their anesthetic effects and the concentrations of the gas present at various depths of anesthesia was made in a limited number of cats. These experiments were so planned that the rates of production of anesthesia and of toxic concentrations were really comparable. The method was the closed system method employed in this laboratory in many experiments in the past few years. From these experiments the following conclusions may be drawn: Ethyl normal propyl ether is from one and a half times to twice as potent an anesthetic as ethyl ether. Respiration was definitely depressed by the ethyl normal propyl ether in some 4 to 5 per cent. concentrations and by ethyl ether in some 6 to 8 per cent. concentrations. Respiration was more depressed in deep surgical anesthesia with ethyl normal propyl ether than with ethyl ether. Light surgical anesthesia with 2.5 to 3 per cent. of propyl ethyl and 3.5 to 5 per cent. ether was obtained under comparable conditions. Blood pressure did not fall seriously even when respiration was dangerously slow and shallow, and fell only to about 100 mm. when respiration failed. Artificial insufflation was always successful in resuscitation of these failures.

"When explosive concentrations of ether and of normal propyl ether were used the latter did not seem to explode with as great a force as the ethyl ether did. . . . Experiments showed that the concentrations of ethyl propyl ether during anesthesia were as follows: 1.5, 1.9, 1.8, 1.7." Bibliography—2 references.

J. C. M. C.


"This paper deals with 8 patients with burns or sealds, of whom 7 were treated by plasma or serum, or both . . . Routine blood-volume estimations are impracticable, but in patients who have not bled the determination of haemoglobin, one of the simplest laboratory procedures, offers a very sensitive measure of the amount of plasma lost. For approximate calculation of the deficit in plasma volume one is justified in assuming a haemoglobin percentage of 100 and a blood volume of 5 liters, of which 3 liters are plasma. The increased haemoglobin value observed bears the same ratio to the initial value as the initial value for blood volume does to the new blood volume, since the red cell volume remains unchanged. This may be expressed in the formula $\frac{Hb_2}{Hb_1} = \frac{BV_1}{BV_2}$ or, substituting the assumed values, $Hb_2/100 = 5/(5-x)$, where $Hb_2$ is the observed haemoglobin value after the burn, and $x$ is the amount of plasma lost. It will be seen that $x$ can easily be calculated if $Hb_2$ is known.

"In patients before treatment the main findings were: (a) Increasing shock, with the classical symptomatology. (b) Progressive haemoconcentration. (c) A fall in the plasma volume, and therefore in the total amount of plasma protein, although the protein concentration was often quite high. Evidence was obtained that amounts of plasma protein equivalent to a quarter of the total plasma protein might be lost in a few hours. (d) Plasma chloride was high and bicarbonate low, while blood urea was normal. (e) Serum sodium was low and there was a slight rise in serum potassium. Great clinical improvement followed infusion of dilute plasma and was accompanied by a rise in plasma volume in those cases in which serial observations of blood volume were possible. The results with four times normal serum were much less favourable; one of the three patients treated with concentrated serum died, and the other two
required an infusion of dilute plasma later." Bibliography—18 references.

J. C. M. C.


"In order to eliminate the danger of attaching a tank of gas, such as carbon dioxide, to the yoke reserved for one of the anesthetic gases or oxygen, a special arrangement has been used for several years at the Mayo Clinic. The strainer nipple in the oxygen yoke of each gas machine has been enlarged, and the port in the valve of the oxygen cylinder, into which the strainer nipple is placed, has been correspondingly enlarged. The air-tight fit is accomplished by forcing the face of the valve up against the lead washer, which is held in place by the strainer nipple against the face of the yoke. This arrangement allows the oxygen cylinder to be used on any hanger yoke but, in the gas machines at the clinic, effectively precludes the placing of a cylinder of nitrous oxide or other anesthetic gas on the oxygen side of the machine with the possibility of resulting disaster. The cylinders for oxygen are built so that they are still adaptable to other types of oxygen yokes and can be used if they are sent to some institution that does not have this especially arranged yoke.

"The arrangement of the carbon dioxide yoke has been changed by removing the strainer nipple from the yoke and inserting it into the port in the valve of the cylinder of carbon dioxide. Just as there is a lead washer on the oxygen cylinder and yoke, so we have a lead washer to make an air-tight fit when the face of the valve is forced against the lead washer and yoke. This device makes it impossible to hang any cylinder in the carbon dioxide yoke except one in which the nipple is inserted into the face of its valve and also makes it impossible to hang a cylinder of carbon dioxide on any but the carbon dioxide yoke of the gas machine. . . .

"It is not our practice to keep the cylinders of gases that are used only occasionally in their yokes on the anesthetic gas machines. When a special agent, such as cyclopropane, is specifically indicated, the cylinder containing it is attached just before it is used."

J. C. M. C.


"A well-developed white man, aged 33, was admitted for right inguinal herniorrhaphy. . . . The patient was a severe chronic alcoholic. . . . He was apprehensive about an operation. Morphine sulfate grain 1/4 and hyoscine hydrobromide grain 1/120 were given one and one-half hours before the induction of anesthesia with satisfactory sedative effect, though he was still awake on coming to the operating room. Blood pressure taken then was 98/64. Anesthesia was started with nitrous oxide and ether at 10:25 a.m. and produced excitement immediately. This subsided shortly, but a prolonged second stage could not be avoided. The incision was made at 10:45 a.m. Up to within two minutes of that time, the patient had moved his legs. One-half ounce of ether had been used. The color was good, but periods of cyanosis had previously occurred. . . . About two and one-half minutes after the incision was made, the pulse and respiration ceased almost simultaneously. The color, which had been satisfactory, changed to ashen gray in his face. A mottled cyanosis soon appeared, particularly on chest and arms. The cornea was dry and lusterless, with pupils three-quarters dilated. Artificial respiration with oxygen was