Whether truss or belt be ordered must depend upon various factors—physique, age, duties in life, etc. A truss is less bulky, but perhaps more rigid and uncomfortable at first; many women prefer the comfort of warmth and sense of general support conferred by a belt. In either case the strength and stoutness of the instrument should be graduated to the life it is meant to assist. Belt pads should always be pneumatic, and also graduated in size to the individual; these pads are sometimes fixed too low down on the belts—the exact best position can generally be sketched upon the patient if necessary.

Application.

It is most important that the support should be properly applied; and this must *always* be carefully demonstrated to the patient, who should lie flat upon the back with a pillow under the hips. The belt can then be fixed in position with the knowledge that the kidney is well up. It is best worn over a vest or combinations; and since it is safer that the fixture should take place before the patient has walked about at all, I always advise that the bath shall be taken at night instead of in the morning.

A belt will always require tightening up from time to time, and should be ultimately worn strapped as firmly as can be borne with comfort.

The pads require attention and reinflation from time to time, and the belt itself will often require alteration at the hands of the maker after some weeks' wear.

The practitioner should always satisfy himself that the support is properly fitted and properly applied; it must be examined in position for this purpose. The early irksomeness of the treatment should be explained to the patient.

Such measures are generally efficacious in supporting the kidney in position; and many patients assert that they distinctly feel their kidney (or kidneys) "slip down" when the belt is removed.

It will sometimes occur that a kidney will slip down or be forced down when the belt is in position. The former is, of course, due to an ill-fitting appliance; the latter may occur from a fall, a severe motor jolt, or a violent effort. In such cases there is generally a good deal of pain, which, however, is easily relieved by a loosening and readjustment of the belt.

It is wonderful how quickly in some cases the beneficial effects of support are felt by the patient. As a rule, the more recently acquired the trouble, the more rapid is the relief, and vice versa.

In old-standing cases it is wise to warn the patient that from three to six months is not too long a test of the treatment before a final opinion should be formed. No definite promise of amendment should be made in any of these cases.

It is, alas! too true that in old cases, with marked neurasthenia of long duration, success is not to be secured, nor even any real benefit, from support; and such cases may seem to strengthen the contention that the kidneys have nothing to do with the neurasthenia. If, however, the early cases respond to treatment, no such argument can be logically deduced from the failures.

Patients will often ask: "Must I wear this thing always?" and the answer must be guarded. It is certain that sometimes symptoms will clear up, and that the support can be safely dispensed with for a time; but it must be well understood that a relapse is almost inevitable sooner or later, since a chronic movable kidney can only be finally secured in position by operation.

Operation.

With regard to operation, I am not in the habit of suggesting it prematurely in any chronic case.

If recovery, or marked relief, occur from the support from a belt or truss, then the diagnosis may be finally accepted as correct, and the case is complete. It is then possible to discuss the question of operation with all its *pros* and *cons*.

With the technique of nephrorrhaphy I have nothing to do in this paper. The modern operation, performed by whatever method, is practically without mortality, and is generally successful in "mooring" the kidney in its place; consequently it is the ultimate cure of the condition.

Yet there are many considerations that must be weighed, and that should be placed quite fairly before the patient.

The expense is often not the least of these; my own experience has been that, though ultimately successful, a long and tedious convalescence may ensue, generally unseen by the surgeon. Complications do occur, since I have seen a right pleural cavity opened during the operation, and a temporary urinary fistula, with its attendant suppuration. In all cases much pain and discomfort occur for forty-eight hours, and pain in the back may be persistent for many months.

Position in life, strength, work and age should be all notable factors in deciding what advice we may offer; whilst perhaps at this stage the patient is generally in a position to make the final decision. Some may prefer the plunge of operation in spite of its terrors, and the prospect of being once for all relieved of a serious encumbrance in life; some may prefer to "let well alone."

The following cases seem to me specially worthy of record:

CASE I.

