

Some points in the treatment of acute synovitis of the knee-joint ; On the radical cure of inguinal hernia, complicated with undescended testicle / by W. Mitchell Banks.

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Publication/Creation

[Liverpool] : [publisher not identified], [1881]

Persistent URL

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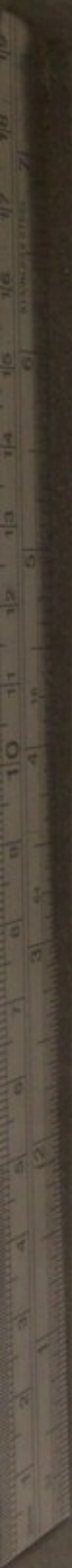
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With

Acute Synov

W. M. L.

LIVERPOOL MEDICO-

No. 1.-

With Mr Banks's Comments

Two in One

Acute Synovitis of the Knee-joint

by

2-3,

W. M. Banks.

FROM THE

LIVERPOOL MEDICO-CHIRURGICAL JOURNAL.

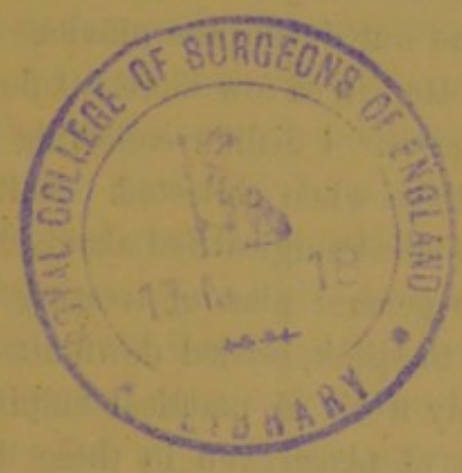
No. 1.—JULY 1881.





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Some Points in the Treatment of Acute Synovitis of the Knee-joint.

By W. MITCHELL BANKS, F.R.C.S. Eng., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Anatomy Liverpool Medical School.

(Read January 20, 1881.)

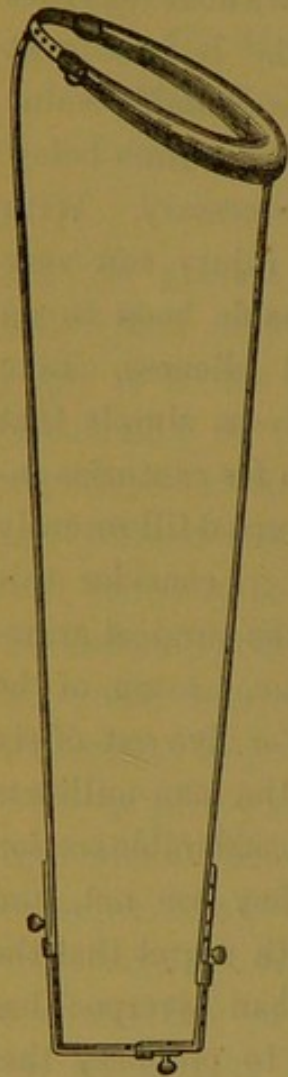
AT the present day the writers of medical papers seem to follow one of two plans. They either take a given malady, apply to it the statistical method, and by its aid draw certain deductions, or they give their audience the briefest possible experience of the most new-fangled method of treatment, which has perhaps only come out during the previous few weeks, and will probably be forgotten in as few more. I do not propose to lay before you any figures. I dislike collecting them, and I do not much believe in them when collected. Neither am I going to describe to you the latest surgical fad about joints. I merely wish to give you the general plan of treating acute synovitis into which I have, so to speak, settled down after a fair amount of experience;—simply a bit of practical empiricism, which I trust may not be out of place even in these days of statistics and startling novelties. I have selected the knee-joint to tack my remarks to because it is *a* very important, and *the* most commonly affected, articulation.

