the ribs on this side, with pleuritic adhesions. Left lung and pleura healthy. By aid of the microscope, the indurated lung shows fibrous tissue, enclosing numerous spheroidal foci of lymphoid cells. The general appearance is remindful of sarcoma; heart and pericardium healthy; liver and kidneys congested. There is a left omental oblique hernia.

At the conclusion of the *post-mortem* examination, I carefully macerated the cervical vertebrae, sternum, and left clavicle, mounted them, and have brought the specimen from our museum for your inspection. The left clavicle was completely smashed at its sternal end, which suggests that he fell on his left hand or arm. The sternum is broken about three-quarters of an inch below the junction of the manubrium and mucro; one jagged line of fracture on the front aspect, comminuted and depressed on the thoracic side. The ensiform cartilage is extremely well marked; bifid for an inch, and the right horn again is bifid for one-eighth of an inch. The cervical vertebrae are well developed above, but the fifth, sixth, and seventh cervical and first dorsal are bulged at their discs, chipped and splashed, with irregular, bossed nodules of dense bony projections. The anterior body of the sixth cervical vertebra only measures a quarter of an inch, whereas the fifth and seventh measure fully half an inch each. The sixth cervical vertebra is separated from the fifth cervical by a smashing up of the intervertebral tissues, and its laminae and the arches of the fifth cervical are fractured irregularly; the tips of the spinous processes of the fourth, fifth, and sixth cervical vertebrae are also broken. On examining the cord, the lower part of the cervical enlargement is much flattened, and is extremely soft; on incision, the grey matter is found to be the seat of marked extravasation, with much bruising of texture. The cord was put away for hardening in chromic acid. The white matter of the cord seemed to be intact.

CASE IV.—In Percy Ward at present (January 1887) there is a girl, aged 10, a typical case of angular lateral curvature of the lumbar spine, with double hip-joint disease of four years' duration, who has been readmitted for application of a jacket. The ilio-femoral joints were both ankylosed, and her right leg was so much adducted and flexed as to brush the left knee and thigh, and render walking or standing on both feet impossible. On June 26th, 1886, I performed posterior sub-trochanteric osteotomy of her right femur, and placed her leg in a straight position. On August 24th, 1886, her thigh having well united, I put this patient up in a plaster jacket; and she left the hospital on August 30th, 1886, improved in health, able to walk better, and without knee-brushing.

General Remarks.—Three of these cases show what an excellent plan of treatment the plaster jacket is in young cases of spinal curvature; and the more I use plaster in hospital practice, the better I like it; because the treatment is vested absolutely in the hands of the practical surgeon, independent of the vexatious delays of the instrument maker. I can also maintain that the use of hammock suspension for these plaster-settings is the best plan yet introduced for such applications. In Case 3 (fractured spine) the fracture of the sternum was undoubtedly caused by direct jam of the symphysis menti on the sternum; the fractured fifth cervical vertebra permitted this exaggeration, and the non-fracture of the symphysis of the lower jaw shows what a strong bone this must be. The peculiar sloping on the bodies of the spinal vertebrae may be old, but I find that similar results may be obtained by forcible *post-mortem* flexions of the spine, as well as by direct intense pressure on the cancellous vertebral bodies. If the changes I have shown you be old, then we may assume that the sloping discs gave point to the intense cervical flexion and rupture. In Case 4, we have a rare association of double hip-joint disease and lumbar curvature. This hip-joint disease was *bonâ fide*, with osseous ankylosis, not the distortion caused by a psoas abscess. I am especially pleased at the result of subcutaneous osteotomy in this case, and I will, in conclusion, say a few words on this operation. The instruments required are a heavy box-wood mallet, a cold chisel, and a thin scalpel. The position of the patient, I have always taught, should be on the back, and the femur to be operated on held up by an assistant at right angles to the table. The subcutaneous position of the back of the trochanteric portion of the femur can be easily made out, and a small cut made with the knife, down to the bone, and only just admitting the chisel. No important parts are divided; and the shaft here slopes off rapidly, giving an advantageous attack to the chisel. The weight of the patient's body gives a most firm counter-stroke to the point of the chisel, and the longest possible leverage is given to the surgeon over a solid fulcrum for snapping the femur. By the dependent position ensured, a valvular opening is secured on bringing the femur down to the straight; occlusion of the wound also is guaranteed, and the weight of the limb presses on the collodion pad. A large area of bone (pelvic and trochanteric) is left firm, on which the lower

