t*-test in no way affects our conclusions, especially with regard to diagnosis.

For example, comparison of the most positive response (table 3) for each animal with the use of only the first biopsy (the second biopsy for pig 10, since the first yielded nonviable specimens) results in the values given in table 1 here. These comparisons are reasonable and statistically valid and yield the same conclusions as contained in the original manuscript. The only other suitable comparison would be to compare the mean responses for one biopsy from each patient. This type of information is not useful in diagnostic testing and therefore was not presented.

TABLE 1.

Test	Control	MHS	*P*
3% halothane (g)	0.33 ± 0.10	1.66 ± 0.29	<0.001
2 mM caffeine (g)	0.03 ± 0.02	0.56 ± 0.22	<0.03
CSC (mM)	8.23 ± 0.53	4.82 ± 0.92	<0.01
Peak tension (%)	0.25 ± 0.25	7.94 ± 1.76	<0.001

Data are means ± SEM.

We appreciate the close attention that was given to our manuscript by Ms. Stratton and join her in cautioning other investigators that the point she makes is a crucial consideration for many studies, but one often is violated. That is, each subject should be represented only by a single value in comparisons of means of populations by a *t*-test.

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Effects of Epidural Saline and Epidural Fentanyl

To the Editor:—Recently Hore *et al.*[1] compared segmental sensory changes after epidural fentanyl *versus* epidural saline.

A fundamental deficit of the study is the use of "sensory change" as the end point of somatosensory testing. We object to this end point in that the term "sensory change" is vague and lacks a clear scientific definition.

In addition, epidural injection of isotonic saline causes the immersion of the nerve root or nerve trunk in the saline. The original interaxonal (extracellular) fluid slowly is replaced or displaced by this isoosmolar solution. Since the resting membrane potential (as well as action potential) across the cytoplasmic membrane is determined by both extracellular (interaxonal) and intracellular (intraxonal) monovalent ion concentrations and their transmembrane permeabilities (Goldman-Hodgkin-Katz equation), the resting membrane potential of such a nerve fiber is altered. The action potential of the nerve also is changed.[2] Consequently, patients receiving saline may experience a modified response to somatic stimulation and precipitate a perceived "sensory change." In addition, instillation of fluid into the epidural space causes an increased epidural space pressure. This mechanical pressure may cause dizziness, nausea, and frontal headache.[3] It also may affect the somatic nerve and result in a "sensory change." When fentanyl is incorporated into the epidural saline solution, after diffusing into the spinal cord, it can activate spinal opioid receptors and thereby produce analgesia in addition to the "sensory changes" produced by saline alone.[4] The "sensory change" caused by saline instillation may be of no practical value to anesthesia practice, but the spinal analgesia due to fentanyl has been widely used clinically to alleviate labor pain and chronic pain. We regret that this important point was overlooked in Hore and colleague's article.

We do not think that the word "block" in two of the figures (figs. 2 and 4) is justified. "Block" indicates an interruption of a specific signal transmission, and not a mere "change."

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In Reply:—We hope we can clarify the misunderstandings expressed by Kao *et al.* The null hypothesis in our study[1] was that there is no segmental sensory change (as determined by standard clinical testing to pin-prick stimulus and cold) with epidural fentanyl. We initially used saline as a control but found that not only the fentanyl, but also the saline, produced segmental sensory changes.

We used the broad term "sensory change" to describe patient response to clinical testing. Despite the lack of clear scientific definition, the terms hypesthesia, hypalgesia, hyposensitivity, and sensory change are frequently used throughout the literature describing effects of spinal opioids.[2–4] At no time did we attempt to identify any differences in the quality of the sensory changes detected. Indeed, we would be interested to know what methods Kao *et al.* suggest for distinguishing sensory changes. "Anesthesia" described as complete loss of sensation was neither expected nor found. The term "analgesia" also in not suitable in this context. The cold pressor response test[5] and the psychogalvanic skin reflex[6] are also inappropriate.

We appreciate the attempts of Kao *et al.* to postulate the mechanisms of action of the epidural saline. Alteration of transmembrane potentials as well as pressure effects may indeed play a part in the sensory changes. However, these in no way determine the extent of sensory change. Local anesthetic solutions also act by altering transmembrane potentials. We also point out that epidural fentanyl diluted in 10 ml saline produces the same pressure effects as saline alone.

We agree that the word "block" in figures 2 and 4 of our article is not strictly correct. "Level of sensory change" would be more accurate, but "block" is commonly used when testing for dermatomal levels after spinal and epidural anesthesia.

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Early Reports of Pulmonary Aspiration during General Anesthesia

To the Editor:—In his editorial "NPO after midnight for children—a reappraisal," Coté[1] refers to the first reported pediatric anesthetic death, in April 1848. This was the well-documented case of Hannah Greener.[2,3] The frightened 15-yr-old girl died less than 2 min after starting to inhale chloroform, while sitting in the operating chair, when the incision was made for removal of a great toenail. There is no evidence that aspiration of gastric contents occurred. No vomiting was observed by her medical attendants and, because of the sitting position, silent regurgitation of gastric contents into the pharynx was physiologically impossible. Autopsy revealed that the stomach was distended with food, but none was found in the bronchial tree, which contained bloody froth mixed with mucus. Simpson[4] did not suggest that death was caused by aspiration of gastric contents; he claimed that it was the result of inhaling the brandy that was given for resuscitation, although the anesthesiologist stated that the brandy was administered *after* the girl had collapsed.

Snow's opinion,[5] after reviewing the sequence of events, was: "From the lips becoming suddenly blanched, there is every reason to conclude that the heart was suddenly paralyzed." He documented 40 similar cases and concluded that the cause of death in every case was cardiac