(The author here reviewed the treatment of a joint immediately after the receipt of such an injury as a severe wrench or sprain, attaching importance to the plan of soaking the limb for several hours in very hot water. The methods of packing the joint in ice, and of applying pressure by strapping, so as to anticipate the almost inevitable swelling were noticed, but he considered that it was not possible in the majority of cases to put these in practice, and believed that we should generally have to rely upon fomentations and opiate lotions to allay the primary pain and swelling.)

But the grand thing is as early as possible to give the joint support. It cannot be applied too soon, and it does not matter what the splint is provided it steadies the articulation. A bit

of Gooch splinting, a piece of pasteboard, a leather or poroplastic case—anything will suffice for the first day or two. But if it be the knee-joint that is affected, without delay let a well-fitting Thomas's knee splint be obtained. It is a great pleasure to me to give my testimony to the incalculable value of this splint in all injuries and diseases of the lower limb below the hip-joint for which steadiness and rest are necessary. With this splint even the severest cases of joint injury can very soon be moved from bed to sofa—an inestimable boon to an active man suddenly condemned to pain and idleness. Like every first-rate invention it is simplicity itself—so simple that one wonders how, with generations of surgeons for centuries inventing splints innumerable, the idea never occurred till recently of making the patient walk upon his pelvis. I consider this splint one of the most important additions to the surgical armamentarium that has been made in my time; one, I mean, of the few really useful and permanent additions. For five out of six new instruments seem to me to be devised by the man-milliners of our profession for the benefit of that not inconsiderable section of professed surgeons who have eyes but they see not, and fingers but they feel not. I have noticed with regret that the introduction of this splint into other towns than Liverpool has been somewhat slow, but I do not hesitate to prophesy that before many years its use will be general. But—(even Thomas's knee splint has a "but")—the one defect is that you must have a splint for nearly every patient, seeing that there are few persons whose legs are the same length, and whose thighs are the same girth. In a large hospital, where numerous splints are kept in stock, this defect is not felt. You can always pick out one of the lot that will fit your patient. But in private this cannot be done, and the patient must be measured and the splint made before the much-needed support is obtained. Indeed, in country places, where there is no artificer in splints, this practically interdicts the use of the instrument. At my suggestion Mr Critchley of Upper Pitt Street has constructed one the limbs of which can be lengthened or shortened, separated or approximated, while the circumference of the thigh ring

can be enlarged or diminished. One such splint will serve for any adult of the average dimensions of leg, and will therefore probably prove of service to gentlemen in country practice or at a distance from an instrument maker.



From the drawing it will be seen that the ring above can be enlarged to fit any groin, while the limbs can be extended and separated to suit the length and thickness of the patient's leg.

Then comes a point which may now well be discussed. What are the relative values of immobility and extension in joint disease? It is curious to note how each has had its enthusiastic supporters. Take the hip splint of Sayre, which relies solely upon its power of separating articular surfaces by extension, and compare it with those of Thomas or Taylor which simply render the joint immovable. It has been argued, and to my mind proved, that either method by itself will cure. Let us grant this. There is hardly any important surgical disease for which there are not several methods of treatment by which it may be cured and well cured too. The judicious onlooker finds either that each method has its appropriate patient (if he can only fit them together), or else that in the same patient he can combine the merits of more than one of the systems. The latter is certainly my experience of immobility and extension. Combine them when you can. The former is no doubt the essential one, but very often the latter will greatly aid in relieving pain. I have often seen this. A case occurs to my

mind of a lad with hip disease, who was under my care in the Infirmary last winter. He had great pain when he came in. A Thomas's hip splint immensely relieved this; but, for all that he was well fastened to it, there still was pain at night. I loosened him from the splint, though still keeping him at rest upon it, and put on some extension with a shot bag. That

