

packages. . . . If economy is the keynote, the greatest medium for effecting it in ether anaesthesia is by modernizing the methods for using ether and eliminating waste. . . . From the point of view of the man who uses the drug the question of packaging ether has a particular importance that is rarely mentioned. If his experience has covered many years he will have had cases or learned of them from his preceptors in which impurities in anesthetic agents cost lives or were responsible for serious complications. . . . The anesthetic agents on sale today are carefully prepared and the clinician has confidence in the commercial firm whose products he uses. He prefers that the manufacturer to user system be maintained. There is a sense of security and a peace of mind to be had by opening the anesthetic container one uses just as there is in preparing the solution one injects. . . . The few cents per patient of added cost would be money well spent in furnishing the confidence and security that are had by handling individually the drugs reliable manufacturers have supplied."

J. C. M. C.

TOVELL, R. M., AND HICKCOX, C. B.:
The Present Status of Cyclopropane.
Canad. M. A. J. 46: 41-47 (Jan.)
1942.

"Cyclopropane occupies a place in one of the newest and most interesting chapters in anaesthesiology. As it is a relatively new agent we should pause from time to time to evaluate properly the agent and determine the direction in which progress is being made. . . . Cyclopropane undergoes no chemical change within the body. . . . The respiratory tract is not irritated by anesthetic concentrations of the gas, though laryngospasm occurs occasionally in the presence of high concentrations. . . . The effects of cyclopropane upon the circulatory system are principally those

associated with sensitization of the automatic tissue of the heart. If epinephrine or related drugs are administered there is a further increase in irritability of this tissue. . . . Burstein and Marangoni have found experimental evidence that procaine hydrochloride when it was injected intravenously in dogs combats ventricular fibrillation induced by the administration of epinephrine during cyclopropane anaesthesia. . . . The pulse rate during anaesthesia may be decreased, if morphine has been used as a premedicant, or increased, if a barbiturate has been used. With a combination of the two the pulse may approach the normal rate. The gastro-intestinal tract shows an increased tone during anaesthesia with a decrease in the propulsive action of the gut. The amplitude of the non-propulsive contractions is not altered. The gravid uterus in experimental animals continues to contract rhythmically and fetal respiration is said to remain unchanged. . . .

"Values for hydrogen ion concentration of the blood during anaesthesia are normal and the carbon dioxide combining power may be normal or slightly decreased. The oxygen content and capacity are increased, the total bases of the serum are not changed and the value for non-protein nitrogen is normal. The level of the blood sugar in normal patients rises slightly, but in diabetic patients during cyclopropane anaesthesia it may not change. Bourne and Raginsky have shown that cyclopropane does not cause hepatic damage in patients with normal or impaired livers, nor is there renal damage. There is a suppression of urinary output during anaesthesia and a compensatory increase in excretion for several hours following anaesthesia. Leucocytosis is marked for a few hours after anaesthesia and the white cell count does not return to normal for two to three days. There is very little change in the

red blood count. . . . Because cyclopropane is depressing to the respiratory system, respiration should not be depressed during the preoperative period. The incidence of cardiac irregularities during anaesthesia may be minimized if proper preliminary medication is employed. . . . We prefer the administration of atropine to scopolamine because this agent satisfactorily depresses secretions in the respiratory tract and because we prefer administration of a barbiturate rather than scopolamine for the production of sedation. . . . According to Adriani, atropine offers an advantage in that the involuntary muscles of the bronchi and bronchioles are relaxed. . . . Novatropine, a newer drug, has been recommended by Martin and Batterman in place of atropine for preliminary medication. It has the advantages of ordinary atropine and, in addition, it reduces markedly the tone and motility of the gastro-intestinal tract, during cyclopropane anaesthesia. . . . Guedel has recommended the intravenous administration of a relatively large dose (0.6 to 1.0 gram) of a barbiturate (evipal soluble) prior to induction of cyclopropane anaesthesia. . . . With this method he claims a marked reduction in the incidence of cardiac irregularities, which occur if administration of the barbiturate is omitted. We frequently administer pentothal sodium intravenously while the patient is in his room. He is transferred to the operating room while under the effect of a dose sufficient for induction of anaesthesia. . . .

"The signs of anaesthesia with cyclopropane are not as well defined as with other agents because of the rapid action of the gas. . . . Cyclopropane is best given by the closed circuit method because the gas is expensive and is explosive when mixed with oxygen. . . . We have used Waters' method of administration with a few variations. . . . The use of the cautery, open flame,

diathermy or x-ray equipment during the administration of cyclopropane cannot be too strongly condemned. . . . Cyclopropane and oxygen may be used with other inhalation agents and it may be used in combination with other methods of anaesthesia. . . . Complications during and following cyclopropane anaesthesia are minimal, and their incidence is not increased over that observed with other inhalation agents. . . . We fully agree with the statement made in 1939 by the Council on Pharmacy and Chemistry of the American Medical Association that 'cyclopropane is a suitable anaesthetic agent when used cautiously by those fully informed of its properties, potential dangers and signs which indicate the stages of anaesthesia obtained with this agent.' All the safeguards recommended by the National Fire Protection Association should be maintained throughout the administration of this agent."

J. C. M. C.

KEATING, F. R., JR.; POWER, M. H., AND RYNEARSON, E. H.: *Desoxycorticosterone Acetate: an Appraisal of the Value of its Preoperative Administration to Surgical Patients*. Proc. Staff. Meet., Mayo Clin. 17: 59-64 (Jan. 28) 1942.

"Various authors have suggested that a relationship may exist between the function of the adrenal cortex and the occurrence of shock. The use of material derived from the adrenal cortex for the treatment or prevention of surgical shock has also been advocated. Perla and his associates administered desoxycorticosterone acetate and solution of sodium chloride preoperatively to patients about to undergo major surgical operations. In twelve cases in which the patients were treated in this manner these authors reported an absence of symptoms of shock and more rapid recovery from operation. . . . Because of the obvious importance of such