

will be trimmed, and after it has hardened the patient will be ready to go home. Leave the bandages on as long as they will stay; they usually last about two months; but never allow a child with Pott's disease to stand or sit up without good support.

The case of this little boy who comes in next, with the disease high up, will also require a jacket, with a head-spring in addition. The jacket has been put on just as in the first case, except that about three of the outside turns of the bandage were carried over the lower portion of the head-spring to fasten it in position.

The crinoline used for bandages must be sized with starch. If it is not sized with starch it is better to wash it. If sized with glue it will not stay on, no matter how good the plaster of Paris is. You can test it by trying it on somebody's arm, or by tasting it, or by the starch test. Cut it into six-yard pieces, two, two and a half, or three inches wide, according to the size of the patient. Roll or rub the plaster in its meshes the same day you are going to use it, if possible. When you take the plaster out of the can, seal the can carefully, and it will keep indefinitely in good condition. Rub it well into the meshes of the cloth, and then you are ready to use it. Roll in a loose roll the same as any other bandage, and you then have every requisite for a first-class jacket. If you prepare your bandages in this way the jacket will be set by the time you get through putting it on. Trim it under the arms and around the thighs, so that the patient can sit down with comfort.

### SYNOVITIS OF THE KNEE-JOINT; PROCTITIS; PRIMARY SYPHILIS—BUBO; VARICOCELE; CYSTIC GOITRE; LIPOMA.

CLINICAL LECTURE DELIVERED AT THE RUSH MEDICAL COLLEGE.

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#### SYNOVITIS OF THE KNEE-JOINT.

GENTLEMEN,—The first patient I show you this afternoon is a lady seventy-four years of age. She has some trouble with the knee-joint, which is considerably swollen. We have an antecedent history of "rheumatism," and she says that there has been a good deal of pain in the joint. The probability is, therefore, that this was originally a case of synovitis, and that we have at present an effusion in the joint of synovial fluid. There is a chance that this condition is due to the presence of pus in the joint; and, in fact, at a hurried examination a day or two since, I presumed we had pus, but on examining the joint more carefully to-day I am sure that it is a synovial effusion. I infer it is synovial because the swelling follows the direct outline of the synovial sac. You remember that this sac passes above the upper border of the patella a distance of an inch and a half to two inches in some cases, and occasionally even farther. In this case the synovial sac is fully distended. There is not pain enough in the limb for us to conclude that we have to deal with pus. If it was a cold abscess, as it is termed, we should have had a pretty violent inflammation in the joint, and there would have been the constitutional signs of pus. As it is now, there is only a history of some pain such as a woman of the age of seventy-four, subject to rheumatic pains, might have in any of the joints.

We will now make an exploratory puncture by inserting a rather coarse hypodermic needle—after passing the point through a flame to disinfect it—directly into the swelling at the side of the patella, and by withdrawing the piston of the syringe, if the fluid is not too thick

to flow through the tube, we will ascertain its character. As I suspected, it is synovial fluid, and not pus. These accumulations in the joint are due to either chronic inflammation or to acute inflammation of the synovial membrane. Sometimes even when the inflammation has been very acute the fluid becomes absorbed, and there is no swelling; at other times the fluid goes on accumulating until the joint-surfaces become stretched; they become infected, as in disseminated tuberculosis, for example, and pus is formed. The rheumatic enlargements of the joints are very apt to have an accumulation of synovial fluid. I think it is always better in such cases to evacuate it and inject either iodine or iodoform emulsion. In this case now under treatment there will be nothing more required than ordinary tapping, injection with iodine water, and allowing the injection to pass out.

As to the method of performing this operation, a trocar is introduced into the most prominent portion of the swelling, about the upper border of the patella, carrying the point of the trocar downward and inward until we have reached the sac; then the fluid is pressed out, and the iodine injected. Frequently these collections of fluid are too thick to flow through the trocar, in which case we are obliged to substitute a larger instrument for the small one commonly employed. There is another point in the puncturing of these synovial collections, and that is the practice of making the skin tight, pulling it up or down or transversely, so that when the fluid is withdrawn the skin falls back again over the slight puncture that has been made, like a valve, and in that way the air is kept out. I have now introduced the instrument into the joint underneath the patella, and shall withdraw the trocar, leaving the canula in place. Instead of the trocar and canula the aspirator is sometimes used, and is especially valuable in cases before the effusion becomes inspissated and too thick to flow through the tube. In this case the sac seems to be multilocular, and the fluid is dark and a little redder than that which is ordinarily seen in synovitis. Excessive synovial fluid is generally of a pea-green color, highly albuminous, in appearance somewhat resembling dropsical fluid. In this case it is a little brownish, as you see, and flows through the tube with a great deal of difficulty. We will now inject the joint and the synovial sac with the iodine water, washing it out thoroughly in all directions. As much of the iodine water as will not flow out of the canula with ease will be forced out. What may remain in the sac will be harmless. We will now apply a little iodoform collodion directly over the small puncture that has been made, and the limb will be enveloped with gauze and a plaster dressing.