fragment rests, either for the play of a false joint, or for bony ankylosis. The girl made an excellent recovery. I have performed the same operation thirteen times in this theatre, and without any failure. Spinal cases are by no means purely subjects for instrument makers, but they do call for the early diagnosis, as well as the best and most sustained energies, of the skilled surgeon.

PSOAS ABSCESS: WHEN AND HOW TO EVACUATE IT.

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In the surgery of childhood there is probably no branch of practice which has derived such beneficial influence from the principles of antiseptic surgery as the treatment of psoas abscess.

So far as my experience serves, twenty years or so ago, most cases of psoas abscess went wrong under active treatment, and surgeons were shy of interfering with them; dealing with them in a half-hearted and apprehensive way, they dreaded the almost inevitable hectic fever and gradual and fatal exhaustion.

When using the words "antiseptic surgery," I do not mean to imply that everything in the way of improvement is due to the spray and gauze. I refer to no narrow ritual, but to the grand principles of modern surgery, whether practised by a Lister, Savory, Tait, or Gamgee. For now that the spray has, in every sense of the word, cooled down, and the atmosphere of surgical practice and criticism is less obscured by clouds of carbolic vapour, one is able to take a much wider and more liberal view of the entire question. One is, moreover, now much less inclined to take fright or offence at the principles of the memorable Address in Surgery which was delivered at the Cork Meeting of this Association, one great feature of which was the claim that every careful surgeon is an antiseptic surgeon.

Twenty years ago, if the surgeon could do so, he preferred leaving a psoas abscess alone; but if the collection of matter were bulging to such an extent as to cause a reddening and thinning of the skin, if, in short, Nature were forcing his hand, he would perhaps thrust into the abscess a cannula and trocar, or partially evacuate it by a valvular opening.

It was at about this period that Mr. Holmes wrote, in his well-known work on the *Surgical Diseases of Children*, that his experience led him to dissuade the opening of abscesses which were associated with spinal disease; that however effected, and with whatever precautions, it generally did more harm than good (Second edition, page 543). And Alexander Shaw, in his essay on "Diseases of the Spine," also spoke about "hesitation and delay," and held out the somewhat vain hope that the surgeon might possibly succeed in dispersing the collection by resolution (*System of Surgery*, 1870, vol. iv, p. 128). And by various other authors the important subject of the active treatment of psoas abscesses was dealt with in diffidence, or quietly shelved.

The chief reason or excuse for adopting the Fabian policy was that possibly the abscess might remain quiescent for all time, or that it might happily disappear altogether. Thus, in 1849, in his classical *Treatise on Diseases of the Bones*, Stanley wrote:—

"The knowledge of the fact that even in a small proportion of cases a psoas abscess has been observed to undergo no change prejudicial to the part, or to the health of the individual, furnishes a ground for not interfering with the abscess; but another and still better reason for abstaining from such interference is that the disappearance of the abscess may take place by the absorption of its contents." He goes on to say that the opinion has been expressed on good authority that this natural cure of a psoas abscess never occurs, but that, nevertheless, he is sure of the fact, and that he is thus brought irresistibly to the conclusion that a psoas abscess should not be opened until it is about to burst.