night his pain left him and his own testimony to the relief given by the extension was at once forcible and unequivocal. That extension relieves by actually dragging apart articular surfaces is hardly credible. Doubtless, it is by subduing muscular action. It has been very clearly shown that the sensory nerves which go to any given joint are branches of the sensory nerves which supply the muscles that move that joint, and by reflex action the muscles are irritated into a sort of spasm till they move the joint convulsively, and give rise to the horrible twitches of which patients with articular disease complain so bitterly. While awake the patient maintains a sort of unconscious control over these muscles, maintaining them all in a quiet state of tension and equilibrium. As he falls asleep they relax: some trifling movement of the painful articular surfaces occurs, and instantly they contract with redoubled energy, and force these painful surfaces together. So come the night startings so frequent in the earlier hours of sleep. Says the pure immobilist—"Put the joint at rest; let it be without irritation, and then the muscles will not be irritated either." This is true in the great majority of cases, but I am persuaded that in many the muscles, long habituated to irregular spasmodic action, remain irritable and prone to spasm even after the joint has been thoroughly put at rest. Pull gently on them with weight or elastic traction, and you soothe them and allay in them this tendency. For one must remember that, let a limb be lashed up as tightly as one could wish, still its muscles will move in spite of everything. If, therefore, we cannot get quit of pain by immobility alone let us add extension to it.

Supposing that we have got the first inflammatory condition with its accompanying pain subdued, how are we to get quit of the effusion? If it does not show signs of disappearing within a reasonable time, I tap the joint without hesitation. I have little doubt what would have been my fate if, when a student, I had proposed such a doctrine in an examination paper. A proposition to cut the joint open would have met with almost equal favour in the eyes of the examiner. Our dread of synovial membranes and peritoneum was then almost morbid. At the

present moment the pendulum is swinging the other way. Let us not begin to view them with too much indifference. There seems almost a tendency to this, and, if so, there are legs to be lost and lives to be sacrificed. And the history of these cases will *not* be read before medical societies nor published in medical journals. However, if done with care, I do not believe there is any danger in tapping the knee-joint. I have seldom had occasion to do it more than twice on the same patient. Repeated tappings, done with the idea of draining away every ounce of fluid that may re-accumulate, I believe to be wholly unnecessary and possibly injurious. All that is required is to relieve the synovial membrane from tension and so allow it to resume its absorptive powers, just as we know the peritoneum does after it has been relieved from the inordinate pressure of a pailful of ascitic fluid by tapping.

(The author, after expressing his preference for the original Dieulafoy's syringe aspirator to the more recently invented bottle aspirator, dilated upon the advantages to be gained, after tapping the joint, by firm, regulated pressure, causing absorption not merely of the remaining fluid within the joint, but also of the inflammatory exudations into the sheaths of the tendons the fasciæ and the other tissues around the articulation).

Up to this point, in the treatment of a case of synovitis matters generally progress satisfactorily both for patient and surgeon. The really troublous times are now approaching. The acute pain is gone, the effusion is all but away, and now the patient tries to put his foot to the ground. He is usually very much disappointed. The joint feels utterly useless and weak, and threatens to give way if the slightest pressure be put upon it. There is frequently also just a little fluid bulging out the hollows on each side of the ligamentum patellæ—thick, slowly moving stuff, the dregs of the original effusion. Now is the opportunity for a rousing big blister. How blisters act we do not know, and, at the risk of being considered very unscientific, I don't care—that they do good I am persuaded. I know that if you administer a good blistering to a joint just recovering from synovitis the patient will tell you that it makes his joint feel as if it had its old

strength again, and the last half ounce of fluid in the capsule will disappear at the same time. A few months ago there came into one of my wards a man with acute traumatic synovitis of the knee. Under treatment, which, by the way, included tapping, he all but recovered. Unfortunately the annual cleaning down of the hospital took place just then, and he had to leave. After a few weeks he came back again with the joint very bad—not much fluid in it this time, but all around it brawny and thickened. His pain was very great, and for whole nights on end he got little or no sleep. He was put on a well fitting Thomas's splint and fixed, while extension was also applied. There he lay for a month or two more, and, although his pain was much relieved, he still suffered a great deal, while the knee did not seem as if it would move a bit towards recovery. We gave him a couple of good blisterings and two or three strap-pings, and in three weeks all pain had gone, and the wounded swollen joint began to show its natural outlines again. The patient was never tired of singing the praises of blisters and strapping, and his case was a convincing proof to the students who had watched it, of their great value at a certain stage of treatment.

