

Anesthesiology
55:604, 1981**Millipore Filters are not Necessary for Epidural Block**

To the Editor:—We have read with interest in the May 1981 issue of ANESTHESIOLOGY the articles regarding bacterial filters by Garibaldi *et al.*¹ and Feeley *et al.*², as well as the accompanying editorial by Dr. Mazze.³ We agree with Dr. Mazze that clinical practice is often influenced by considerations based on simplistic reasoning and not on substantial scientific data. The use of bacterial filters is one example of this attitude, and it is this issue we would like to address.

Theoretically, millipore filters with epidural analgesia serve two purposes: 1) to filter bacteria; and 2) to prevent foreign materials, such as glass particles, from gaining access to the epidural space. Two separate studies we conducted addressed these issues. In a double-blind study, we found that bacterial filters were not required if sound sterile techniques were applied.⁴ In another study, a filter needle used for aspirating the local anesthetic from the glass ampule was an adequate, cheaper, and less cumbersome means of protecting the epidural space.⁵

Following these findings, we stopped using millipore filters. From January 1977 through December 1980, 7,706 epidural and/or caudal blocks were performed in our hospital without any evidence of epidural infection and with significant savings in medical cost.

Our findings seem to have been overlooked in this recent discussion of bacterial filters³; perhaps they also have been ignored by others due to the widespread fear of infection and its subsequent medico-legal implications.

Anesthesiology
55:604-605, 1981**Massive Weight Loss Will Improve Arterial Oxygenation in Selected Patients**

To the Editor:—The recent article by Vaughan *et al.*, "The Effect of Massive Weight Loss on Arterial Oxygenation and Pulmonary Function Tests," reported a slight, but statistically insignificant improvement in arterial oxygen tension (P_{aO_2}) following weight loss.¹ The increased P_{aO_2} was significantly correlated with an improved expiratory reserve volume. No change in forced vital capacity (FVC) or maximum voluntary ventilation (MVV) was seen. Their average preoperative P_{aO_2} was 83.2 ± 2.5 torr and P_{aCO_2} was 36.8 ± 1.1 torr. The patients in the other studies to which these authors referred also did not have evidence of the obesity hypoventilation syndrome and had equivocal changes in

Our successful results, however, should encourage other anesthesiologists to abandon their overly cautious patterns and to adopt our techniques which are based on scientific data, rather than fear.

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5. Abouleish E, Orig T, Amortegui AJ: Bacteriologic comparison between epidural and caudal techniques. ANESTHESIOLOGY 53:511-514, 1980

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P_{aO_2} , P_{aCO_2} , and pulmonary function tests. Since these parameters were not markedly abnormal prior to surgery, it is not surprising that major changes were not seen. These studies do suggest, however, that weight loss might significantly improve ventilation in patients with obesity-induced pulmonary insufficiency.

We have recently reported the beneficial effects of weight loss following gastroplasty in three patients with the obesity hypoventilation syndrome and gastroplasty with tracheostomy in one patient with the sleep apnea syndrome.² Since this report, we have operated on a fifth patient (W.G.) who was severely incapacitated with both. These patients tolerated surgery and anesthesia

TABLE 1. Effects of Gastroplasty-induced Weight Loss on Arterial Oxygenation in Selected Patients

Patient	Age	Ideal Weight (kg)	Weight (kg)		Pa _{O₂} (torr)		Pa _{CO₂} (torr)		(Per cent Predicted)					
			Before	After	Before	After	Before	After	FVC		FRC		MVV	
									Before	After	Before	After	Before	After
1	30	61	127	110	43	72	68	49	48	62	—	—	58	38
2	56	69	140	85	59	70	47	38	56	89	67	88	73	93
3	44	60	140	85	44	79	46	42	73	99	47	77	62	91
4*	30	90	264	200	38	65	57	35	40	74	—	—	31	62
5†	30	85	172	104	58	65	42	35	76	89	34	72	63	62
MEAN			169	117‡	48	70‡	52	40‡	59	83‡			57	69
SD			±48	±56	±6	±10	±11	±6	±16	±15			±16	±23

* Combined obesity hypoventilation syndrome and sleep apnea syndrome.

† Sleep apnea syndrome.
‡ P < 0.05.

well and, on the average, were able to be weaned from mechanical ventilation and extubated on the third post-operative day. A significant improvement in Pa_{O₂}, Pa_{CO₂}, and FVC was seen in each of these patients (table 1). An increased functional residual capacity (FRC) was noted in each of the three patients in whom it was measured before and after weight loss. The MVV rose in three of the five patients.

In those patients who have significantly impaired ventilatory function associated with obesity, a marked improvement in forced vital capacity, functional residual capacity, and arterial blood gases can be expected following massive weight loss after gastroplasty. Furthermore, resolution of obstructive sleep apneas following weight loss will permit closure of a tracheostomy initially required to relieve obesity-induced upper airway obstruction.

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55:605-606, 1981

Use of a Flexible, Radiopaque Directable Catheter for Difficult Tracheal Intubations

To the Editor:—A variety of methods for managing the technically difficult endotracheal intubation have been described.^{1,2,*} We wish to report another method of facilitating endotracheal intubation, which has proven to be successful when other maneuvers have failed. The technique makes use of a flexible, radiopaque, directable catheter inserted into the trachea under fluoroscopic control, in the spontaneously breathing patient.

In the radiology suite, a lubricated endotracheal tube of proper size is inserted through the nose and advanced

into the posterior oropharynx in the usual manner. A flexible 65-cm steerable catheter with attached Mediatech SH-4 control handle (7 French)† is then passed through the endotracheal tube. Under fluoroscopic visualization of the airway in the lateral projection, the catheter is advanced past the epiglottis and into the larynx with steering of the catheter as necessary (fig. 1). An anterior-posterior fluoroscopic projection is occasionally necessary if difficulty is encountered while advancing the catheter, due to lateral deviation of the tip into the pyriform recess. Upon directing the patient to suppress

* Donlon J: Anesthetic management of patients with compromised airways. *Anesthesiology Review* 7:22-31, 1980.

† Mediatech, Incorporated, Watertown, Massachusetts.