One of the points on which I would specially ask for an expression of opinion by modern surgeons is whether psoas abscess does often undergo this spontaneous cure. In my own experience the happy contingency has been so rare that I do not consider it as within the range of practical therapeutics. In many years of out-patient practice at a general and at a children's hospital, I have met with only one such case. My invariable experience—with that one exception—is that when in connection with a stiffened spine, an ovoid or fusiform tumour can be

detected ascending in the depths of the iliac fossa, it is only a question of time as to when its purulent contents reach the surface. For their removal aspiration is of no real value. The tubular needle is quickly choked, and flakes of fibrin, shreds of ruined intervertebral discs, and fragmentary sequestra of the vertebrae can never be removed by it. The abscess quickly fills again, and within a few days of making the attempt sero-purulent fluid leaks through the puncture, and unless thorough evacuation be at once performed, the abscess runs great risks of becoming septic. Irresolute attack of any other kind gives an equally unsatisfactory result. All this being admitted, there is no alternative for the practical surgeon but freely to open and drain the abscess.

The second point which I would suggest for discussion is, when should this thorough evacuation be resorted to? My contention is that the abscess should be attacked as soon as treatment has brought the patient into the best possible condition for the ordeal. There should be no useless temporising. Why delay operating until the skin has become thin and red? For during this time the pus may be hollowing out for itself a wandering chasm which extends from the diaphragm above to Scarpa's triangle below, and may be insinuating itself beneath the iliac fascia or amongst the planes of the abdominal muscles. Surely, the smaller the abscess the less serious the inevitable operation, and the more amenable the cavity to successful treatment.

The method of evacuating psoas abscess, which I have adopted in a large number of cases, and which I recommend with confidence, is by a free anterior as well as posterior opening and by then washing and draining the cavity right through. The first opening I make close above the outer end of Poupart's ligament, using the scalpel until about an inch of the length of the fibres of the aponeurosis of the external oblique has been exposed. I then scratch through the fleshy attachment of the internal oblique and transversalis, and, keeping well below the level of the peritoneum, thrust the director into the swelling. Pus escapes, and the opening is enlarged by the dressing forceps and the finger. A stiff probe is then passed through the abscess cavity and made to project beneath the skin on the outer side of the erector spinae. With this as a guide, a counter-opening is made in the loin. The large cavity is then flushed perfectly clean with a warm antiseptic solution, and a drainage-tube of the size of a penholder is laid through the chasm for a few days, being afterwards replaced by a silk thread. The parts are liberally covered with bulky pads of wood-wool and finely picked oakum in gauze bags; these are kept in position by a towel arranged as a binder, which, for the sake of compression, is tightly drawn and fixed with safety pins. Next day the cavity is again washed out, under chloroform, if necessary, the wounds being dressed as before. After this, the less that it is interfered with the better; if the temperature do not rise, and the discharge do not soak through, the dressings may be left for a three or four days, or longer. From the first day the discharge becomes thin and watery; suppuration in the ordinary sense of the word is at an end, and the cavity steadily contracts into a narrow passage.

If the abscess be so small that the surgeon does not feel inclined to attack it from the front, he may readily work down on it above the iliac crest, on the outer side of the erector spinae. The scalpel is needed only for the skin incision, the rest of the operation being performed with equal ease and safety by the use of a steel director and the ring dressing forceps—at any rate in children.

Of the evacuation of unilateral psoas abscess, after the manner recorded, I have had a large number of examples; and it so happens that we have lately had under treatment in the ward, at the same time, three cases of double psoas abscess, each of which is deserving of special record.

The first is that of a girl, aged 6, who was admitted last March; she was pale and thin, and had been losing power in her lower limbs for about a year. A large psoas abscess reached from below each crural arch to the carious lumbar vertebrae. Mr. Lewis, the house-surgeon, evacuated the left abscess only, fearing lest the simultaneous attack of the two large abscesses should cause serious shock. The child did not do well, and the temperature rose. After an interval of a week or two, the other side was washed out and drained, and immediately the temperature dropped towards normal, and has not been materially raised since. The child is now at the Convalescent Home of the Children's Hospital, greatly improved in every way.