Hitherto we have been dealing with a supposed case of traumatic synovitis in a healthy person, or possibly of acute synovitis following rheumatic fever. But sometimes you get a patient with a pronounced rheumatic or gouty diathesis, and upon some very slight provocation, his knee fills with fluid. He seldom has much pain and may even refuse to lie up with it, but the limb is feeble and useless—one week well, the next bad again. I am always chary of putting such patients up in splints for any length of time, more particularly if they be well up in years. It is astonishing with what rapidity their joints become rigid and ankylosed, and what difficulty is afterwards experienced in unbending them. How often in the out-patient room does one see some poor old rheumatic washerwoman's fingers, like bits of stick, after having been in splints for a month or so for a Colles's fracture, if a raw house surgeon has been foolish enough to fasten them firmly down! It is weeks before

she can move them, whereas the same treatment in a healthy girl of eighteen would only produce a stiffness that a few days' hot water and rubbing with oil would remove. I think these rheumatic and gouty folks do not so much want to have their joints rigidly fixed as to have warmth and pressure applied to them. About thirteen years ago I saw a gentleman in Liverpool with a bad knee; one leg of his trousers seemed preternaturally distended, and he got the garment off with difficulty. Then he displayed a limb marvellously swaddled up. He unrolled layer after layer of cotton wadding with strata of bandaging between. They seemed endless before we got down to the leg itself. He informed me that he had just come from Paris, where a relation had put this affair on telling him that he might move about in moderation with it, and was to have it replaced as soon as it became at all slack. I did replace it, and have used it ever since with much satisfaction. The plan is to get a big roll of milliner's cotton wadding, such as is sold in sheets, with a glazed backing to it. Tear it into strips and wind them layer after layer round the limb, beginning just above the ankle and going on nearly up to the hip. If you merely apply it round the joint it won't be in position two days. After four or five layers are on, bandage it all firmly over. Then more layers of wadding and more bandaging, particularly over the joint. After several layers are on, you will find that you can haul the bandage with all your force without causing the patient discomfort, or interrupting the circulation. It is surprising what an amount of cotton wadding can be compressed into such a size that the patient will just be able to get the leg into his trousers without cutting them. Sometimes outside, over all, I put a gum and chalk bandage to keep everything from slipping. By this appliance the knee-joint is not rendered absolutely immovable, but still receives a great deal of support. For subacute effusions in middle-aged rheumatic or gouty patients it is admirable. Within the last few years Saxdorpf, the German surgeon, has strongly advocated this method, using silicate of potash in place of gum or chalk.

A few words about the stiffness which so frequently follows

joint inflammations.—On no subject probably are surgeons more at one, than on the necessity for early and prolonged rest in these affections. For this we are not a little indebted to the remarkable lectures of Mr Hilton, which first put before us with almost startling clearness the remedial effects of rest upon pain wherever situated. Indeed, it has become an accepted dogma, if there is pain, more rest. But no rule without its exception. A too literal carrying out of this otherwise most admirable doctrine, will sometimes lead one into mistakes at the termination of a case of synovitis. I have made at least three or four notable ones in this way; at all events, my patients thought so, and that is quite as damaging. My first case was that of a young lady, a personal friend of my own, who fell at a railway station, wrenched her knee, and had a characteristic attack of synovitis. I treated it on the principles I have just been advocating; splinted, strapped, and blistered it to my heart's content. But still there remained a trifling amount of swelling round the joint, and any attempt to move it was followed by such pain that back went the limb on its splint for another week, on more than one occasion. But after a considerable period had elapsed, during which I was constantly occupied in inculcating upon the young lady and her parents the doctrine of rest, I received a note from her father, saying, that he was very much obliged to me for all my good offices, but his daughter's progress was really so slow that he had been constrained to seek further advice. The next time I met my patient was at an evening entertainment, when she came up and asked me to dance a quadrille with her. This was adding insult to injury, more especially when she told me that, after my endeavours had failed, Mrs G., the well-known rubber, had been consulted, had at once demonstrated that the cap of the knee was off, and by bending the joint, and rubbing had (at the cost of a good deal of pain to the patient), got it back again, and a speedy cure followed. I felt that any attempt to contradict Mrs G.'s diagnosis would only lead to further humiliation, but I pondered a good deal over her treatment. This case served me in good stead for several years. When the stiff period came on I used to get my patient to sit

