

Case 2.—Patient was run over by a heavy cart shortly before his admission to the hospital, the wheels passing over the right femur. He entered the hospital May 6, 1896, and was put in an extension splint for six weeks. The first day he was up walking on crutches he fell again and refractured the femur at a point just below the callus. The first fracture was located in the upper third of the femur, ten inches above the upper edge of the patella. The second fracture was eight inches above the patella. Eight days after the second accident the patient was furnished with a glue dressing, and two days later with an ambulatory apparatus. (I prefer to have the glue dressing thoroughly dried first; this takes about twenty-four hours.) One inch of shortening had resulted from the first fracture, the knee joint being almost immovable; the quadriceps muscle had atrophied to such an extent as to cause a difference of one and one-half inches in the circumference of the thigh. Four weeks later the extension apparatus and glue dressing were removed. Callus at site of first fracture was quite large, while that at the seat of second fracture was scarcely perceptible. The quadriceps muscle was much more developed, the difference in circumference having been reduced to three-fourths inch. The knee joint could be bent to half a right angle. The astragalo-tibial joint was freely movable. No disturbance in circulation was noticeable at any time. A decubitus about the size of a half dollar located on the posterior surface of the thigh, which had resulted from the dressing of the first fracture, was healed up. There were no signs of pressure from the apparatus, which was worn over four weeks. There was a slight elasticity in the bone at seat of fracture. The patient was provided with a flannel bandage and sent home.

In this case we have right at hand a comparison of the old method of treatment and the new method. Under the former method the patient was compelled to lie in bed for six weeks and then, being unable to stand, had to use crutches. The muscles of the whole leg were atrophied, the knee stiff and the astragalo-tibial joint almost immovable. There was an extensive and luxurious callus and one inch of shortening. During the ambulatory treatment of the second fracture we not only took care of the fracture itself, but succeeded also in mitigating the bad effects of the first fracture.

1. The muscles of the leg, especially the quadriceps muscle, had gained considerably in strength, the difference being only one-half inch in the circumference.
2. The knee joint was mobilized to 45 degrees and the ankle joint absolutely free in mobility.
3. The original shortening of one inch was reduced one-fourth inch. It is remarkable that the formation of callus is very small under the ambulatory treatment compared with the callus formation under the stationary method of treatment. During the course of the stationary treatment the patient had lost in flesh and looked pale. When he left the hospital he was in the best of health and spirits, having enjoyed an outdoor life during the hot season. The measurements in this case were also taken by Dr. Jackson, interne of the hospital, so as to avoid any mistakes.

Case 3.—Strong laborer; oblique fracture of the left femur seven inches above the upper edge of the patella; considerable extravasation of blood; difference in circumference three inches; overriding of the fractured ends; shortening two inches. Admitted October 23; provided with a glue dressing October 26, combined with extension. As a shoe with a high sole for the healthy side could not be procured at once, it was necessary to postpone putting on the apparatus until the evening of November 2. He then walked through the ward with the aid of two canes, and the next day being election day, he was driven in a buggy three miles to his district to cast his vote. He returned to the hospital next morning in good condition, having been driven over rough roads and walked through a considerable crowd. Having gained confidence in the treatment he asked for his discharge from the hospital, which was granted. He is now going about at home still provided with the apparatus.

The construction of the apparatus has already been described in detail in the *Railroad Surgeon* of Feb-

ruary, 1896, and the *Chicago Medical Recorder*, February, 1896. The fractured shaft rests immobilized in the apparatus, the weight of the body being transferred to the tuber ischii, which is astride the uppermost steel bar. The apparatus is about two inches longer than the extremity, so as to allow the extension of the extremity. The same apparatus may be used in any joint disease in which the indications are rest of the joints, extension, and at the same time outdoor exercise.

