

treatment strategies of this clinical entity in their follow-up paper, labelled "Part II." [Mark Prather, MD]

Editor's Comment: This review offers an interesting perspective, and may influence management strategies for AOM.

□ SUBCLAVIAN VENOUS CATHETERIZATION: GREATER SUCCESS RATE FOR LESS EXPERIENCED OPERATORS USING ULTRASOUND GUIDANCE. Gualtieri E, Deppe S, Sipperly M, Thompson D. *Crit Care Med.* 1995;23(4):692-7.

Subclavian venipuncture is commonly performed when caring for critically ill patients. Unfortunately, it is also a procedure which poses risks for the patient, especially when performed by inexperienced physicians. This prospective, randomized study was designed to assess the utility of ultrasound guidance in subclavian vein catheterization. The authors enrolled 33 patients in the intensive care unit who required central venous access. A total of 53 subclavian venipuncture attempts in these patients were made by junior residents. The technique for placement of these catheters was randomly assigned to be either by conventional landmark approach or by ultrasound-guided approach. When the ultrasound probe was used, it was positioned 2 cm medial to the most lateral aspect of the patient's clavicle to image the subclavian vein. The needle was advanced toward the vein using a needle guide attached to the probe. Once venipuncture occurred, the probe was removed and the catheter placement was performed in standard fashion. In the landmark approach group, if venipuncture was not achieved after 3 attempts, then the ultrasound approach was used. In the ultrasound-guided group, if successful venipuncture did not occur within 3 attempts, then the attending physician performed the procedure.

The success rates for catheter placement by junior residents were 44% in the landmark approach group and 92% in the ultrasound guided group. By using ultrasound "salvage," 80% of the missed placements in the landmark group were rectified. There were an average of 2.5 attempts for each catheter placed by landmark technique, which compared unfavorably with an average of 1.4 attempts for each ultrasound-guided placement. A total of 11 minor complications (hematoma, arterial puncture, malposition) occurred in the landmark group, and only one minor complication (arterial puncture) occurred in the ultrasound cohort. The authors conclude that when subclavian venipuncture is performed by inexperienced physicians, ultrasound guidance contributes significantly to proper placement with fewer complications. [Christina Johnson, MD]

Editor's Comment: The study does not say who performed these ultrasounds. As emergency physicians become more comfortable with ultrasound, this technique may become useful.

□ PHYSICIANS DO NOT HAVE A RESPONSIBILITY TO PROVIDE FUTILE OR UNREASONABLE CARE IF

A PATIENT OR FAMILY INSISTS. Luce, JM. *Crit Care Med.* 1995;23:760-8.

This article reviews current and historical data to argue that physicians are not ethically obligated to provide care which they consider futile or unreasonable, either voluntarily or in response to patient or surrogate demand. The author begins by reviewing several ethical principles including autonomy ("respect for the patient's capacity of self-determination"), nonmaleficence ("not to inflict harm intentionally"), beneficence ("provision of benefit"), and distributive justice ("fair, equitable, and appropriate distribution of medical resources"). He then introduces the concepts of futility and reasonableness. He argues that a reasonable degree of medical care should be provided, and that this concept of reasonableness, not only the concept of futility of care, should govern whether medical intervention should continue in the case of critically ill patients. Reasonable care is defined as that which is rational, not excessive, and which is generally agreed upon. In arguing this approach to ethical care, the author reviews legal precedents and cases, pointing out that definitive guidelines have not been established by statutory or case law. Invoking the prior arguments as well as recent discussions of health care reform, the article concludes that physicians are not ethically required to provide futile or unreasonable care to patients, especially to patients who are brain-dead, vegetative, or critically ill with little chance of recovery.

[Mark Weston, MD]

Editor's Comment: This is an interesting review of a subject which will confront all of us more frequently in the future.

□ CONFIRMATION OF ENDOTRACHEAL INTUBATION OVER A JET STYLET: IN VITRO STUDIES. Takata M, Benumof JL, Ozaki GT. *Anesth Analg.* 1995; 80:800-5.

Tracheal extubation of a patient with a difficult airway may be followed by respiratory distress requiring re-intubation. A jet stylet (JS) can be inserted into an in situ endotracheal tube (ETT) prior to extubation and then be used as a means of ventilation and as a guide for re-intubation. CO₂ detection can be used to determine proper intratracheal location of the new ETT prior to removal of the JS. The authors of this study set out to determine the functional size equivalent of the annular space between the JS and ETT for all combinations of variously sized JS's and ETT's, and to determine whether this annular space would permit detection of exhaled CO₂ within a clinically acceptable period of time. The investigators first measured the airflow resistance of variously sized catheters and ETT's (control data), and all possible combinations of JS's within ETT's by determining pressure versus annular space flow curves. The second part investigated CO₂ detection in the gas coming through empty ETT's and through the annular space between the JS and ETT at lung driving pressures of 5-10 mmHg. Some of the ETT/JS combinations had an annular space less than a 4.0 mm internal diameter (ID)