down on a chair, and, under pretence of doing something to the knee, would put my hand under the chair, catch him by the ankle, and haul the leg vigorously back beneath the chair, cracking up the adhesions at one wrench. This somewhat cowardly proceeding was generally followed by a fearful yell, and the use of unparliamentary language on the part of male patients. But after the agony had subsided, I have not unfrequently ordered the patient to walk round the room, and the man who, a few minutes previously, could hardly put the affected limb to the ground, generally did so, and would announce that the leg felt quite different, and that I *must* have put something back that had been out of place. The book of Dr Wharton Hood then appeared, and, by exposing the practices of the unqualified bone-setters, the author poses very effectually as the qualified professor of the art. Sir James Paget also published one of his charming lectures, entitled, "The Cases that Bone-setters cure," and surgeons began to find out that there was something in bone-setting after all.

I thought I had reached a very exalted pitch of boldness in cracking up rusty joints till lately, when my vanity was grievously mortified by two cases.

A young girl about twelve was brought to me for my opinion about her knee. She was in process of recovery from chronic synovial disease — the old-fashioned "white swelling." No suppuration had ever occurred, and the joint had been treated for months with the most perfect rest by the family medical attendant, in conjunction with a surgeon of eminence. The knee was certainly devoid of any signs of inflammatory mischief, and the child had no pain in it *except when it was moved*. But a very little movement indeed produced screams; and the articulation was still rounded and spindle-shaped, and had not regained its natural heights and hollows, so I came to the conclusion that further rest after all was the safest thing, and that the existing treatment ought to be continued for a while longer. About a week afterwards I heard from the father that he had taken the child to an eminent professor of bone-setting, who at once said that all that was the matter with it now was too

prolonged rest, and advised shampooing and movement. A professional shampooer was got, and in a short time the girl was walking about. I confess I was very much astonished at the apparent audacity of this proceeding, but the end justified the means. On thinking carefully over it, I saw that after all there could not have been any real mischief going on inside the joint, for it was quite cool and free from pain when not moved. When bent, the adhesions were stretched and gave pain. It was its rounded swollen look that induced me to suggest further rest. But one must remember that often about these long-inflamed joints there is a good deal of what the old surgeons used to call "solid œdema," which the enlivening treatment of rubbing and movement is the very best thing to dissipate.

The last and most amusing case occurred last summer. A little boy about ten years old, the son of some wealthy people in Liverpool, got synovitis of the knee after an accident. He was under the care of a colleague and intimate friend of my own. He was put on a Thomas's splint, and the joint kept absolutely at rest for weeks. It became stiff, and, whenever any attempt at movement was made, then came pain and swelling, and, naturally, more rest was enjoined. Suddenly the mother, who had long pined for the wonder-working intervention of the bone-setter, took him up to London to the famous Mr H. He administered chloroform. He waggled the leg up and down, and backwards and forwards in all directions, and he then packed it in ice for four-and-twenty hours. Finally he announced that the head of the tibia was out of place, and had been so ever since the accident. but that he had now put it back again. Did the boy have another frightful attack of synovitis? Not a bit of it. He was walking about in a week, and the lady triumphed mightily over her husband, who had all along been supporting the advice of the orthodox surgeon. Well, the lad remained sound for a year or more. Then he ran a race with some other small boys. That same night he had pain in the old knee, and by next morning had a tumblerful of fluid in the capsule. Some feeling of diffidence prevented the parents from sending for the gentleman who had attended on the previous occasion,