## PROCTITIS.

This man has a history of some injury to the rectum. We will try to find out what his present disease is. He is in pretty good health; his general system has evidently not suffered by the accident, whatever it was. On examination, I see a small nipple-like projection about two inches below the anus, from which pus is flowing. I will introduce a grooved director into this opening and endeavor to follow it to the source of the pus. We will place the patient in the lithotomy position and make a careful examination of the rectum. A Sims speculum may with advantage be employed in the rectal examination of this case. The introduction of the speculum into the anus can be done with ease by using the index finger as a guide, introducing the index finger first and then the speculum. In order to prevent the soft fecal matters from flowing out of the anus during the examination, we will pack the rectum carefully with cotton; we can then inspect the margin and the rectal wall. The parts seem to be in a high grade of congestion. There are several ulcerated patches, and on the right side corresponding to this opening I can see anteriorly a little pus pointing, which is doubtless from the internal opening of a fistula. Sometimes we are not able to follow the fistula carefully and easily, but with the finger in the rectum you can usually discover a hard round substance underneath the membrane, feeling as though it were a tube or a pipe buried under the mucous membrane, and this feeling is caused by the hardened and thickened tissues which surround the fistulous tract. The tissues become indurated from long-continued inflammatory infiltration. At the posterior portion of the rectum there is a denuded surface, the seat of an ulcer of considerable extent, and it might be said that we have here the lower rectum in a state of general inflammation or a condition of proctitis.

We will now remove the speculum and endeavor to trace the fistulous tract from the exterior, and I find by passing a smaller probe within a grooved director, for the director will not follow, that the tract reaches, as was supposed, directly inward and a little backward. We must make sure in this case that we reach the internal opening of the fistula. Sometimes the openings are quite high up; at other times the internal opening is at a point quite distant from the direction in which the fistula opens externally. Sometimes the fistulous tract passes all the way around the bowel, thus partially dissecting the rectum from the tissues, and forms what is called a horseshoe fistula. It is in these cases of fistula in ano that failures are frequently found and recorded,

because the entire fistulous tract is not incised. I have now passed the probe into the internal opening, and the patient is suffering no pain, for the reason that we have injected cocaine through the tract. I will endeavor to pass the grooved director alongside of the probe. The channel, as you observe, is quite narrow, and it is a matter of some difficulty to pass it. I will therefore be compelled to enlarge the external opening. Ordinarily, with the finger in the bowel, a grooved director can be passed directly through the fistula, and with a single sweep of the knife the fistulous tract can be cut through. In this case, however, it is so tortuous, and the tract is so narrow, that the usual operation cannot be performed. I have, by following down the probe, cut through the canal, and I here show you the bottom of the fistulous tract, looking almost like a blind sac with a new mucous membrane of its own and indurated thickened tissue at the bottom. I will now curette the tract carefully, so as to remove all pyogenic or infected tissue, and then bring together with sutures the walls of the incision, expecting that primary union will close up this tract, and we will gain two or three days in the healing process over the old operation, which consisted simply in laying open the fistula, packing it, and allowing it to heal by granulation. The point of entrance of this fistula into the bowel will be packed with iodoform gauze and allowed to heal by granulation, and the outer portion of the fistula, having been thoroughly curetted or scraped out, will now be brought together by sutures and closed up. Where these fistulæ have more than one opening, it is absolutely necessary that each of the openings should be traced and the tract carefully curetted, cut out, or laid open, so that it will heal up from the bottom or by approximation of the tract walls. One of these courses is absolutely necessary to be pursued if we would heal these fistulæ. Many a man is treated by simply laying open one fistulous tract. If others are allowed to remain, they go on forming pus, as the pus-bacilli are present; the disease reappears, the man becomes discouraged, and falls into the hands of some charlatan, when by a little care he might easily have been cured by laying open each of the fistulous tracts. The after-treatment in these cases consists in packing the wound with iodoform gauze, a little vaseline having been put upon it, and renewing this dressing morning and evening until the healing shall have been completed.

