agement of this complication. We report a case of inadvertent intra-arterial administration of vecuronium, which did not result in any adverse effects to the patient.

The patient was a 77-yr-old man scheduled for major reconstructive facial surgery under general anesthesia. Upon arrival in the operating room, a right radial arterial catheter was inserted under local analgesia, and a peripheral intravenous infusion was commenced *via* a cannula sited on the dorsum of the distal right forearm. Both the venous and arterial infusion sets incorporated stopcocks separated from their respective cannula hub by a 50-cm tubing extension. During the induction sequence, but prior to the injection of thiopental, a syringe containing 1 mg/cc of vecuronium was mistakenly attached to the arterial stopcock. After 2 cc of vecuronium solution had been injected, the error was recognized and, at about the same time, the patient complained of severe pain in his right hand. The injection was immediately discontinued, and the arterial catheter was allowed to bleed back freely with evident relief of the pain. Nevertheless, lidocaine 50 mg, papaverine 40 mg, and heparin 5000 IU were immediately injected into the arterial catheter. Anesthestic induction was completed, and, after securing the airway, a right stellate ganglion block was performed. General anesthesia was maintained with nitrous oxide, oxygen, and halothane, and surgery allowed to proceed. The right hand and fingers remained warm and well perfused throughout induction, surgery, and recovery. The arterial catheter was removed 24 h postoperatively without the need for further therapeutic measures, and no adverse effects were apparent at the time of discharge from hospital 8 days after surgery.

To our knowledge, the effects of inadvertent intra-arterial vecuronium injection have not previously been reported. Vecuronium bromide solution, with a *p*H of between 3 and 4, may be expected to cause endothelial irritation and arteriolar spasm following intra-arterial injection. Furthermore, since the severity of tissue necrosis caused is believed to be related to lipid solubility,[3] it would be expected that vecuronium would be more noxious by the arterial route than pancuronium or tubocurarine, both of which are less lipid soluble.[5]

While the effects of intra-arterial pancuronium may be relatively innocuous,[4] tubocurarine by the same route causes considerable local histamine release.[6] Although we cannot exclude the fortunate outcome in our patient being due to the prompt recognition and treatment of the complication, it does seem likely that vecuronium lacks serious injurious properties when administered intra-arterially. Nevertheless, this incident illustrates once again the necessity for the clear labelling of arterial pressure tubing, and for the particular care which is required when injecting a drug into any intravascular catheter infusion system.

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Placement of a Morbidly Obese Patient in the Prone Position

To the Editor:—We offer the following approach to facilitate positioning an obese patient into the prone position.

A 28-yr-old man with morbid obesity (173 cm, 177 kg, BMI > 59) was admitted to the hospital with a herniated L_{4-5} intervertebral disc. While in the supine position following extensive topical anesthesia, bilateral superior laryngeal nerve blocks were performed. After allowing the patient to breathe 100% oxygen for several minutes, his trachea was successfully intubated "blindly" with a nasal endotracheal tube. He then turned himself prone into a jackknife position on a giant Cloward orthopedic saddle frame, and positioned himself until he was comfortable. With his pannus suspended freely, the spontaneously breathing patient was able to maintain adequate ventilation without difficulty, as demonstrated by end-tidal carbon dioxide and pulse oximetry monitors. Anesthesia was then induced with no difficulty

In morbidly obese patients, the less suitable lateral decubitus position is often substituted for operations where the prone position would otherwise be used. Following an awake tracheal intubation of our non-sedated morbidly obese patient, he turned and positioned himself prone. Once satisfied that the patient was comfortable and having no difficulties breathing, induction of general anesthesia and mechanical ventilation followed. We believe this technique reduced the potential problems of delivering general anesthesia to a morbidly obese patient in the prone position.

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Extracorporeal Shock Wave Lithotripsy in Infants and Small Children: Gantry Modification

To the Editor:—Although extracorporeal shock wave lithotripsy (ESWL) is a widely used method for treatment of renal calculi in adults, experience with ESWL in infants and children has been limited. This is the result of several factors, including the relatively low incidence of kidney stones in children (3% of the total number of patients treated for nephrolithiasis) and the fact that the Dornier Lithotripter is not designed to accommodate individuals less than 4 feet tall. In addition, it has been reported that it is possible to cause a pulmonary contusion during ESWL in young children.[1] This results from the close anatomic proximity of the kidney and lung in children, and the fact that the shock wave focus may encompass part of the lower lung field. To prevent this problem, the lungs must be shielded with polystyrene or open cell foam during the treatment.

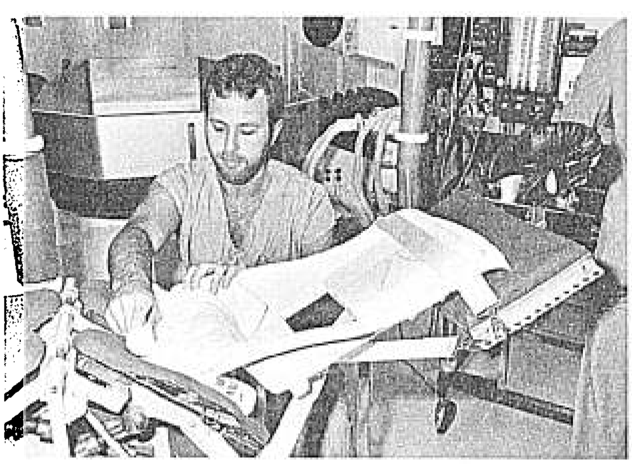

FIG. 1. Gantry modification showing the infant seat installed in the gantry.

A number of centers have reported their experiences with ESWL in children following modification of the lithotripter gantry. These modifications have taken a number of forms, including the use of a sheet or sling to suspend the child within the gantry,[1] extension of the shoulder and leg supports with 2 cm thick polystyrene boards,[2] and the development of a gantry insert that can be used in larger children.[3] We report another gantry modification that is suitable for infants and young children (<2 yr) in the form of a gantry insert made from a modified commerically available "infant seat" and sheets of closed cell foam (fig. 1).

An infant seat which can be purchased for under $10 is placed in the gantry with the back resting on the shoulder support and the seat resting on the thigh pads. The seat is secured to the gantry with the strap located on the shoulder support to prevent the seat from moving when immersed. The seat is modified by cutting a rectangular window in the back that allows the X-rays and shock wave to pass through the seat to the patient unimpeded. A sheet of 2-cm closed cell foam (readily obtained from the packing material in the electrode