

CORRESPONDENCE

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In Reply:—We appreciate the comments offered by Holt and Mark and Brodsky suggesting that positioning and duration of surgery could have contributed to the development of ipsilateral shoulder pain following thoracotomy. We can state that there were no differences in positioning or padding between the patients suffering from ipsilateral shoulder pain and those who did not. Patient positioning was standardized, with all subjects positioned in the lateral decubitus on a bean-bag support mattress. Padded rolls were placed under each patient's axilla, and the upper extremities were supported in the extended position on a foam-padded arm rest, with foam padding placed over the dependent arm to support the upper arm. Lateral thoracic wall incisions were used in every patient.

The issue of the duration of time spent in the lateral decubitus is more difficult to eliminate as a potential link to the development of ipsilateral shoulder pain following thoracotomy. As emphasized by Mark and Brodsky, the more extensive and complex operative procedures will require longer surgical times. Thus, the lobectomy and pneumonectomy procedures generally were associated with longer periods spent in the lateral decubitus, compared to procedures entailing diagnostic biopsies or wedge resections. The mean duration of surgery in patients complaining of postoperative ipsilateral shoulder pain was 191 ± 48 min (range 123–282 min) versus 148 ± 76 min (range 68–350 min) in patients without shoulder pain. The difference in surgical times between patients with and without ipsilateral shoulder pain is not statistically significant. Any trend probably is related to the fact that ipsilateral shoulder pain occurs significantly more often with major lung resections, which require longer operative times. It is also worth noting that the patient with the longest operative procedure, 350 min, did not experience ipsilateral shoulder pain symptoms. Thus, our findings suggest, but do not sup-

port, a relationship between the time a patient spends in the lateral decubitus and the subsequent development of ipsilateral shoulder pain.

Finally, we agree that our findings concerning the association of ipsilateral shoulder pain symptoms with transection of a major bronchus do not establish a causal relationship and never implied otherwise. It was our hope to foster a recognition of this relationship as a foundation for further investigation, to establish the etiology of this aggravating clinical problem, and to establish the inability of epidural fentanyl and local anesthetic to alleviate the shoulder pain symptoms. Investigations into the possible neural origin of the ipsilateral shoulder pain are underway. Our postulates as to the origin of the shoulder pain were not well received by the reviewers, and we await supporting data from ongoing research. However, we do not subscribe to the ligamentous strain theory proposed by Mark and Brodsky. During our early experiences in attempting to control the severe shoulder pain symptoms, high levels of sensory epidural analgesia were obtained, including the entire thorax up to and including the C4 dermatome, with no reduction in the severity of their shoulder pain.

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Henry Ruth, T. Drysdale Buchanan, and History of Anesthesia

To the Editor:—The recent article by Rosenberg and Axelrod gives much insight into the pioneering work of Henry Ruth of Philadelphia.¹ Ruth's contributions to the establishment and furthering of the specialty of anesthesiology during the 1920s and 1930s were enormous.

As the authors note, Ruth worked with Thomas Buchanan and others to establish the American Board of Anesthetists. However, Buchanan's affiliation was not with New York Medical Center–Bellevue Hospital, but rather with New York Medical College.²

T. Drysdale Buchanan, born of Scottish parents, graduated from the New York Homeopathic Hospital in 1897. In 1899, he was the first anesthetist elected to the Flower Hospital Staff (he arranged with the surgeon that, if he found cases for the latter, he would be allowed permission to anesthetize them). He was appointed Professor of

Anesthesia at New York Homeopathic College in 1904, and was later appointed as consultant in anesthesia to Metropolitan Hospital.

After a long relationship, the Homeopathic College associated formally with Fifth Avenue Hospital in 1936, and the combined institutions became known as The New York Medical College, Flower and Fifth Avenue Hospitals. The College had maintained a teaching affiliation with Ward's Island Homeopathic Hospital, which became Metropolitan Hospital, since the late 19th century, representing the oldest continuing affiliation in the United States between a private medical school and a public hospital.

As Rosenberg and Axelrod noted, Buchanan was the first president of the American Board of Anesthesiology. He also held Certificate #1 of that Board. Like Ruth, he was a board member of the American