The only objections to the general use of the apparatus are, 1, the expense; 2, the adapting of the steel bars. In experimenting to overcome these disadvantages I have succeeded in finding a material which, in my opinion, is ideal for use in general practice as well as in surgery. It is fiber. It is used in three thicknesses. The thinnest one takes the place of pasteboard in glue dressings and molds itself closely to the outlines of the extremity. I have experimented with the two next sizes for quite a while, and find that when soaked in hot water for different lengths of time it readily adapts itself to the outlines of the extremity. When soaked in hot water for about ten minutes it can easily be adapted to the outlines of the arms or legs. In order to mold it right to the skin around the joint so as to secure a capsule for the same, it is necessary to soak it for twenty-four hours. When dried, fiber takes the place of wooden, hard rubber or papier maché splints. In a half-soaked condition it replaces pasteboard, felt and pliable wood. When thoroughly softened it replaces leather for making capsules and immobilizing splints for diseased joints. When dried again it retains the form of the part of the body to which it was applied, and the different parts can be connected with steel bars by means of copper nails. The way to proceed is, to cut out a pattern of simple parchment paper and then cut out the same in the fiber sheet. Then this fiber pattern should be soaked in water, placed around the extremity and held there with tightly fitting rollers until dried. It is then taken off and connected with steel bars. I consider fiber the most universal material yet devised, and recommend it for extensive use by the general practitioner, as well as for railroad and army purposes, as it takes up but little room and is inexpensive. It can be kept clean. Stains may be removed with water and soap. When applied directly to the skin it does not irritate, as its surface is absolutely smooth. Greasy matter may be easily washed off with alcohol or ether. I now use it extensively in ambulatory apparatuses for joint diseases in clinical work, in correcting malpositions of joints, combined with rubber bands and permanent extension. The fiber capsules are adapted during the hour of the clinic and brought to the instrument maker.

The surgeon does not have to depend on a special instrument maker, as any skilled locksmith is able to connect the fiber casts with longitudinal steel bars according to given measurements. For this reason, the introduction of fiber in surgery is likely to result in a more general use of the extension splint.

911 Venetian Building.

A LARGE FIBROUS NASAL POLYPUS.

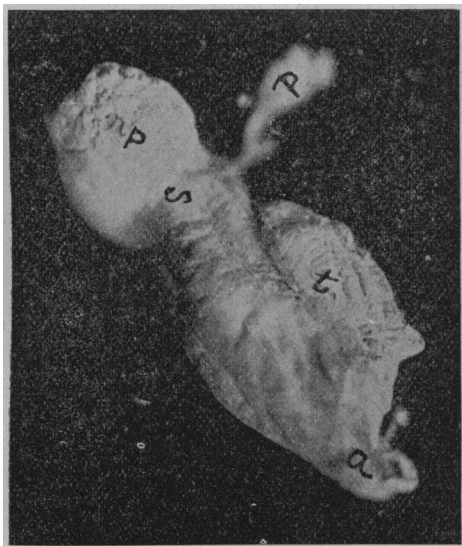
BY F. A. LONG, M.D.

MADISON, NEB.

Fibrous polypus of the nose is much more formidable than the soft or mucous variety, but is fortunately

rarely met with. The tumors may attain enormous size and give rise to frightful deformity. It may occur at any period of life, arising from the periosteum or the bone proper, usually from the posterior nasal or the cavities accessory thereto, but with a special predilection for the roof of the posterior nares. Its growth is far more rapid than that of the mucous variety; the filling of the nasal and post-nasal spaces does not stop its growth, and the continued and ever-increasing pressure forces the bones of the nose apart (as is apparent to any observer by the appearance of frog-face), causes absorption and caries of the bony walls and ulceration of soft tissues, giving rise to an acrid discharge and also to frequent hemorrhages. Repeated severe hemorrhages may sap the patient's vitality. The constant direct absorption and swallowing of purulent discharges may gradually end life by septicemia. Sarcomatous degeneration is liable to take place, ending in a horrible death.

The appearance of the fibrous variety is so different from the soft that a mistaken diagnosis is impossible. It lacks translucency, has the color of surrounding tissues, perhaps a little deeper red, is firm and resistant to the touch.