#### PRIMARY SYPHILIS—BUBO.

This patient has a history of chancre on the frænum, and he has now a hard swelling in the groin, which, on examination, is seen to be an enlarged lymphatic gland. This, of course, is a typical bubo following a

chancre. The soft chancre, or the chancroid, as it is sometimes termed, is usually followed by suppurating bubo, but not always, and the hard chancre by an indurated bubo. Some believe that the chancroid is but little less than a specific ulcer of the penis, due to an entirely different bacillus from that of the bacillus of syphilis proper. But the method of infection is precisely the same,—that is, by means of the lymphatics. When we find the lymphatic glands are swollen just above Poupart's ligament, following an initial sore on the penis, as in this case, we know perfectly well that the infection has come through the usual channel. It is believed that syphilis becomes constitutionally infectious through the lymphatic system exclusively, and it is on that account that the early excision of chancre was of itself praiseworthy in endeavoring not only to limit the disease and cause early healing of the site of the chancre, but also to prevent constitutional infection by destroying it at its beginning. In these cases we find that the lymphatic glands are acting as sentinels, as it were, to guard the system against constitutional infection. They are violently inflamed, they will soon suppurate, and it is a fact that the pus of chancroid seems to be the more virulent of the two, as there is a more active grade of inflammation, because in syphilis following the true Hunterian chancre there is an indurated bubo which does not suppurate, therefore less local inflammation is produced, and it is a less active infection. With the chancroid there is a suppurating bubo due to the active character of the bacillus of the chancroid. A few inunctions of mercurial ointment, the ordinary blue ointment, will be necessary in this case, and will probably dissipate the inflammation. In case the glands should long continue swollen, or should become permanently hypertrophied, it is well to enucleate them. It is always well, where there is not much surrounding tissue involved in the inflammation, to enucleate syphilitic glands. I believe it modifies the subsequent constitutional attack, from which this patient is bound to suffer to a very considerable degree. We know that active suppuration limits constitutional infection, and we know that investigation shows that negroes, as a race, are prone to suppuration; and they are freer from the later manifestations of syphilis. When a negro has either a soft or a hard chancre, in eight cases out of ten it is followed by a suppurating bubo, and he is very apt to escape those manifestations of the disease which would follow like conditions in the white race.

I shall advise this patient to use mercurial inunctions in preference to the radical treatment of enucleation of the glands. In this case they seem to occupy the whole base of Scarpa's triangle. While they commence above Poupart's ligament, they also extend below it and reach

out beyond the anterior spine of the ilium, and there is no question that the operation of enucleation would be a bloody one and extremely tedious. It is doubtful whether the long period he would have to remain in a recumbent position after the operation would not result in more debility and depression than would follow if he were to walk about while undergoing inunction. In the mean time, under the use of inunctions of the mercurial ointment, and constitutional treatment internally, the swelling of the glands will disappear, and the active inflammation will be subdued.

#### VARICOCELE.

In the next patient you will notice that there is an elongation of the testicle on the left side, and when he stands up I find a tortuous and twisted condition of the spermatic veins. They are in a state of varix, and on account of this condition the patient comes to us for an operation, as he desires to enlist in the army. Varicocele is generally considered as a disqualification for enlistment on the police force, and for the army or navy in almost all countries of the world in times of peace. In war-times they are not so particular; and unless the varicocele is pronounced, it will not disqualify the recruit from enlistment. The disease, as you know, consists in the breaking down of the valves of the spermatic veins. The veins, holding a great deal of blood, thus become twisted, knotted, and tortuous. They are liable at any time to produce great pain and disqualify a recruit from active work, especially in cavalry service, where horseback-riding is absolutely necessary in the ordinary performance of duty. The diagnosis is easy. When the patient is in the erect position the veins are seen to stand out with great distinctness.