so they requested my services. I ordered the Thomas's splint to be brought forth again, amidst the tears of the mother, who protested that the former unfortunate state of matters was entirely due to its use. I fomented, bandaged, strapped, and blistered, till, at the end of about six weeks, the joint was completely empty of fluid. All the time I kept assuring the apprehensive mother that we would move the leg in due time, after the fashion of Mr H., and that she need not fear any ultimate stiffness. When I thought the proper time had arrived, I did begin gently to move the joint. But next day it filled up with fluid, and another period of rest was necessary. I was just thinking about a further attempt, when, rather unexpectedly, it became necessary for me to take my holiday; and so I did not care to do anything violent, lest I should leave the joint in my absence in an inflamed and uncomfortable state. On my return I found that very shortly after I left Mr H. had paid one of his professional visits to Liverpool. The lady at once took the boy to him, and he repeated the same operation. The head of the tibia was again out of place, and he was good enough to say that, had I been at home, he would have been very pleased to have met me, and explained to me the real condition of matters.

Now, what does it all mean? It simply comes to this, I suppose, that after prolonged rest there are fibrous bands in the joint, and the fasciæ want stretching, and the tendons are glued to their sheaths. In short, the joint is in the position of a rusty lock, and the bone-setter takes the key and gives it two or three good turns, and then it works sweetly. It may be said that we all know that, but somehow or another we don't all know when to turn the key. I am beginning to think that we not unfrequently delay it too long. It is said, "Ah! but how many joints do the bone-setters ruin by their rough and brutal treatment?" That is a very difficult question. The public always like the quack to triumph over the regular man. It is always so in religious and medical matters, so that the cures are well blown about, while nothing is heard of the failures. No doubt there is truth in this; but I confess that I have been looking about for a long time to catch a case where the bone-setter has

produced serious mischief, and, in one sense, I am sorry to say I have failed. I strongly suspect that if there were many joints seriously injured by the bone-setter, we should know more about them. Of course he stands in an excellent position. The joint has always been for months carefully doctored before he sees it, and so, doubtless, he steps in at a fortunate time for a *coup*. The deduction is that we must anticipate him more frequently than we do, and, by earlier bending, prevent that triumph of the enemy, which is not gained in a fair and legitimate way (for that we would not cavil at), but by misrepresentations of the falsest and most lying character, which are impossible for us to refute, and which seriously damage us as a profession.

If you ask what are the indications for breaking up a joint, I find it difficult to reply. Only experience will thoroughly teach one; but, in a general way, length of time from the injury, amount and character of rest, coolness of the joint to the touch, and absence of pain except on movement, are the safest guides.

There is a little point in reference to the situation of pain in knee synovitis which is not very generally noticed. The place where it is most acutely felt is almost always a point on the inner side of the joint just over the inner tuberosity of tibia, or lower part of the inner condyle of the femur. I often put my finger on that spot and ask the patient if that is not the tenderest point, and generally get an affirmative answer. It seems rather inexplicable, but it is a fact. This is, of course, more a matter of curiosity than of practical importance, but it seems singular that so little notice has been taken of it.

In conclusion, in the remarks which I have just made, I fear lest I have, by constant reference to my own opinions and practice, appeared in rather an egotistical light.

If I have, my apology must be that my paper was not intended as a review of current doctrines upon synovitis and its treatment, but a short statement of personal experience with the disease.

The first of these is the fact that the United States is a young nation, and its history is therefore a history of growth and expansion. It is a history of a people who have been able to overcome the difficulties of a new and untried system of government, and who have been able to establish a government which is based on the principles of liberty and justice for all.