EXPLANATION OF CUT.

a. Anterior surface presenting at left nostril; t, portion showing convolutions of inferior and middle turbinates; s, sulcus dividing polypus into nasal and naso-pharyngeal lobes; n p, naso-pharyngeal lobe; p, pedicle; length along left side of mass from a to n p, $2\frac{3}{4}$ inches, height at t $1\frac{1}{4}$ inches. The cut is nearly natural size.

With these preliminary remarks I wish to record the following:

A young German-American farmer presented himself complaining of total nasal obstruction. He had the general appearance of good health, but "frog-face" was at once apparent. Complained of some headache, of lack of ambition and of eyes watering constantly, mostly on left side. He frequently felt nausea, worse when reclining. The trouble came on insidiously and he thinks it may have been a year in its development. On inspection a solid mass completely occluding the anterior nares, presented itself at the left nostril. The septum was deflected decidedly to the right side; the soft palate was bulging downward. Digital exploration of the naso-pharynx revealed the entire space anteriorly occupied by a solid mass, its attachment uncertain.

The mass was removed with a polypus forceps through the anterior nares, the deflection of the nasal bony walls caused by the pressure of the mass

and the very slender pedicle (see cut) having made removal by this method and through this way comparatively easy. Macroscopically it is a soft, fleshy mass $2\frac{3}{4}$ inches long by $1\frac{1}{4}$ high in the middle portion (t) showing here beautifully the impression of the turbinated bodies on the tumor; width across the base, which corresponds to the floor of the nasal fossa, $\frac{5}{8}$ inch. Just back of the attachment of the pedicle is a deep sulcus (s) caused by its impingement on the nasal septum posteriorly, and which divides the polypus into two lobes, the nasal and naso-pharyngeal. The naso-pharyngeal lobe (n p) is $1\frac{1}{8}$ inch wide and $\frac{7}{8}$ inch high turned toward the right side, and by its shape, size and position occluded the right nasal fossa behind. The pedicle is very slender, $\frac{3}{8}$ inch long, very much constricted at the polypous end, showing conclusively that the polypus originated in one of the accessory sinuses, probably the sphenoidal. From the sulcus forward the growth is an almost perfect cast of the left nasal cavity.

This case is believed to be sufficiently unique to deserve a place in the literature of nasal polypi.

THE PHYSIOLOGIC ACTION OF THE THYROID GLAND.

BY HUBERT RICHARDSON, M.D.

BALTIMORE, MD.

The very different results obtained by the administration of the thyroid gland, or its extracts, and the reports of its success in so many forms of disease, require some further explanation, and I here give the results of a few observations made during the past six months on its possible physiologic action among the insane.

In the paper read by Dr. C. G. Hill on the subject of thyroid feeding, an analysis of the urine made by Dr. Whitney is given, which shows that though the excretion of chlorids, phosphates, sulphates and to a lesser extent urea are slightly increased, the total solids are decreased, pointing to the non-elimination or non-formation of the more toxic products of metabolism, with the possible exception of the ethereal sulphates. Dr. Haig showed by experimentation on himself that thyroid feeding produced a retention or possibly a reduced production of uric acid. Dr. Perry, in his paper on the blood in thyroid feeding, has pointed out that the blood coagulates more quickly, that very slight leucocytosis, or none at all, takes place, but that there is an increase in the number of lymphocytes. A general desquamation seems to take place in the mucous membranes, as well as in the skin, pointing to an increased activity of cell production. Horbaczewski has shown that uric acid is formed from the destruction of polynuclear cells and that those drugs which produce a leucocytosis also cause increased elimination of uric acid, with a few exceptions, as antipyrin, which he suggests produce the leucocytes by the arrest of destruction consequently diminishing the excretion of uric acid.

In my own analyses I have found that the first result of thyroid feeding was to reduce the elimination of uric acid, though after a week or ten days it became normal, or slightly excessive, as the patient improved, presumably by increasing the production of the lymphocytes and also those of the mucous membranes and decreasing at first the destruction of the polynuclear cells. I have observed that when the