"The test with mecholyl does not help to differentiate various types of asthma, and examples of reflex asthma or those in which attacks are released psychogenically through nervous channels are not more susceptible to mecholyl than infective or allergic cases. The test may, however, be helpful in the diagnosis between true asthma and a respiratory neurosis, and especially hysterical hyperpnea; bronchospasm occurs in the former but not in the latter.

"In cardiac asthma the test is not very helpful. . . .

"It is doubtful whether the attack produced artificially by an injection of mecholyl is identical with a spontaneous attack of asthma. . . . An attack produced by mecholyl is promptly and completely controlled by atropine whereas spontaneous attacks may be little influenced by atropine even in high doses.

"Many observers have postulated a specific bulbar center in asthma which is hyperexcitable to various stimuli. While it is difficult to exclude the possibility that asthma may be caused by stimulation of such a parasympathetic center, the effects which have been described of mecholyl on the bronchi of asthmatic subjects suggest that the abnormality lies at the periphery and involves the bronchial muscle itself. Current conceptions of the transmission by acetylcholine of nervous impulses from the nerve endings to the effector organs also support this view. Hurst has defined asthma as 'the reaction of an over-excitable bronchial center to blood-born irritation and to peripheral and psychical stimuli,' but in view of the observations mentioned above is inclined to think that 'bronchial system,' to include the bronchi themselves, should be substituted for 'bronchial center.' In conclusion I would suggest that an essential factor in asthma is an irritable bronchus produced by pulmonary damage; in some cases the cause of the pulmonary damage may be traced to a definite respiratory infection while in other cases the cause may be obscure, as when a latent bronchiectasis of the middle lobe is found to be associated with asthma and is discovered by routine bronchography.

"Given an irritable bronchus, it is conceivable how asthma may be provoked by certain allergic, reflex, and psychic stimuli, which usually have no effect on normal subjects."

A. W. F.

McMILLAN, W. O.: *Shock*. Indust. Med. 9: 567–569 (Nov.) 1940.

"This presentation will chiefly deal with peripheral circulatory failure associated with trauma to gross tissues and also that of external hemorrhage. It has been shown experimentally and also clinically that patients may suffer the effects of hemorrhage due to a decrease in the circulating blood volume although there may be no external loss of blood, but only a loss in blood plasma into the traumatized tissues at the site or near the point of trauma. . . . Studies in the prevention of shock have more than kept pace with advances in the treatment of the fully developed condition. If treatment is to be carried out intelligently, one should know as much as possible about the character of the alternations that have resulted in peripheral circulatory failure. It is important to ascertain whether the diminution in the effective circulating volume of blood is due mainly to vasodilatation or to an actual loss of fluids with vasoconstriction. In the latter type the use of drugs which induce further vasoconstriction not only does no good, but may cause harm. An increase in the supply of blood and oxygen to the tissues, and not an elevated pressure in the arteries, is the need. If one is in doubt as to the

nature of the disturbance of the peripheral circulation, it is better to resort to transfusion of blood.

"Regarding drugs, for the care of the patient in shock a number of vasoconstrictor drugs have been recommended. With the exception of the use of vasoconstrictor drugs to combat the effects of vasodilator ones, such as spinal anesthetic agents, it is felt by a good many workers on the subject that the sum total of the ill effects of the administration of such drugs in the treatment of peripheral circulatory failure is greater than the benefit that is derived. Often more effective means of therapy are put off too long because of too great confidence in the use of vasoconstrictor agents. Digitalis has been found harmful in peripheral circulatory failure, and in the absence of heart disease, has no indication for its usage. Morphine, of course, is excellent for prevention of pain and restlessness. However, the dosage should not be so large that it causes medullary depression and thereby accentuate the clinical picture. . . .

"As brought out, the most important abnormality in shock is the defect in the effective volume of circulating blood. After this reduction, the most effective mode of therapy consists of supplementing the volume by the intravenous introduction of fluid, preferably blood. . . . Blood serum is suitable for the treatment of this condition, but it is seldom available in suitable quantities. Intravenous saline or glucose may be used as only temporary measures to boost the pressure while the patient is being typed. Saline and glucose alone remain in the vessels only a short time, and there is evidence to show that when not followed by blood, these agents may tend even to wash more proteins out into the damaged tissues. When, in the course of treatment of a patient, it is found that the plasma protein is decreasing while the concentration of the red blood cells is increasing, it can mean only that plasma is being lost from the blood stream and that nothing is being accomplished. Tissue edema, rather than an effective increase in the blood volume, occurs.

"Other fluids which can only be considered and should not be used if blood is available, include the use of ascitic fluid, amino-acid mixtures and gum acacia solutions. Acacia has been used with reported success; however, there have been deaths reported following its usage, a clogging of the reticulo-endothelial system being blamed. There are other important and well-known methods in the treatment of shock which cannot be overlooked. These include meticulous handling of tissues, careful hemostasis and keeping the patient warm and dry. If a general inhalation anesthetic agent is used, a mixture containing a high percentage of oxygen should be used. The employment of oxygen in the prevention of shock has received too little attention. The immobilization of fractures in temporary splints before the patient is transferred from the scene of injury should always be carried out. . . . Finally, in the enthusiasm which is so often ours in doing everything possible to prevent peripheral circulatory failure, we forget that the patient needs rest. Over treatment is a reality in some instances."

J. C. M. C.

BURNETT, W. E.: *Management of Local Anesthesia, Particularly for the Diabetic Patient.* Am. J. Surg. 50: 474–480 (Dec.) 1940.

"Diabetic patients are subject to the same conditions which affect those without diabetes and are particularly prone to infection and acidosis. They are also quite liable to arteriosclerosis with its attendant cardiac and renal damage. Infection renders diabetes more