lateral tension pneumothorax. Prompt aspiration of air resulted in rapid improvement. (*Zing, W., and Ferguson, C.: Surgical Emphysema, Postgrad. Med. 21: 287 (March) 1957.*)

EMPHYSEMA The alveolar carbon dioxide concentration measured at rest, before and after the maximum ventilatory volume test, has proved valuable in differentiating emphysema patients from normal. The maximum minute volume response measured with the subject breathing 7.5 per cent carbon dioxide in 92 per cent oxygen is a sensitive method for determining the patient's effective ventilatory response and for evaluating emphysema. There is a highly significant correlation with the results of the alveolar carbon dioxide determinations and the timed vital capacity and the maximum ventilatory volume test. (*Kelsey, J. E., Oldham, E. C., and Horvath, S. M.: Alveolar Carbon Dioxide Measurements in Normal and Emphysematous Subjects, A. M. A. Arch. Int. Med. 99: 411 (March) 1957.*)

DEAD SPACE Using a new geometric and mathematical method for estimation, anatomic dead space was found to increase with age as well as with hyperventilation. Anatomic dead space decreases on change from the sitting to the supine position. In pulmonary emphysema, anatomic dead space is reduced or normal, physiologic dead space is increased. (*Wilson, R. H.: Evaluation of Single Breath Technique for Measuring Anatomic Respiratory Dead Space, Am. J. M. Sc. 232: 67 (July) 1956.*)

PULMONARY FUNCTION Patients with kyphoscoliosis and Marie-Strumpell disease show reduction of vital capacity and maximum breathing capacity with an almost normal residual volume. The low expiratory reserve with the nearly normal residual volume explains the small functional residual capacity which may be responsible for the exceptionally low intrapulmonary mixing indexes. (*Iticovici, H. N.: Ventilatory and Lung Volume Determinations in Patients with Chest Deformities, Am. J. M. Sc. 232: 265 (Sept.) 1956.*)

CIRCULATORY CONTROL A philosophical dissertation is given on the influence of relaxant drugs, induced hypotension, hypothermia, and heart-lung pumps upon the circulation. Induced hypotension demands a high price. Hypothermia to 30 C. is practical and safe, but should be regarded as an adjuvant to hypotension. Extracorporeal circulation incurs its own hazards. (*Gray, T. C.: Reflections on Circulatory Control, Lancet 1: 383 (Feb. 23) 1957.*)

ATRIAL FIBRILLATION By observations of left heart border electromyograms, carotid pulse, arterial pressure and the heart sounds in 25 patients with atrial fibrillation, the authors studied beat to beat changes of ventricular rate, durations of systole and diastole, arterial pressure, and left ventricular pressure. (This was done during surgery or by a bronchoscopic technique.) Arterial pulse pressure, systolic pressure and ventricular end-diastolic volume showed considerable variation for a given R-to-R wave interval in this arrhythmia. It was demonstrated that left ventricular work was determined by end-diastolic volume. (*Dodge, H. T., Kirkham, F. T., and King, C. V.: Ventricular Dynamics in Atrial Fibrillation, Circulation 15: 335 (March) 1957.*)

CEREBRAL CIRCULATION Concurrent studies of the respiratory center and carotid body were made. Incomplete anoxia of the respiratory center caused respiratory arrest owing to a state of reversible anoxic neuronal paralysis. Seven per cent carbon dioxide and oxygen caused hyperpnea mediated in the first few seconds by its action on the carotid body and later by its additional action on the respiratory center. Repeated anoxia lowered the threshold of the respiratory neurones to its paralytic effects. (*Meyer, J. S.: Studies of Cerebral Circulation in Brain Injury; Ischemia and Hypoxemia of Brain Stem and Respiratory Center, Electroencephalog. & Clin. Neurophysiol. 9: 83 (Feb.) 1957.*)

PORTAL CIRCULATION Small quantities of ether (1 cc.) are injected into the spleen by transparietal route, and the

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