relief, and it is perhaps a reflection on anaesthetists that most of the communications on this subject come from ophthalmologists. The incidence of the complication is difficult to determine. Mild degrees of abducent paralysis probably pass unnoticed or unheeded; and although the highest figure given, 1% of all spinal analgesics, by Terrien (1923) is considerable, it is possible that the figure should be considerably greater. . . . The sequence of events is remarkably constant. The paralysis is not noticed until 3 to 21 days after the spinal analgesia, but it is preceded by a period during which the patient complains of severe headache and perhaps dizziness, nausea, stiff neck, photophobia, and diplopia. The delay in onset of the palsy has given rise to many theories about its causation, none of which is subject to proof. . . . Two cases have occurred recently in our hospital—one following simple lumbar puncture, the other after a spinal analgesic. . . . These two cases have two points in common. A large-bore needle was used, causing a rapid loss of a comparatively large volume of cerebrospinal fluid, and external rectus paralysis developed in the eye opposite to the side on which she was lying. The brain, deprived of its water cushion through the sudden loss of cerebrospinal fluid, sags and a strain may be thrown on the sixth nerve, which is uppermost. The nerve is stretched, but the lesion is due primarily to reduced and not to raised intracranial pressure, as suggested by Fairclough."  

A. A.

**Householder, Raymond:** *The Use of Morphine-Scopolamine in Surgery.*  

"On a busy industrial surgery service which handles casualties sustained on two major railroads and a number of industries there are frequently severe injuries including fracture of major bones, burns and extensive soft tissue trauma. The care of these requires a means of relieving the initial pain and suffering, and the provision of an efficient, safe and convenient anesthesia during the procedure of definitive care of fresh wounds, the manipulation of fractures, the application of casts and special appliances, and the cleansing and debridement of burns. In cases where the use of narcotics is not contra-indicated . . . morphine and scopolamine given by hypodermic injection in divided doses have provided us with such a method. These patients may be placed deeply under morphine and scopolamine anesthesia, and the work easily and leisurely done without supplemental anesthesia. . . . Our own experience with the use of morphine and scopolamine dates back to 1918. . . . Since the inception of its use at the Washington Boulevard Hospital in 1918 it has been given routinely in approximately 20,000 cases. Morphine-scopolamine has been given to all patients 15 years of age and over where an anesthetic was required. . . . "It is essential in transferring the patient from the bed to a cart, transporting him to the operating room, placing him on the operating table and in the administration of further anesthesia, that the patient be disturbed as little as possible, and quiet maintained. . . . Because our experience in the emergency department and in the operating room has shown us that morphine-scopolamine alone or with supplemental anesthesia and curare provides a very satisfactory anesthetic presenting (1) safety; (2) ease of administration and control; (3) absence of respiratory complications; (4) diminution of frequency of postoperative nausea and vomiting; and (5) warm acceptance by the patient, we enthusiastically present and
advocate this method for the convenience of the surgeon and, more important to the patient, minimizing or abolishing fear and psychic trauma.”

A. A.


“Sudden stoppage of the heart during an operation is always terrifying. Until recently it was believed that unless circulation could be almost instantly restored, and with it the supply of blood to the brain, irreversible damage to the higher cerebral centers was inevitable, and that, even supposing the patient does survive, the inescapable end result is blindness, paralysis or dementia. The chief purpose of this presentation is to demonstrate that these consequences are not inevitable; that they do not necessarily follow cardiac arrest of much longer duration than the three or four minutes formerly considered the maximum for survival, and that even serious changes may prove reversible. . . . A busy surgical clinic may expect an average of 1 or 2 of these tragic cases per year.

“The principal signs and symptoms of cardiac arrest are (1) stoppage of breathing; (2) disappearance of pulse beat, blood pressure and cardiac sounds; (3) absence of bleeding in the surgical wound, and (4) pallor or cyanosis. If anoxia is far enough advanced the pupils may be dilated. The first symptom noted is usually cessation of breathing. . . . The first step is to answer the all-important question: Has the heart actually ceased to beat? Immediately on stoppage of breathing the anesthetist should feel the pulse to test the circulation. If the surgeon has access to one of the larger arteries, he should test it by palpation. If the abdominal or the thoracic cavity has been opened he should palpate the heart from below or from above, as the case may be. If neither of the great cavities is open, the heroic measure of opening the chest is justified. Sudden cessation of pulse and blood pressure make it immediately mandatory. If the heart has actually stopped beating or is fibrillating, the surgeon will then be ready to begin cardiac massage instantly; if the pulse is only extremely weak, little harm has been done. . . .

“The prevent overstimulation of the vagus nerves, atropinization or blocking of afferent stimuli with a local infiltration anesthetic has been recommended. For arrhythmia caused by trauma near the pulmonary hilus, 10 cc. of 1 per cent procaine hydrochloride solution may be given intravenously. There is some doubt as to the advisability of applying procaine direct to the heart. It is important to remember that a patient who stops breathing is not necessarily suffering from cardiac arrest. . . . Here the trouble is chiefly respiratory, and treatment consists of clearing the airway, pulling the tongue forward, administering oxygen, and removing with the finger any impaction of the epiglottis, together with some form of artificial respiration. . . . If a diagnosis of cardiac arrest has been made without visualization of the heart itself, the heart may be goaded into action by pricking the auricle with a needle thrust into the third right costal interspace at the upper rim of the fourth rib, close to the sternal border, the needle being directed upward. If this fails, institute cardiac massage at once. The absolute necessity of immediate decision is obvious. Delay in diagnosis is the chief cause of failure. . . .

“The heart may be reached by three routes: (1) transperitoneal subdiaphragmatic; (2) transperitoneal transdiaphragmatic, and (3) transthoracic. . . . I prefer the standard method of