

ARTIFICIAL RESPIRATION The tidal volume achieved during artificial respiration was investigated in 27 experiments in anesthetized and curarized individuals. In the absence of an endotracheal tube, commonly used chest pressure methods of resuscitation resulted in either grossly inadequate to marginally adequate tidal volume exchange. Tidal volume exchange was inadequate in the majority of cases, even with trained individuals attempting resuscitation. Mouth-to-mouth and mouth-to-oropharyngeal airway methods of resuscitation resulted in tidal volumes of 1000 to 2000 cc. This method was effective when used by both trained and untrained operators. Hyperventilation on the part of the operator varied oxygen and carbon dioxide tensions in his expired air toward those of room air. With mouth-to-mouth techniques, normal arterial oxygen and carbon dioxide tensions may be maintained. The teaching of back pressure-arm lift technique of artificial respiration should be discontinued and replaced by mouth-to-mouth or mouth-to-airway methods. (Safar, P., Escaragga, L. A. and Elam, J. O.: *Comparison of Mouth-to-Mouth and Mouth-to-Airway Methods of Artificial Respiration with Chest-Pressure Arm-Lift Methods*, *New England J. Med.* 258: 671 (April 3) 1958.)

CHEST RESPIRATOR The Tunncliffe breathing jacket resembles the cuirass respirator, but is designed to avoid restricting the movement of the thoracic cage or of the abdominal wall. It is more effective than the cuirass respirator, but less effective than an intermittent positive pressure respirator. It is useful in transporting patients with respiratory paralysis and in maintaining respiration during bronchoscopy when a relaxant is used. (Spalding, J. M. K., and Opie, L.: *Artificial Respiration with Tunncliffe Breathing Jacket*, *Lancet* 1: 613 (March 22) 1958.

PULMONARY CIRCULATION The intravenous injection of aminophylline in anesthetized dogs usually caused a fall in pulmonary arterial pressure, as a result of local vasodilatation. Additional effects of aminophylline are to increase pulmonary blood flow, increase the force of myocardial

contraction, and produce aortic hypotension. None of the xanthine drugs produced selective pulmonary vasodilatation. (Quimby, C. W., Jr., Ariado, D. M., Jr., and Schmidt, C. F.: *Effects of Aminophylline and Other Xanthines on Pulmonary Circulation*, *J. Pharmacol. & Exper. Therap.* 122: 396 (March) 1958.)

CIRCULATORY REFLEXES The interrelationships of all the receptor mechanisms concerned in the reflex regulation of the circulation are complex. Three types of reflexes can now be defined, each utilizing a different component of the autonomic nervous system on the efferent side: (1) a center receiving impulses from the low-pressure vascular receptors and causing changes in vascular resistance in skeletal muscles; (2) a center receiving impulses from the arterial baroreceptors (carotid and aortic sinuses), and (3) a temperature regulating vasomotor center which utilizes vasomotor fibres to skin only. (Roddie, I. C., and Shepherd, J. T.: *Receptors in High-Pressure and Low-Pressure Vascular Systems (Their Role in Reflex Control of Human Circulation)*, *Lancet* 1: 493 (March 8) 1958.)

VENTRICULAR DIASTOLIC PRESSURE This study in 20 dogs demonstrated that there is a negative diastolic pressure in the left ventricle during aortic obstruction to inflow. Negative pressures of -2.5 to -18 mm. of mercury were observed in the left ventricle and -1 to -2.6 mm. of mercury in the right ventricle. During rapid bleeding, maximum negative diastolic pressures were -2.5 to -6.5 mm. suggesting that ventricular suction may be important to ventricular filling during acute hypovolemia. (Fowler, N. O., and others: *Effect of Inflow Obstruction and Rapid Bleeding on Ventricular Diastolic Pressure*, *J. Thoracic Surg.* 35: 532 (April) 1958.)

HEMODYNAMICS OF SQUATTING Squatting results in an increase in systemic blood flow in habitual squatters and in control subjects. In patients with cyanotic congenital heart disease, the rise in systemic blood flow is usually the result of both increased effective pulmonary blood flow and of flow through the venoarterial shunt.