The second of these is the fact that the United States is a nation of immigrants, and its history is therefore a history of the struggle for the rights of these immigrants. It is a history of a people who have been able to overcome the difficulties of a new and untried system of government, and who have been able to establish a government which is based on the principles of liberty and justice for all.

The third of these is the fact that the United States is a nation of pioneers, and its history is therefore a history of the struggle for the rights of these pioneers. It is a history of a people who have been able to overcome the difficulties of a new and untried system of government, and who have been able to establish a government which is based on the principles of liberty and justice for all.

The fourth of these is the fact that the United States is a nation of reformers, and its history is therefore a history of the struggle for the rights of these reformers. It is a history of a people who have been able to overcome the difficulties of a new and untried system of government, and who have been able to establish a government which is based on the principles of liberty and justice for all.

The fifth of these is the fact that the United States is a nation of idealists, and its history is therefore a history of the struggle for the rights of these idealists. It is a history of a people who have been able to overcome the difficulties of a new and untried system of government, and who have been able to establish a government which is based on the principles of liberty and justice for all.

On the Radical Cure of Inguinal Hernia, complicated with Undescended Testicle. By W. MITCHELL BANKS, F.R.C.S. Eng., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Anatomy at the Liverpool Medical School.

MR PRESIDENT AND GENTLEMEN,—If a hernia be taken immediately after its first appearance, a thoroughly well-fitting truss applied, and the patient trained to make proper use of it, it is seldom that much further trouble is experienced. If we look round among our patients who are in a respectable rank of society, how rarely do we find their hernias giving much trouble. But the case is far different with patients belonging to the labouring class. They often have not the means to purchase

good trusses, or, if they have, they display the grossest carelessness and ignorance in using them. Furthermore, the strain of heavy manual work and the influence of chronic cough, too often the poor man's constant companion, tax to the uttermost the restraining powers of the best instrument that can be made.

With regard to the treatment of hernias which have got beyond the control of trusses, I do not propose to say anything. I wish at present to draw your attention to a class of ruptures which from the first are not amenable to instrumental aid. I allude to inguinal hernia in the male, dependent upon imperfect descent of the testicle.

As we know, the testicle, originally developed high up in the abdominal cavity, descends through the inguinal canal, carrying before it a pouch of peritoneum. Arriving finally at the scrotum, the neck of the pouch is cut off, and the isolated part, which remains in connection with the testicle, becomes the tunica vaginalis. This process, which ought to be completed by the time of birth, is often delayed, and it is frequently not until the child is two or three years old that the testicle settles in its permanent resting-place. But sometimes, from some imperfection in the dragging-down apparatus, the organ is caught in the inguinal canal and sticks there. Not unfrequently it happens that such a testicle is structurally defective, and, as an almost invariable rule, by reason of want of room for expansion, its growth is retarded; so that, although not necessarily imperfect, it is always a small and feebly developed organ. The patient with undescended testicle may go on to adult life without experiencing any inconvenience. Suddenly he engages in some great physical effort, and the testicle is forced down through the external inguinal opening and rests just outside of it. Along with it comes a piece of bowel, and so you have a hernia. To reduce the bowel is easy enough, but when you try to reduce the testicle also, it won't go back, and unfortunately, it won't go forward either. There it sticks just in the very place where you wish to plant the pad of your truss, at once rendering the application of a satisfactory instrument most difficult, and affording an open channel for the descent of the gut. Now, if

to all the ordinary difficulties of a hernia you have this one superadded, I think that a fair case for operative interference is made out, provided it can be shown that important benefit results to the patient, with a minimum of danger to life. The dog in the manger is the testicle, and he being a poor, useless, feebly developed dog, why should he not be removed?