Miss P. S., aged 19, came into my hands early in March, 1910. Had been ill for nearly two years, and had been under treatment from "Dan to Beersheba" during that period. The chief symptoms were "heart attacks," which consisted of very severe attacks of paroxysmal tachycardia, occurring frequently, with intervals of fair health. There was no doubt from the history that this girl had been considered seriously ill. The final diagnosis from various excellent physicians had always been neurosis. My first examination revealed nothing new. Anorexia, a very foul tongue, constipation, severe nausea, and occasional vomiting were present; anaemia was marked, but a blood count revealed no special features; she had almost daily attacks of very severe palpitation, with some cardiac dilatation and faintness. Some sort of toxæmic condition appeared to be the probable explanation, but the only opinion I could offer was that I was *certain* that she had some definite cause for the attacks. It was not until the fourth or fifth careful examination, made in the afternoon after she had been about for several hours, that I was able to distinguish the descent of the right kidney right down between my hands. I was in grave doubt as to the possibility of this condition causing the heart attacks. A very light belt was fitted, and improvement began almost immediately, and now for some time she has been perfectly well and able to undergo considerable exertion; her digestion has gradually recovered, she has no cardiac symptoms, and regards herself as cured. On one occasion lately she left off the belt for a day, but was immediately ill, and was glad enough to return to it.

CASE II.

Miss L. W., aged 24, a shop assistant. For two years health very bad, and under constant treatment for "nerves." She suffered from depression, constant fatigue, complete loss of memory at times—on one occasion she was found miles from home, utterly unable to explain why she was there—and always with more or less pain in the head. Such were her misery and weariness of life that her mother and sister, with whom she lived, were afraid that she would commit suicide. She was brought to see me, and the only abnormality I could discover after a thorough examination was that both her kidneys "dropped" very badly.

Treatment.—A belt, and that only. Recovery was very rapid, and she is to-day a very active, cheerful, hard-working girl, and regards herself as perfectly well, whilst her home is said to be "not the same place."

I wish that I could refer "doubters" to these two patients—and after all their opinions are worth a good deal!

THE USE OF OLD TUBERCULIN OINTMENT IN THE DIAGNOSIS AND TREATMENT OF LUPUS VULGARIS.

(From the Skin Department of the Royal Infirmary, Edinburgh.)

BY

A. VERGE, M.B., CH.M.SYDNEY, F.R.C.S. EDIN.,
HOUSE-PHYSICIAN.

If one reviews the lengthy list of the various methods employed in the treatment of lupus vulgaris, such as α rays, Finsen light, carbon dioxide snow, carbolic acid spiking, salicylic acid plasters, surgical measures, etc., it is at once evident that no one method can be used to suit all cases, and therefore no apology is needed for the description of another means of treatment which has been found of great value in certain cases. As a result of the observation of von Pirquet's reaction in numerous cases of lupus, carried out by Dr. Cranston Low in the wards of the Royal Infirmary, it occurred to Dr. Norman Walker that it would be interesting to observe the result of the application of Tuberculin (Old) direct, either in the

form of an ointment, or in solution, to lupus tissue. This was done, and the lesions so treated appeared to be improved on healing. It was therefore decided to continue the investigations as to the merits of the ointment. After a series of experiments, the method described below has been adopted as a means of treatment in selected cases.

The part being carefully cleansed, and after the application of a starch poultice to soften and remove any crusts which may be present, an ointment consisting of a 5 per cent. solution of Koch's Old Tuberculin in a basis of paraffin molle, is well rubbed in from one to two minutes. A piece of linen or lint, freely smeared with the ointment, is then applied, and allowed to remain for twenty-four hours. Where possible, a firm bandage is used, or fixation ensured, by means of plaster, to prevent the ointment being spread over the surrounding skin and reaching undesirable positions.

On removal of the application, varying degrees of hyperaemia and swelling are seen in the actual lupus tissue, with a moderate amount of hyperaemia, with reddish papules extending one or two inches into the surrounding healthy skin (Moro reaction).

After cleaning the surface, similar applications are made for the next three or four days, the number being regulated by the pain experienced, in some cases considerable, and by the natural objection of the patient to the peculiar odour which arises in all cases. In forty-eight hours the swelling and hyperaemia are very well marked. As one proceeds with the treatment the part becomes more and more inflamed and swollen, small vesicles appear over the situation of the lupus nodules, and these on rupturing leave small ulcers behind, showing that the nodules have been eroded.

