his description, for unless the surgeon realized that the mass was beneath the bursa, it might escape his attention.

CASE XXVI. Mrs. E. B. S. Age thirty-eight. Referred by Dr. D. T. Percy on May 19, 1908.

Small, wiry, poorly-developed woman. Previous history negative, except that eight years ago had a pelvic operation, probably for pyosalpynx.

One morning, five weeks ago, suddenly found that she could not raise her left arm naturally. She thought that she must have slept on it and kept on using it as well as she could. The pain began to be severe and prevented rest at night. The pain was localized to the left shoulder, down the outer side of the arm and about the insertion of the deltoid.

The tender point, extent of limitation and atrophy were characteristic of Type II. An x-ray plate, taken at the Homeopathic Hospital, showed a dense shadow between the tuberosity and the acromion in the region of the supraspinatus tendon and bursa.

Operation at Eliot Hospital, May 25, 1908.

Incision on the point of shoulder, deltoid fibers separated and bursa carefully opened. The serous membrane was reddened and thicker than normal. On the floor of the bursa, over the insertion of the supraspinatus, at the point indicated by the dense shadow in the x-ray, was a rounded elastic-feeling elevation of about 2 cm. in diameter. This lesion was entirely beneath the bursa, the floor of which had to be incised. The mass consisted of yellowish granular material, resembling the contents of a wen or of a cheesy gland, but more crystalline in character. This material lay on and in the substance of the tendon of the supraspinatus, just at its insertion into the tuberosity. There was a zone of subacute inflammatory tissue about it of about one-half cm. thickness of the periphery.

The granular material was curetted carefully away and the inflammatory zone and most of the subdeltoid portion of the bursa removed with scissors and pared away with a knife. The skin was sutured except for two provisional stitches, but no attempt was made to suture the muscle, the separated fibers of which tended to come together. When the small tumor had been removed motions were free without breaking any adhesions. Convalescence was normal, and she left the hospital in a week with the arm in a sling. No attempt was made to keep the arm in abduction.

Careful cross questioning after the operation brought out no history of injury, but that there had at times been rheumatic pain in the arm. The only cause for chronic irritation had been stenographic work some years before. (I have a number of times seen cases of subdeltoid bursitis in people whose occupation obliged them to use their arms in a slightly abducted position, so that the supraspinatus is obliged to remain continuously in action. This attitude is necessitated in piano-playing, stenography, hand-sewing and many other employments. Such an attitude makes a continuous demand on the tendon of the supraspinatus and if the latter becomes either swollen or atrophied an irregularity of the contour is brought about.)

This patient is still under treatment, but on June 12, 1908, less than three weeks from the date of the operation, the patient states that she is already much better than before the operation. No effort has been made to keep the arm in abduction.

Analysis of the granular material shows that it is chiefly calcium phosphate.

Dr. Wright reports as follows: "Microscopical examination of the material from your case of 'subdeltoid bursitis' shows the following:

The main constituent of the material is a coarse,

dense, fibrous tissue. Associated with this is a looser connective tissue in which are inclosed blood vessels and a good many cells of the lymphocyte series. The coarse fibrous tissue in some places contains more fibroblasts than elsewhere, and may, therefore, be considered to be in process of growth at these points. In a few places it is necrotic and it contains very few blood vessels. I cannot find any evidence of tuberculosis. The material seems to me to show a slow productive inflammatory process combined with degeneration and necrosis similar to the process observed in the heart valves in some cases of chronic endocarditis."

To sum up the question of operative interference in cases of lesions of the subacromial bursa, whatever their type, it may be said justly that in a class of cases where we may expect a spontaneous cure in the course of a few months, or at any rate in a year or two, that it is meddlesome surgery to interfere, considering the usual dangers of sepsis and anesthesia which attend any operation.

Certainly it is not the writer's intention to insist that these cases should be operated on, but no one can see the agony which some of them endure without wishing to relieve them. The consent to permit operation is a matter of temperament, some people preferring to suffer night after night rather than permit it, while others seek it rather than suffer a few weeks.

I believe that with improved knowledge and technic the confidence in the efficacy of this simple operation will become more general, and the surgeon will be willing to urge operation rather than simply consent to do it.

SUMMARY.

1. The subacromial bursa and the supraspinatus muscle are of essential value in abduction of the arm.
2. Lesions of the subacromial bursa and of the tendon of the supraspinatus are the common causes of stiff and painful shoulders.
3. Many cases which pass under the diagnoses of contusion of the shoulder, neuritis, peri-arthritis, circumflex paralysis and muscular rheumatism are in reality due to lesions of these structures.
4. The final prognosis of these cases is good, but when pain is severe, or disability is great, relief may be obtained by a simple operation of little danger.

Clinical Department.

A CASE OF DISLOCATION OF THE HIP WITH FRACTURE OF THE ACETABULUM.

BY C. HERMANN BUCHOLZ, M.D.,

Surgeon in charge of the Medico-mechanical and Hydro-therapeutical Department of the Massachusetts General Hospital, Boston.