Another girl, aged 6, had a right psoas abscess evacuated in May last; her temperature remained at normal for about two months, when it began to ascend two or three degrees at night, and the child complained of much pain. Examination showed that the left side was occupied by an abscess, which had filled quickly. This I opened, front and back, thoroughly flushing the cavity with warm sublimate

solution (1 in 1,000); it was noticed that some of the injection returned by the opening on the other side. I much regret to say that this poor child died within four hours of the operation, death being preceded by three attacks of vomiting, and by collapse; she had, moreover, several loose motions, and the urine which was passed just before death was bloody. Of course, the vomiting might have been due to the chloroform; but, when this feature is considered in conjunction with the persistent and fatal collapse, the loose motions, and the hæmaturia, the circumstantial evidence in favour of her having been brought under the toxic effect of the sublimate salt is strong indeed. At any rate, for the future, I shall discard the mercuric solution of the strength of 1 in 1,000 for washing a large cavity in a child, and shall revert to warm iodine-water, decolourised by carbolic acid, a solution of which I have great reason to speak highly. (Salivation would not be expected in the case of sudden mercurial poisoning.)

The third case is that of Rebecca L., aged 5½, who, twelve months previously, had been treated at another hospital for spinal caries. On admission to Great Ormond Street, she had a large psoas abscess on each side, which had been noticed for eight months or so. On July 12th, 1886, the surface of the body having been cleansed, each abscess was opened, front and back, and drained. Since then she has been steadily improving in every way and is getting fatter. As is shown by the chart, her temperature has remained steadily against the normal line; it has never reached 100° F.

Conclusions.—It is unpractical to look forward to the spontaneous absorption of a psoas abscess; sooner or later it must be evacuated by Nature or art. In this matter art has the advantage, as by her aid the cavity can be at once emptied, cleansed and drained. The earlier the abscess is opened the better; for delay may entail the extravasation of pus, and the formation of a needlessly large and intractable cavity. The abscess should be opened and irrigated from the front and drained through a counter-opening in the loin. Washings and drainage should be thorough; for a small abscess the single opening at the back may suffice.

Warm iodine-water (decolourised) is the most suitable fluid for irrigation; the sublimate solution (1 in 1,000) is dangerous, at any rate in a large or double psoas abscess in childhood. The most convenient dressings are bulky pads of wood-wool and gauze bags of finely picked oakum; they should be fixed under a towel tightly pinned as a binder. Pus may rapidly collect on the opposite side of the spine, after a single abscess on the one side has been evacuated; therefore, if the temperature rise and remain high after the evacuation of a unilateral abscess, the formation of a second abscess should be watched for, and it should be opened as soon as it is detected; thus convalescence may be at once established.

Bilateral abscesses should be attacked simultaneously; they are likely to be in intercommunication, and the area of suppuration cannot be kept aseptic unless both sides are washed and drained.

THE TREATMENT OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS BY TUBAGE OR PERMANENT CATHETERISM.

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1. *Epithelioma of Œsophagus: Treatment by Permanent Catheterism or Tubage: Death from Extension to Pleura and Lung.*—S. S., aged 43, came to my out-patients, at Guy's in April, 1885, suffering from dysphagia of two months' standing. She was between five and six months pregnant, and had got the impression that she had a "pregnancy tumour" in her neck, which would disappear at her confinement. A large bougie was arrested eleven inches from the teeth; a smaller one was passed with ease. For three months the occasional passage of a bougie relieved the dysphagia, though, on two occasions, she was unable to swallow even fluids for thirty-six and twenty-six hours respectively, the last being five days before admission.

July 6th. She came into the hospital very much emaciated, and able to swallow a little fluid only. She was eight months pregnant, and had had dysphagia for three months. A bougie was passed without difficulty, and the swallowing was improved.

July 9th. A short funnel-shaped tube was inserted; this gave rise to no trouble. On the 14th, it was removed, cleaned, and reintroduced, the stricture having become somewhat dilated. Through this tube (No. 10) she took beef-tea thickened with arrowroot, eggs and milk, and thin custard. She was up every day.