

comfort to the patient. Nupercaine in the solution and dosage recommended has very little or no depressive effect on the cardiovascular system. . . . The incidence of complications is chiefly dependent on the type of operation and grade of risk."

J. C. M. C.

VOLPITTO, PERRY P.: "*Intracaine*" in *Regional Anesthesia*. (A Clinical Report.) *South. Med. J.* 33: 1029 (Oct.) 1940.

Volpitto states that intracaine (beta diethylamino ethyl p ethoxy benzoate hydrochloride) a benzoic acid derivative is reported to have about the same toxicity as procaine, and is supposed to be effective in about half the dosage for periods twice as long.

The author reports the use of the agent in 100 cases. One per cent. was used for nerve blocks; one half per cent. for infiltration anesthesia. No epinephrine was used but all patients were premedicated with small doses of barbiturates. Seven failures are reported, due to lack of proficiency of individual administrators. No local or toxic reactions occurred. It is concluded that the series is inadequate to evaluate the agent, that it is capable of producing satisfactory anesthesia with no apparent immediate or latent toxic effects, that longer duration of anesthesia was not established, and that it compares favorably with procaine in similar concentrations.

C. P. W.

SILVERS, H. I., AND LEONARD, I. E., JR.: *The Use of Neosynephrin Hydrochloride in Maintaining Blood Pressure During Spinal Anesthesia*. *Am. J. Surg.* 50: 79-83 (Oct.) 1940.

"One of the major problems in spinal anesthesia is the constantly falling blood pressure. Epinephrine and ephedrine, especially the latter, have been used to preserve its stability. . . .

Neosynephrin hydrochloride is a synthetic drug resembling epinephrine and ephedrine both structurally and pharmacologically. . . . In our series of fifty cases of spinal anesthesia using neosynephrin hydrochloride as a vasoconstrictor, we were impressed by the ready and repeated response of the blood pressure; the bradycardia and the lack of arrhythmia; and the absence of nervousness or anxiety on the part of the patient. . . .

"Neosynephrin hydrochloride is an effective aid in maintaining the stability of blood pressure during spinal anesthesia. A definite bradycardia generally occurs after its administration. Deleterious effects such as arrhythmia, palpitation, anxiety or nervousness were not manifest if neosynephrin was given in therapeutic doses. The margin of safety of neosynephrin is greater than that of epinephrine or ephedrine. It is not effective in cases where there is loss of blood volume or shock caused by toxic conditions such as peritonitis. Until its exact action on the heart has been proved, it is best to use small doses or abandon its use entirely in cases which present serious cardiac pathology."

J. C. M. C.

WOODBIDGE, P. D., HORTON, J. W., AND CONNELL, EARL: *Prevention of Ignition of Anesthetic Gases by Static Spark*. *Brit. J. Anesth.* 17: 62-64 (July) 1940.

"As a result of our investigation of a fatal anesthetic explosion, a means of preventing ignition of anesthetic gases by static spark has been devised which we believe to be of sufficient value to warrant general adoption. Conditions were set up which duplicated those existing at the time of the explosion, and various observations were made. . . . The conclusions follow: Adequate protection against electrostatic sparks is not necessarily obtained by relative hu-

midity as high as 60 per cent. Cushions on the anesthetist's stool should not be permitted. If metallic electrical connection is to be maintained between the patient and the gas machine, the conductor should be placed at a distance from the breathing tubes and mask. It must be so arranged that it need never be disconnected while explosive gases are present. Woolen blankets and silk woolen outer garments should never be allowed near the explosive gases. Undergarments of either silk or wool do not constitute an electrical hazard. If the patient, the gas machine (the operating table), and the anesthetist are so intercoupled electrically that sparks cannot occur between them, the major portion of all electrostatic potentials having dangerous possibilities is eliminated. . . . The majority of (recent) explosions presumably initiated by static spark would have been prevented by (high resistance) intercoupling."

J. C. M. C.

ROWELL, GLENN: *Hospital Fire Hazards*. *Hospitals* 14: 91-94 (Aug.) 1940.

"There is no department in a hospital where the need of safeguards is so essential as the operating room. The danger of explosion, possibly resulting in fire, of combustible anesthetics mixed with air and oxygen or nitrous oxide have been known since the first use of ether anesthesia by inhalation, but in spite of this many hospitals have done nothing to lessen the hazard involved. The patient under anesthesia is entirely helpless and, therefore, wholly dependent upon the operating room staff, yet many members of these staffs still are laboring under a false sense of security due usually to the use of some small preventative measure that they may have taken. One thing to be remembered is that explosive gases such as cyclopro-

pane, ethylene, ethyl chloride and ether cannot be used without hazard even though every reasonable precaution has been taken. All we can do is lessen the hazard involved by making use of as many safeguards as we possibly can. . . . Recently, the fact that explosions of anesthetics do occur has become public knowledge and as a result a good many hospitals have already attempted to lessen the hazard. The majority of these explosions have three causes: (1) the discharge of static electricity; (2) the cautery; and (3) the use of improper electrical equipment. Static electricity without a doubt has been the principal offender and is also the most difficult to control. The danger of its accumulating in sufficient quantities to form a spark hot enough to ignite these gases may be eliminated to a large degree by proper humidification of the air. This requires maintaining a relative humidity of at least 60 per cent. which is comparatively simple during cold weather but necessitates the installation of both humidifying and cooling equipment during hot weather inasmuch as an operating room would be most uncomfortable with summer temperatures of 90 degrees or more and a relative humidity of 60 per cent. Many persons have thought that the humidity during summer months is sufficient to eliminate the formation of static, but experience has proved that this is not necessarily true as explosions so caused have occurred and tests made have shown inside relative humidities as low as 30 per cent. are possible even while it was raining outside.

"Humidifying equipment of many types is available today but care must be used to ascertain that the unit purchased is of the proper type of use in an operating room. . . . Static electricity is generated in many substances, some of the principal offenders being woolen blankets, the rubber tubing and