of great importance in the care of chronic cases and receive but cursory attention in the hospitals. The use of the faradic, galvanic and high-frequency currents should be taught, and also the value of light, locally and generally. The vibrator is another instrument which may be used to quicken the circulation and to assist in better elimination, and there are a variety of rubs which play their part in assisting returning health. Hydrotherapy is perhaps the most important of all forms of treatment for psychopathic cases, and should be thoroughly taught. The nurse should not only be able to apply the various kinds of douches, compresses, electric-light baths, tub baths, packs and sprays, but she should know something of their indications, the result to be expected, and the physiological principles underlying these results. There must be sufficient instruction to inculcate principles and methods which, in turn, must be practiced enough to acquire a more or less automatic familiarity with them. This is the essential thing and is obtained only by daily practice.

A phase of psychopathic nursing which is not sufficiently appreciated is attention to the happiness and contentment of the chronic sufferers. No nurse is well trained for this work who is not willing to devote much of her time to the entertainment of her patient. To do this, she should become familiar with various kinds of handicraft, basket-making, metal and pottery work and all kinds of games. She should have a pleasant voice and intelligent emphasis when reading aloud. Not the least of her accomplishments is the tactful selection of her reading matter, and this presupposes an understanding of the minds of her patients, as well as some familiarity with literature. To aid accurate observation on the part of the nurse, and to assist in keeping a high standard of accuracy as well as to allow of permanent records, a clinical chart should be devised, adapted to this kind of nursing; and she should have a small notebook, seen only by the physician, in which are noted the mental attitude, sayings and such actions of the patient as may be of value.

It will be seen that the ideal psychopathic nurse is a woman of many parts and capabilities. But a physician who has treated a difficult nervous case, and without success has tried nurses of various kinds (we knew of one patient who had forty last winter before the right one), will appreciate the great benefit and comfort that such a nurse can be to the chronic sufferer.

A WARNING IN REGARD TO INTRATRACHEAL INSUFFLATION ANESTHESIA; THE NECESSITY OF A SAFETY VALVE.

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FROM our earliest experience with the method of Meltzer and Auer we appreciated the dangers of emphysema and of interference with the circulation (prevention of filling of the right heart) by excessive intrapulmonary pressure; the physiological literature gives ample evidence of all kinds

that a pressure in excess of 10 mm. Hg. is unjustifiably dangerous.

To prevent this danger one of us (B), working with Ehrenfried, adopted the simple expedient of a mercury safety valve. The simplest form (and we think the best) is a bottle containing mercury; in the cork are two holes, — one for the passage of a glass tube connected with the air current near the mouth of the patient, which dips into the mercury a distance of 10 mm.; the other hole is for the escape of the air from the bottle, which (to prevent the loss of mercury) can be filled with a short glass tube plugged with cotton.

It is evident that any increase in pressure above 10 mm. anywhere in the apparatus will escape by bubbling through the mercury. The tubing to the safety valve must be of as large caliber as that of the rest of the system so as to take care of any volume of air that the apparatus might suddenly deliver.

A minor advantage of this safety valve is that it is a very reliable guide as to the depth of anesthesia. When the patient becomes "light," the glottis contracts and closes around the tracheal catheter and hinders the outflow of the air; attention is attracted to the increase in pressure then produced by the noise made by the air bubbling through the mercury. The addition of ether vapor rapidly overcomes the spasm of the glottis, the bubbling of the safety valve ceases, and the patient is once more quiet and relaxed. It is this spasm of the glottis that (without the safety valve) renders the method of intratracheal insufflation dangerous; and the danger increases *not with the depth*, but with the *lightness* of the anesthetic state. For instance, at each stroke of the pump a certain volume of air is forced into the thorax, which volume must find its escape between the catheter and the trachea and larynx. The variation in the size of the glottis by contraction or expansion of the vocal cords controls the ease of escape of the air. Sudden spasm, which is of frequent occurrence when the patient is lightly anesthetized, will prevent all but a small amount of the introduced air from returning; it is evident, therefore, that one or two strokes of the pump markedly increase the intrathoracic pressure. It is of no importance whether air-ether or nitrous oxide-oxygen is used; cylinder pressure or air pressure is ample to do damage in this way.

From a death in a cat that we had early in our experience from negligence from not using a safety valve, we predicted that such accidents would occur in human cases under similar conditions.

Reports have recently come to us in considerable number of such accidents in patients (not as yet in Boston) and in order to prevent this excellent and valuable method from receiving undue condemnation we feel warranted in once more calling attention to the fact that it is *unjustifiable to administer any anesthetic by intratracheal insufflation without a safety valve in the air current of sufficient capacity to take care of any sudden excess of pressure beyond 10 mm. Hg. which the motive power is capable of producing.*