Within the last few months two men presented themselves at the Liverpool Royal Infirmary whose cases were practically identical. They were both sailors, both 22 years of age, and both the victims of undescended testicle. One of them fell about 12 feet from a ladder, alighting on his buttocks. The other fell some 5 or 6 feet from an upper deck, and lit straddle-legs across the iron handle of a windlass. Each man immediately suffered from severe abdominal pain of a sickening character, with cold sweating and great depression. When they came to the Infirmary we found in each case a small atrophied testicle lying just outside the ring, with a piece of bowel behind it. The bowel being easily reduced, a hot fomentation and rest in bed soon made the patients quite comfortable. But no sooner did they get up and begin to move about, or use the slightest exertion, than down came the bowel. In neither case could the testicle be pushed back into the canal; so that even if we could have provided the patients with concave-padded trusses their occupation would have been gone. The notion of a man lying out on a yard to reef topsails in a gale of wind, with a coil of gut ready at any minute to bolt down beneath his truss, was not to be entertained. Patient number one was so convinced of this himself that he requested me to operate on him, and professed himself ready to run any reasonable risk in the hope of a cure.

The operative procedure in each case was identical. Under ether, and with the most careful antiseptic precautions, I cut down on the sac. This being laid open, I pushed the bowel into the abdominal cavity, and saw the testicle. I drew this out, and separated the cord from the peritoneum. It was tied most firmly with catgut ligatures, and the testicle cut clean away. I was most careful to see that the vessels of the cord

were well secured, as the minute the ligatures were cut short it disappeared up the inguinal canal. In one case, the sac being small, was stitched up with a catgut suture, crumpled up and poked into the inguinal canal to form a sort of plug. In the other the sac was larger, and so I tied it round at its neck with a stout catgut thread and cut it right off. In each case the pillars of the external ring were then brought together with catgut, the wound stitched up, and drainage tubes inserted. The progress of both patients was eminently satisfactory, as no suppuration nor any alarming symptom occurred. The wounds healed by primary union, except at the points where the drainage tubes hung out, and these took a few days to granulate up. On the twentieth day after operation the first patient was going about well, and the second on the fifteenth day. I examined the testicles which were removed, and found them small and atrophied, but perfect in structure. Evidently their growth had been checked by their being cramped up in the inguinal canal.

Now what are the results? The first man was operated upon January 18, 1881. I did not see him after his discharge till three nights ago (May 7), when I sent for him. I asked him if he had been wearing the truss which I had directed him to use as a protection for some time? No. Had he been working? Oh certainly! as well as ever. At what? Firing on board an American steamer. I put my hand over the site of the inguinal ring and found everything as firm as possible, without the least trace of impulse on coughing. I came to the conclusion that if the patient had, within three months of the operation, been able to do the tremendously hard work of fireman on board an Atlantic liner without bringing his hernia down, he was now fit for anything. The second man was operated upon on March 18. He is now (May 30) at work on a steamer, not using any truss, and hopes to get back his berth as quartermaster very soon. In him the parts seem all quite tight, and no amount of coughing or straining produces any impulse to the hand applied over the former site of rupture.

In the operation which I have just described I do not of

course make any pretence to originality. There is no such thing in the present day. But having never myself seen it done, nor heard much said about it, I thought it might possess enough of novelty to entitle me to bring it before your notice. As matters stand, the results have been very encouraging, but even had I only succeeded in enabling my patients to wear such a truss as would have effectually kept up the gut, I should have been satisfied. With regard to the removal of the testicle, I consider the loss of an ill-developed and probably useless organ as of no moment. Indeed, considering the frequency with which the undescended testicle is the site of malignant disease in middle life, its removal might be considered as relieving the patients from a formidable risk of a fatal malady. It being gone, the natural tendency of the ring and pillars to close is much greater than in an ordinary hernia. For it must be remembered that in these patients there is now no structure at all passing through the external ring, inasmuch as there is no spermatic cord. Furthermore, the gut was only down a few times, and consequently the inguinal passage was never excessively dilated; so that the offending testicle being gone, I had every reason to hope that the canal would close with sufficient tightness to prevent the descent of bowel on any future occasion.

I need hardly say that, but for the security given by thoroughly conducted antiseptics, such operations as the one we have been considering would barely have come within the range of practicable surgery.