The treatment is either palliative or radical. The radical treatment consists (1) in the extirpation of the veins, (2) in the subcutaneous ligation of the veins, (3) in the open ligation of the veins, and (4) in retrenchment of the scrotum (which is a very old treatment). In most of these cases you will see that the scrotum is elongated. The testicle seems to extend it, until on the affected side it hangs considerably lower than on the side which is normal. Furthermore, the weight of the blood itself in the vein has been conducive to its development and increase. So retrenchment of the scrotum was formerly proposed as a means of bringing up the scrotum to support the testicle and cord, in order that the direct pressure that the skin would exercise on the vein might result in a permanent cure. That is known as the Sir Astley Cooper method of treatment of varicocele. In practice, however, it

was found that the scrotum again became elastic and elongated, and that the veins again filled up: so that this operation is to-day not much practised. Excision of the veins is the favorite method of operating. Subcutaneous ligation may be practised, but it is quite likely to be followed by a severe grade of inflammation; it is attended with a good deal of pain, and the patient perhaps does not make so good a recovery as where the vein is obliterated by the bloodless method. Before giving you a description of that operation, I will mention the palliative treatment, which consists in the application of either an elastic bandage or an elastic suspensory bandage, by which more or less compression is continuously maintained on the veins, and thus the amount of blood in them is reduced.

*Excision.*—The veins may be excised under antiseptic precautions. We first make a longitudinal incision over the cord, through all the fasciæ; next the veins are caught up and separated from adjacent cord and other tissues by forceps passed under them; then a ligature is pulled through, and the vein, after tying, is cut directly across, and its free end seized with forceps; it is then withdrawn as far as practicable, and removed after ligation. Under antiseptic precautions there is but little trouble after the operation; the wound usually heals by primary union, the collateral circulation becomes established by other veins, and the disease is cured. An incision is now made directly over the line of the cord, extending from the external ring, which I will locate with the index finger. It is through this ring, remember, that the cord passes. You see here the mass of knotted veins, which I have turned out from the cord. We now divide the cremasteric fascia, and the spermatic veins are thoroughly separated from the adjacent tissues. You see the vein which I hold out with the forceps. I pass a ligature around it; it is tied very tightly, and with a firmness sufficient to approximate its walls.

The next step in the operation consists in cutting off the proximal end of the vein with the scissors, and it is tied below and cut off. I have now taken out about three inches of the spermatic veins, and tied them with catgut ligatures, which will be cut short and left in the wound. The wound will now be mopped carefully with sublimated gauze, or if there should be by accident much hemorrhage from the operation, which there has not been in this case, we would use irrigation. The little wound is now closed with catgut sutures, and we may expect primary union. The operation having been completed satisfactorily, let us hope that the patient's desire for military glory will be fully gratified.

## CYSTIC GOITRE.

The neck of this patient presents a typical case of cystic bronchocele, or cystic goitre. As I press over the prominent portions of the swelling, I find it is distinctly fluctuating. If we were to tap this goitre we should find that it contained a glairy white-of-egg-like fluid, quite albuminous, without odor, and slightly alkaline in its reaction. These cysts of the thyroid gland are usually multilocular. Sometimes, however, a single cyst enlarges until it presents very nearly the appearance we see in this case.

There are two methods of operating for the removal of cystic goitres. One consists in the injection of a weak solution of carbolic acid, and the other in the removal of one-half or three-quarters of the gland. The removal of the goitrous gland entire, while attended with some difficulty, is not impracticable; but the entire removal has been abandoned on account of the danger of extirpation being followed by myxœdema, a condition in which the mental character of the patient becomes completely changed. The mental powers are much weaker, and finally the patient becomes almost an imbecile. Myxœdema is the thing most feared in total extirpation of goitrous glands. It is now believed that the removal of one-half of the gland is unattended by any such difficulty. I have performed the operation several times without observing myxœdema, and some surgeons even go so far as to say that the leaving *in situ* of any portion of the goitrous gland will prevent this disastrous result occurring after the operation.

The goitre in this case is quite large, extending on both sides of the neck, evidently growing with considerable rapidity. You notice how the swelling pulsates. Distinct pulsation is felt in almost all parts of the tumor. I shall now inject it in the usual way with a carbolic acid solution. There are two or three cases in the habit of coming to the clinic regularly for injections, and they are doing well under this treatment. In one case, a little girl, the goitre has been almost cured by injections of carbolic acid. I have seen a number of cases that were greatly relieved by the injection.

## LIPOMA.

You notice in this case quite a prominence just below the seventh cervical vertebra, extending across from one shoulder to the other, a circumscribed swelling, which is painless, and has been growing for seven years. Its painless character and its slow growth exclude carcinoma or other form of malignant disease. It is not a sarcoma,

because, if it were, it would be painful and its growth more rapid; we should have veins showing distinctly through the skin, coming out of this enlargement. I have no doubt that this is a flat lipoma, a so-called diffuse lipoma, owing its shape to various causes, but particularly to the action of the muscles of the back. The patient declines an operation to-day, and will return, she says. The tumor is a solid one.