The appearance of the lesion now closely resembles that produced by the application of a salicylic acid plaster. This is the desired effect, and the treatment is now suspended, and the inflammation allowed to subside under some soothing application. Healing is usually complete within ten days, when the beneficial result may be observed.

The most outstanding features are the remarkable diminution in extent of the actual disease and the reduction of the infiltration and thickening. This is especially marked in lupus of the face, where infiltration and thickening are so often to be seen. None the less noticeable is the improvement in colour and the softer and more pliable nature of the lesion.

Perhaps the best results were obtained where the lupus tissue surrounded joint areas. Here where formerly, owing to the contraction of the scar tissue, the joints were rendered almost useless, or much restricted in action, there was in some cases practically complete restoration of movement, in others much improvement.

The typical reaction only obtains in the actual disease, and does not extend into the surrounding healthy skin.

In the earlier cases treated the Moro reaction produced round the lesion gave rise to some trouble owing to the inflammation spreading to undesirable positions, such as the eye and mouth.

This is now controlled by smearing an ointment of hyd. ammon. gr.v, zinci oxidi 3j, in vaseline 3j, around the edge of the lesion, so preventing the tuberculin ointment from coming in contact with the healthy skin.

In none of the cases treated was there any general systemic reaction. The temperature and pulse remained normal. No headache was complained of in the face cases under treatment, but many of these patients objected to the odour.

The pain, which is considerable, prevented me in some cases from making more than one or two applications; in others six or seven could be endured, and in the latter series more beneficial results were obtained.

A good deal of satisfaction was derived from the attitude of the patients treated in this manner. Although objecting somewhat strongly to the pain, odour, and inconvenience of having an unsightly application on their faces, when they saw the results obtained the majority returned for a second and third course of treatment. All of them thought their condition much improved. One girl, who had had lupus of the face with much scarring and disfigurement for eighteen years, and who had under-

gone many varieties of treatment, said that nothing had benefited her in a like degree.

From time to time letters have been received from medical men inquiring as to what form of treatment had produced in their patients such satisfactory results.

While carrying out these observations my attention was drawn to the fact that in 1908 Emil Senger of Berlin, Moro of München, and others had made use of a 5 to 10 per cent. Old Tuberculin ointment for the purpose of diagnosis and treatment, but the method does not appear to have attracted much attention in this country.

The following list of cases are a few selected from about fifty under treatment at the present time:

CASE I.

J. P., aged 21. In this patient both arms were affected with lupus vulgaris. The lesions consisted of patches of lupus tissue, in which there were many nodules, much scarring, and a good deal of contraction of the elbows. Tuberculin ointment (5 per cent.) was well rubbed into the elbow regions, and an application made on lint for twenty-four hours. At the end of this time there was a good deal of swelling and hyperaemia, and after the third and fourth day marked erosion of the lupus nodules. The treatment was now suspended owing to the pain, and the inflammation allowed to settle down. At the end of ten days healing was completed, and it was then seen that there was marked diminution of the actual disease, and much improvement in the use of the elbow joints. No general systemic reaction. Temperature and pulse normal.

CASE II.

M. C., aged 22. Extensive lupus of the face in the region of the nose, cheeks, and upper lip. Numerous nodules, scarring, and infiltration, etc. Received a course of six applications of tuberculin ointment. The nodules were eroded and greatly diminished in number, and there was marked diminution of the infiltration. No rise of temperature, headache, etc.

CASE III.

G. O'B., aged 30. Lupus vulgaris affecting left side of the face, left ear and side of the neck, and right upper arm. Many nodules in edges, with much scar tissue in all areas. Had two courses of four to five days on the arm, and one on the face of four days' duration. Had a marked local reaction, with erosion of the nodules. The result was very good, the disease being lessened and the scar tissue became more pliable. Pulse and temperature normal. No headache.

CASE IV.

M. C., aged 11. Lupus vulgaris of right side of face over the parotid region. Numerous scars on neck the result of operations on the glands. Had four applications of tuberculin ointment. A marked reaction occurred, and on healing practically no disease remained in the scar tissue. Had no headache. Pulse and temperature normal.

