FIGURE Proximal piece of fractured connector (top). Connector fitting 3.5 mm endotracheal tube inserted inside distal piece of fractured connector inside RAE tube (bottom).

The broken connector has been returned to the manufacturer. In contrast with the two previous cases of connector fracture,^{1,2} there was no evidence of a previous crush injury to the connector. We examined two RAE connectors and two Portex connectors of similar sizes and found that the RAE connectors broke more readily in response to a bending force than the Portex connectors.

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REPLY

Drs. Oyston and Holtby returned the portion of the connector which interfaced with the metal collar of the CO₂ analyser and supplied us with the lot number of the only lot of 4.0 RAE tubes they had in stock. The portion of the connector that remained in the tracheal tube was not available.

No other reports of this nature have been received for this lot. Samples of connectors from the lot, as well as from another lot, were evaluated by deliberately attempting to break them by hand; none could be broken. Examination of the returned portion of the connector also provided no additional information

so we are unable to conclude, at this time, what may have caused the reported problem.

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Femoral nerve block for post-operative analgesia after open knee surgery

To the Editor:

I would like to provide additional information concerning the use of the technique reported by Tierney *et al.*¹ Femoral nerve block has been routinely used for post-operative knee analgesia for more than two years in my hospital. A study was performed in 1986² in 50 patients, using bupivacaine 0.5 per cent with epinephrine in a dose of 1.5 mg·kg⁻¹, without exceeding 150 mg. This solution was diluted with saline so that the volume injected was 30 to 60 ml. The efficacy of the injection depended on the total dose of local anaesthetic and volume injected, a general rule for peripheral blocks; the duration of analgesia was about five hours. It is likely that a fan-wise injection reaches the lateral femoral cutaneous nerve. I can add that we can prolongate the duration of analgesia either with a repeat injection or with the use of a catheter. This procedure is quite easy, reliable and should be known by every anaesthetist.

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- 2 Davidas JL, Rondelet B, Besson L, Debouit JM, Banssillon V. Femoral nerve block analgesia after knee surgery. *Ann Fr Anesth Rean* 1986; 5: 483–5.

REPLY

Thank you for the opportunity of replying to the letter from Professor Banssillon. Prior to undertaking our study we did not research articles other than those published in the *English*

language. I would like to thank Dr. Banssillon for bringing his article to our attention.

There are several differences between his report and ours. Professor Banssillon makes no comment as to whether his study was in any way blinded (single-blinded or double-blinded) and whether or not a control group was included. Secondly it appears that the technique and dosage of injection varied in the earlier study. Our patients were given 20 ml of either normal saline or 0.25 per cent bupivacaine in a blinded fashion, whereas in Banssillon's study he used bupivacaine 0.5 per cent with epinephrine, in a dose of $1.5 \text{ mg} \cdot \text{kg}^{-1}$ in varying volumes of 30–60 ml. We recorded no cases of lateral femoral cutaneous nerve block.

Both articles serve to reinforce the conclusion that it is possible to provide good postoperative analgesia with femoral nerve blocks for patients undergoing open knee surgery.

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Suspected tumor embolism as a cause of arterial line dysfunction

To the Editor:

Systemic arterial embolization of carcinoma of the lung is a rare phenomenon, with 28 cases having been reported previously.¹ Of these, only two cases involved embolization to the axillary artery.²

Our patient, a 72-year-old male, presented with a two-week history of right-sided pleuritic chest pain. A chest x-ray revealed a right hilar mass. Past history included 50 pack-years of cigarette smoking and hypertension treated with a triamterene-hydrochlorothiazide combination and metoprolol. There was no history of ischaemic heart disease or diabetes mellitus.

Physical examination was unremarkable, except for diminished breath sounds on the right side. An Allen's test revealed brisk ulnar collateral flow bilaterally. FEV₁ was 2.4 L with an FVC of 3.15 L.

Anaesthesia was induced with thiopentone, and maintained with isoflurane in 100 per cent oxygen and intermittent bolus doses of fentanyl. Intubation with a 39 french left sided double lumen tube was facilitated by the administration of pancuronium.

During dissection around the hilum of the right lung, the surgeon noted that tumour was extending into one of the pulmonary veins. Shortly afterwards, the arterial tracing became flat. On examination, the left radial pulse was absent, and the whole left hand demonstrated poor capillary refill. Heparinized saline flush followed by catheter removal did not result in any improvement.

At the end of the case, the patient was transferred to the Intensive Care Unit. At this point, it was appreciated that the left ulnar, brachial and axillary pulses were absent as well. At approximately the same time as the circulation spontaneously returned to the left hand, the right leg became acutely ischaemic. The patient was returned to the Operating Room and a femoral embolectomy was performed. Fragments of tumour embolus were recovered and the circulation restored. He was again transferred to the Intensive Care Unit. Two hours later, the patient haemorrhaged from the resected pulmonary artery, and could not be resuscitated. At autopsy, no residual tumour fragments could be found.

The loss of radial artery flow in the present case was probably secondary to subclavian or axillary artery tumour embolism. The loss of the other pulses in the left upper extremity and spontaneous return of flow, make other causes less likely. Only two of the cases in the review by Starr *et al.* of embolization of bronchogenic carcinoma involved the axillary artery; most emboli migrated to the femoral artery, probably because of the directness of the vascular path.

At autopsy, no evidence of residual tumour in the subclavian or axillary arteries could be found. As the circulation to the hand had spontaneously returned, the obstructive mass had probably fragmented and flowed distally down the aorta during the course of events.

In conclusion, damping of the arterial trace during pulmonary surgery should alert the anaesthetist to the possibility of systemic arterial embolization of bronchogenic carcinoma.

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System for application of PEEP

To the Editor:

Having followed the plethora of literature^{1–3} describing various gadgets over the years, I have hesitated adding yet another. However, I believe this brief description of a device composed of readily available materials is an improvement over more complicated "gadgets" accomplish-