

tion. The treatment consists of grain $\frac{1}{4}$ extract of belladonna three times a day, with quinine and strychnine. X-ray exposures are also made to the limits of toleration. The rays appear to have some direct action upon the glandular tissue, and cause the capsule to become denser, thus facilitating the removal. The operation is done under general ether anaesthesia, preceded by a hypodermic of grain $\frac{1}{4}$ of morphine and 1-200 of atropine. Operation upon many of these cases is a life-saving measure, and though the mortality is relatively high, Dr. Mayo has had over forty exophthalmic operations with but one death. Excluding malignancy and Graves' disease, Dr. Mayo's mortality, in over two hundred cases, was but one death from pneumonia on the eighth day. The operation can be best described in Dr. Mayo's own words:

We prefer the transverse collar incision. This is made across the neck from the inner border of one external jugular to the other, even though the tumor be unilateral. The incision includes the skin and platysma myoides and is convex on its lower border to accurately follow the skin lines of the neck, and it is usually over the centre of the tumor. The wound is enlarged by dissection of these flaps from above and below to the thyroid cartilage and sternum, narrowing in width of dissection top and bottom to the sterno-thyroid muscles and the sternum. The sterno-thyroid muscles, usually below, are separated above by a vertical incision. The group of muscles on either side comprising the sterno-hyoid, sterno-thyroid, and omo-hyoid are now separated from the loose cellular capsule of the thyroid gland and forcibly retracted. In this way sufficient space is secured for the removal of moderate-sized tumors.

In case more room is required for large goitres and for certain types of goitre, such as in Basedow's, it is secured by incising one set, and very rarely both sets of muscles covering the tumor. This muscle-incision is usually wrongly made over the bulging part of the gland in the line of skin incision, but should be made as high as the thyroid cartilage. Lateral retraction folds the muscles over the inner border of the sterno-mastoid. Partial section may be ample to afford sufficient space. The most important part of this high section of the muscles is that it preserves the nerve supply to these structures. The thyro-hyoid muscle is supplied by a branch from the hypoglossal, and the others by the loop of communication between the descendens and the communicans hypoglossi. It also exposes the key to the situation—the superior thyroid artery.

In very large tumors it may be necessary to secure still more room. This is accomplished by splitting the lower flap of skin and platysma in the centre of the sternal notch. This actually exposes the whole field of