CASE V.

M. T., aged 15. Has a large patch of lupus on the flexor aspect of the right elbow joint, 6 in. long and 3 in. wide. Much scarring in the centre of the lesion, causing marked contraction of the joint. Lupus nodules very evident in the edges of the patch. Received four applications of the ointment. A marked reaction was produced, and the nodules clearly picked out and eroded. After healing there was evident diminution of the disease, with almost complete restoration of the movements of the elbow.

CASE VI.

J. A., aged 17. Extensive patch of lupus on the chest, with another smaller one on the neck. The throat was also affected. Had four applications to each lesion. The reaction was very marked, the nodules being eroded in the usual manner. Such an improvement was observed on healing that Dr. Logan Turner, under whose care the patient was for the throat condition, sent to inquire what was the treatment which had produced so much improvement in so short a time.

CASE VII.

N. S., aged 14. Large lupus patch on flexor aspect of right elbow joint, with numerous nodules in the edge and much scar tissue causing contraction of the joint. Received five applications of ointment. Reaction well marked, and on healing the disease was less and a greater range of movement in the joint was observed.

As a means of diagnosis, the application of tuberculin ointment is of undoubted value. Numerous control tests were made in many other forms of skin diseases, such as psoriasis, lichen planus, sycosis, various forms of syphilis, dermatitis seborrhoica, eczema, etc. In none of these did the typical reaction occur in the lesion, and the Moro reaction in the surrounding healthy skin was entirely absent. Therefore it may be fairly claimed to be a specific reaction occurring only in lupus.

Several cases of doubtful diagnosis were cleared up, and so useful has the method proved that it is now employed in the skin department of the Royal Infirmary wherever

there is any doubt as to the lesion not being lupus. Von Pirquet's reaction alone leaves one in doubt as to whether there may not be an internal focus of disease.

The local reaction is more definite than that produced by the injection of Koch's Old Tuberculin, and does not lead to the general systemic discomfort caused by the latter.

I am much indebted to Dr. Norman Walker for the permission to publish these observations, and for his help in estimating the value of the results obtained.

CANCER OF THE BREAST: AMPUTATION AND AFTER-TREATMENT BY SECONDARY X RAYS OF KNOWN QUALITY: A SUGGESTION.

By WILLIAM MITCHELL, M.B.,
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TAKING the general average of trustworthy reports, based on the three years limit, amputation of the breast, done by the most approved methods by the most noted surgeons, shows a rate of cure of about 40 per cent. If we were to extend the limit to five years it probably would not show 20 per cent. of cure. In other words, in three years there are 60 per cent. of recurrences, and in five years probably about 80 per cent. or more of recurrences. Recognizing this fact and the limitations of the most careful surgical technique, many leading surgeons have the mammary regions of patients on whom amputation has been performed irradiated by x rays once a month or once in three weeks, for a considerable time after the amputation. There is good reason to believe that were this course universally adopted, the proportion of recurrences would be sensibly diminished, and the proportion of absolute cures greatly increased. At the recent meeting of the British Medical Association, Sir J. J. Thomson read a most interesting and suggestive paper, in which he dealt with the recent work of Professor C. G. Barkla, who had been able to show that when x rays of any ordinary type strike against a substance, metallic or otherwise, that substance gives off secondary rays of a special quality, and that the same substance struck always produces the same quality of rays.

