

anxiolytic may well be the result of reduced anxiety, not analgesia. However, there may be a specific analgesic effect in addition to the pain criterion change. Discriminability provides the only marker for an analgesic effect in the presence of a mood shift. We agree that sensory decision theory results should be treated with caution, and further confirmation with a variety of other drugs is needed. There is always a risk of drawing the wrong conclusion from the application of any technique, but history teaches us that there may be a far greater risk in failing to examine the possible merits of a new technique, especially one that, as the reviewer himself points out, provides more information than the old.

We protest the inference that we "equate" decreased discriminability with analgesia, or that studies that employ sensory decision theory actually tell whether the pain experience has been altered. Pain is a subjective sensation; it can never be known to an outside observer. This problem is prominent in the conventional threshold measure, for the experimenter must accept the subject's report as true. In contrast, sensory decision discriminability is independent of whether the sensation is reported as painful or not. Decreased discriminability is certainly not analgesia (nor is a raised pain threshold), but

there is mounting evidence that it will prove to be a useful correlate.

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(Accepted for publication April 4, 1980.)

Anesthesiology
53:266-267, 1980

Radial Arterial Pseudoaneurysm Following Cannulation

To the Editor:—Wolf and Mangano¹ are to be congratulated for bringing to the attention of the anesthesia community the problem of radial-artery pseudoaneurysm following apparently uneventful radial-artery cannulation and decannulation. However, the authors' statement that "Late complications, such as [radial-artery] pseudoaneurysm, have been suggested as possibilities, but have not been documented [following radial-artery cannulation]" is in error. Other investigators have clearly documented the possibility of radial arterial pseudoaneurysm following frequent radial-artery puncture² and following uncomplicated radial-artery cannulation.³ Russell *et al.*³ described three cases of pseudoaneurysm following radial-artery cannulation. In one patient, a 2 × 3.5-cm pseudoaneurysm of the radial artery was observed three days following a seven-day cannulation. In a second patient, a week following a five-day radial-

artery cannulation, a radial arterial pseudoaneurysm was observed; it eroded the skin, ruptured, and necessitated emergency arterial ligation. Interestingly, in a third patient, a 2.5 × 2-cm radial arterial pseudoaneurysm was not observed until 18 months after radial-artery cannulation, at which time the patient came to the hospital for a separate surgical procedure.

Russell *et al.*³ recommend that radial arterial ligation, as described in the case reported by Wolf and Mangano,¹ not be performed as the treatment of choice for radial arterial pseudoaneurysm. Rather, they suggest that, following excision of the radial arterial pseudoaneurysm, end-to-end anastomosis of the radial artery be performed, or if direct repair is not possible without excessive arterial tension, that venous interpositional grafts be applied. Considering the rare, but possible, hazard of extremity necrosis following radial arterial thrombosis,⁴ it would

seem unwise to subject patients to the potential hazard of radial-artery ligation following excision of a pseudoaneurysm. Advances in microsurgical techniques now permit repair of the radial artery without resorting to arterial ligation.

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Anesthesiology
53:267, 1980

A Safe Technique for Changing Endotracheal Tubes

To the Editor:—The need to change endotracheal tubes arises when the cuff of an existing tube is found to be leaking or when the tube in place is too small for satisfactory pulmonary toilet or fiberoptic bronchoscopy. The technique usually employed is laryngoscopy with topical anesthesia and sedation; the actual change is then made under direct vision. If for any reason the new tube cannot be successfully inserted expediently, the loss of a patent airway in a patient during mechanical ventilation could lead to disastrous consequences. In some patients massive swelling in the head and neck area may make direct laryngoscopy impossible. In other instances the original tube may have been inserted with considerable difficulty and the anesthesiologist is reluctant to change the tube unless absolutely necessary.

In analogy to the vascular guide-wire technology advanced by Seldinger,¹ we thought that endotracheal tubes could be changed readily over a firm atraumatic and long guide introduced into the trachea through the tube *in situ*. After considering nasogastric tubes, suction tubing, pressure monitoring tubing, and ureteral catheters, we came upon an endotracheal tube introducer,* originally designed to facilitate difficult orotracheal intubation with direct laryngoscopy. It is about 65 cm long, 15 Fr in diameter, flexible,

* Eschmann-Canada Limited, Barclay Avenue, Toronto, Ontario M8Z 5S6, Canada. Endotracheal tube introducer, catalogue number 14-504-17.

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(Accepted for publication April 7, 1980.)

and nontraumatic. The technique we use is as follows. The existing tube is cut and shortened as much as possible, the lubricated guide is passed through the tube into the trachea, the cuff is deflated, and the tube is removed, leaving the guide in the trachea. The new endotracheal tube is now passed over the guide, the cuff inflated, and the guide withdrawn. The correct position of the tube is confirmed by auscultation and by chest x-ray. If a nasotracheal tube is to be changed, topical application of cocaine is used for vasoconstriction and analgesia. Of course, the usual equipment for intubation and resuscitation should always be at hand. Using the technique and equipment described, we have performed more than 50 such procedures without difficulty.

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(Accepted for publication April 8, 1980.)