

with for holding. In order to do this, the assistant puts his left leg in the chair back of the patient, grasps the patient's hair and holds the head against his knee.

If the operator uses a self-retaining gag the assistant has one hand free for the ether. Many men, however, prefer to have the gag so held that it can be let up from time to time in order to allow the throat to be cleared by swallowing. In septum operations, if a gag is kept in the mouth, the patient breathes through the mouth instead of the nose, and the possibility of a sudden inspiration through the nose, shooting clots back into the trachea, is guarded against.

If the ether apparatus is run by a hand bellows, an extra assistant is needed, but with a foot bellows this is not necessary. In all of the more extensive operations it is well to have the etherizer free to confine himself to the ether alone. The bellows can be replaced in hospitals by the compressed air tank. With ordinary care there is no danger from fire.

By using a double boiler the use of the alcohol lamp can be dispensed with. Boiling water is put in the outer compartment and will keep the water about the ether bottle in the inner compartment sufficiently warm for nearly an hour.

Abroad, and in many places outside of Boston, there is a great prejudice against the upright position. The reason given is that there is danger of collapse. All that I can say is, that I have not found anything to justify this opinion. I have knowledge of but one case which could be classed under this head. That the position had little, if anything, to do with it was shown by the condition repeating itself some days after the operation and while the patient was still in bed.

Within a year or two an account of some experiments on animals which have a bearing on this point appeared. Unfortunately I have not been able to re-examine this reference, but the point of the work was this: Rough manipulation in the pharynx or upper larynx was frequently followed by death. Further experiments went to show that the previous giving of atropine prevented this. The explanation of these results was that the stimulation of the pharyngeal plexus stopped the heart by its inhibitory action. Atropine seemed to prevent this. The freedom from any accident in Boston makes me feel that, though possible, and though probably explainable on this theory should it happen, this accident for all practical purposes can be disregarded. Those who give atropine as a routine measure before operating in order to prevent the formation of mucus, would seem, from what has just been said, to derive an additional advantage from its use.

INFANT MORTALITY IN RUSSIA.—The St. Petersburg correspondent of *The (London) Times* says alarming figures in regard to infant mortality are made public by the medical reports to local authorities. It appears that in many governments 40 and even 50% or more of the children die in their first year.—*Medical News*.

NOTES ON X-LIGHT: RADIO-ACTIVE SUBSTANCES IN THERAPEUTICS.

BY WILLIAM ROLLINS, BOSTON.

DURING the year 1900 I made experiments with radio-active substances hoping to find a substitute for x-light. I found that some of the radiations retained their activity after passing through animal tissues as thick as the body of a guinea pig. I was so convinced of the value of radium that I placed about 500 mgm. in a sealed capsule to protect it from moisture, giving it to a physician with the request that it should be tried on lupus, a disease which at that time was interesting him. The capsule was disk shaped, with a front of aluminum, a back of comparatively nonradiable metal. I believe it to be important to test these substances in the treatment of lupus, superficial cancer and diseases of the skin in which x-light has been found useful; therefore, I mention that I have another capsule which I shall be glad to send to any Boston physician who will give the matter a fair trial. Radio-active substances can be used in sealed capsules held against the body by adhesive plaster, or they can be made to cover larger areas by mixing them with rubber or celluloid to form moisture-proof plasters. These plasters may be still further protected by being coated on the sides nearest the body by aluminum foil and on the opposite sides by lead foil. They could be kept in stock by the yard by druggists and given to patients by prescription, with proper directions as to the length of application. They could be worn at night. Their use would prevent the poor from making such frequent visits to a physician as are now required when x-light obtained from a vacuum tube is used. This is a matter of some importance, as the present treatment takes many sittings which require time and cost money.

Medical Progress.

REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND E. G. BRACKETT, M.D., BOSTON.

(Concluded from No. 3, p. 69.)

PNEUMOCOCCUS ARTHRITIS PRIMARY IN THE KNEE JOINT.

DUDLEY ALLEN²⁷ reports 2 cases, 1 in a female 40 years of age, of fatal result in spite of drainage and incision. There were no pneumococci in other organs. The writer is unable to say how the affection could have gained access to the joint.

Cave²⁸ also reports a case and has collected 30 others in literature. The symptoms vary, according to the writer. There is pain and slight swelling, limited to a single joint, to intense inflammatory edema of the whole neighborhood of

²⁷ *Annals of Surgery*, p. 527.

²⁸ *The Lancet*, Jan. 12, 1901, p. 82.