In the BRITISH MEDICAL JOURNAL, November 12th, 1910, Professor Barkla himself carries the subject a stage further, and states that elements of high atomic weight transform x rays which strike them into a secondary radiation much more absorbable and more intensely ionizing than the incident rays. These secondary radiations are, he states, of two sorts: α radiation, which depends for its quality upon the characteristics of the particular element emitting it, and a β radiation similar to the radiation of radio-active substances. He further states that the physiological effect upon the tissues, normal or pathological, depends upon the amount of the ionization of the tissues in question. Further, he states that if a tissue be injected with a heavy substance like bismuth carbonate, and then irradiated with an x -ray tube in the ordinary way, this substance (bismuth carbonate) will give off x rays of a constant quality, and that these secondary rays will produce a much greater and more intense ionization of the tissue, and hence greater physiological effect, than would have been produced by the irradiation had the bismuth carbonate not been injected. This brings to my mind a suggestion that might be useful to surgeons and radiologists alike—namely, why not, after amputation of the breast, impregnate the wound, before closing it, with sterilized carbonate of bismuth? This, if done not too profusely, would not in any way interfere with the healing of the wound. The bismuth then would become incorporated with the tissues at the very points where recurrence would be most likely, namely, along the lines of excision, and when healed, or even before, one would have all ready prepared the very condition which Professor Barkla says is the ideal one for further treatment by irradiation. If the views of Professor Barkla and Sir J. J. Thomson are correct, and I think all must agree that we must accept them as such, then I should think this well worth trying. It would obviate the necessity of painful injections later

on, and give to x -ray treatment of such cases all the benefits to be derived from treatment by radium. Many years ago bismuth was used as a dusting powder for healing wounds, and quite recently the beneficial effects noticed after injecting sinuses with bismuth for diagnostic purposes must be within the experience of many; hence, I can think of no reason why this suggestion should not be carried out tentatively, at all events, and with probably beneficial results.

A NOTE ON CLEFT PALATE OPERATIONS.

BY

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SOME years ago gastric and intestinal surgery was revolutionized by the introduction of the use of continuous suturing. The success attending this method of suturing depends on the fact that this suture gives a watertight wound on account of the close and uniform approximation of its edges, and that the tissue taken up by the suture is not liable to be strangulated, as in interrupted sutures, with consequent partial or complete failure of union in the wound, due to the necrosis.

The same result is desired in cleft palate operations as in abdominal surgery, and as the continuous suture is so successful and so universally used now in the latter work, I have used it in cleft palate work and in the closure of all wounds in which complete and rapid union without any drainage is essential.

Acting on these principles I have used a continuous suture (No. 1 or 2 silkworm gut) in cleft palate operations with satisfactory results during the last three years, and on account of the good results obtained would never think of going back to the interrupted method.

The operation I perform is the ordinary one with muco-periosteal flaps in the case of the hard palate, and in the soft palate the latter is freed from the posterior margin of the bony palate and its muscles are divided.

Apart from the ultimate good results obtained, it will be found that this continuous suture can be inserted more rapidly and easily than the interrupted one, and that the necessity for great care to insert the stitches exactly opposite each other and to tie the sutures with the correct amount of tension is obviated. The ease and rapidity of operation make the operation less serious, and it can easily be done when the child is 18 months old.

The amount of tension to be put on this suture must be sufficient, after it has been put in and before it is finally tied, to prevent the escape of any bubbles from the nose to the mouth in any part of the line of suture, when the patient is breathing quietly.

The suture should be put in close to the edges of the flaps, only taking up enough tissue to give a firm hold and not enough to invert the margins. The suturing is easiest done from before backwards. The form of needle I use is a small Durham's cleft palate needle, bent at a right angle to the right, and I insert it from below on the right side and from above on the left side, usually rethreading before each introduction. Only about $\frac{1}{4}$ in. of the silkworm gut should be passed through the eye of the needle, as the gut is apt to get frayed by the constant threading and unthreading. The suture can be left in for ten days or longer.

What I claim for the use of a continuous suture is that it gets rid of two of the causes of failure of union in cleft palate operations, namely, (1) imperfect apposition of the flap edges; (2) necrosis of the flap edges from stitch pressure, and that it considerably shortens the operation, thus materially diminishing its risk.

UNDER the will of the late Mrs. Edith Annie Freeman of Knaresborough, Halifax Infirmary and the Royal Albert Asylum each receive a sum of £1,000; while the Royal Bath Hospital, Harrogate, benefits to the extent of £500.

BRIGADE-SURGEON-LIEUTENANT-COLONEL JOHN ROSS MURRAY, M.D., formerly of Rawal Pindi, Punjab, India, and of the Army Medical Service, who saw service in New Zealand in 1860 and 1861, left estate valued at £30,230.