In the autumn of 1907 I had occasion to operate upon the following case in which I found a very rare lesion. A young man met with an accident in a factory. The large wheel of an engine caught his right leg, turned him about once or twice, and threw him to the ground in an unconscious condition.

When admitted to the hospital he had regained

consciousness, but was very nervous and restless and cried at every movement. Examination showed the right thigh quite fixed in the position of flexion, adduction and inward rotation. The diagnosis — dislocation of the hip — seemed clear. There were not apparent any other lesions of bones or internal organs. He was carefully observed for several hours, during which time we delayed in order that the traumatic shock might disappear. Then the patient was given ether and an attempt was made to replace the hip. Several methods were used, but I only succeeded in partially overcoming the flexion and adduction.

Realizing that reduction might be more easily obtained after extension of the leg, I applied an extension of about 50 lbs. for a few days. The result was not satisfactory. Then a second trial to replace the hip was made with the intention of operating immediately if reduction was impossible. This second trial was in vain, like the first. An x-ray picture was made which showed why it was not possible to reduce the hip. Between the head of the femur and the glenoid cavity the picture showed a distinct shadow which seemed to be a part of the acetabulum.

The following day I operated, making an incision like that proposed by Kocher for the resection of the hip, beginning over the great trochanter and running upwards and backwards between the gluteus medius and pyriformis. Having freed the neck and head of the femur a triangular piece of bone was found jammed between the head of the femur and the pelvis. It was obvious that this bone was the upper and posterior lip of the acetabulum. As it was impossible to reduce this fragment of bone to its proper place it was removed. After this the reduction was made without much difficulty. I closed the capsule and then the muscles and skin by deep sutures, leaving a rubber tube at the upper corner of the acetabulum for twenty-four hours.

An extension bandage was applied and the thigh and pelvis put in a plaster of Paris cast, holding the leg slightly flexed and abducted. The wound healed without trouble. The plaster cast was removed after three weeks and careful active motions of the thigh were begun. Eight weeks after the operation the extension bandage was removed and the patient began to walk. Good results followed and four months after the accident, without much difficulty, the patient was able to walk for two hours to the hospital over a rough road. I was not able to examine the case further, and so do not know whether or not there was any permanent limitation of the hip-joint.

The removed fragment of bone was about the size of a child's hand and was a part of the iliac portion of the acetabulum. The cartilaginous surface was about 7 or 8 cm. square.

The above-mentioned lesion is a very rare one. Tillman, in his book, "Lesions and Diseases of the Pelvis," *Deutsche Chirurgie*, has collected the cases up to the year 1904. I have not been able to find in the literature any similar cases since that time.

Tillman divides the fractures of the acetabulum into three groups: (a) Isolated fractures. These are mostly in connection with the base. In young individuals separation of the epiphyseal lines of the glenoid cavity may occur. Sometimes the head of the femur is knocked through into the pelvis, a condition called central dislocation. (b) Fractures of the acetabulum con-

nected with other fractures of the pelvis, and (c) those connected with dislocation of the hip.

In most of the cases collected by Tillman the upper border was broken. The symptoms were similar to those of dislocation, only that a distinct crepitation was felt, a symptom which was not present in the above-reported case, even when energetic movements were made in attempting reduction. In some of his cases it was impossible to reduce the hip or to prevent the head from slipping out of the acetabulum after reduction was accomplished.

By the use of the x-ray diagnosis can be made without any particular difficulty. Usually in dislocations of the great joints, — hip, shoulder and elbow, — the diagnosis is so obvious that we do not make use of the x-ray as I believe we should do in all such cases. We should then probably find at times lesions of the bones not easily demonstrated by a clinical examination.

According to Tillman's report, most of the cases showed very poor results, either because it was impossible to reduce the head into the glenoid cavity or it was impossible to keep it in its position after reduction was accomplished. Some cases reported years ago indicated that operative reduction involved great danger to the life of the patient. Now, of course, with good asepsis, it is possible to operate without much danger.

Again, it may be difficult to retain the reduced hip in its proper place, but as the above case shows, one can remove a comparatively large piece of the acetabulum without any danger of the reduced head's slipping out again. The combined method of an extension bandage with a plaster of Paris cast seems to be the most satisfactory way of holding the femur in its right position and of obtaining good motion.

Medical Progress.

PROGRESS IN SURGERY.

BY JAMES G. MUMFORD, M.D., BOSTON.

ARTIFICIAL RESPIRATION AND OPERATIONS WITHIN THE THORAX.

ABOUT ten years ago a few farsighted surgeons and investigators began to perceive that we might some day conduct successfully operations upon the thoracic organs — upon the lungs especially, and upon the esophagus. The cavities of the skull and of the abdomen were familiar surgical ground, but the cavity of the chest continued to give us a problem of unique difficulty. It was the problem of controlling movements of air, and in this case of vital air. For many years, although halting progress here and there was reported, this problem seemed as far from solution as the problem of aeronautics. Now, within four years, surgery is showing results in chest work, and good results.

Last June, in Chicago, the Surgical Section of the American Medical Association held an important symposium on the subject of Artificial