

To take an extreme case, let the pointer touch the screen; when the tube is moved the pointer will remain still while the bullet travels. This fact should be kept in mind.

Let us take a different class of case, the case where the part examined cannot be turned. This may result from various causes unnecessary to enumerate, but which will occur to the reader. The bullet, as before, is viewed from any available position and the skin is marked. With the screen kept rigidly horizontal, the pointer is manipulated as near the bullet as circumstances will allow, until it is in such a position that the shadow of the pointer and the shadow of the bullet keep an equal distance when the tube is moved from side to side. When this stage is reached the pointer must be on the same plane as the bullet, and the distance of the pointer from the screen is the distance of the bullet from the mark on the skin, assuming that the screen is kept in contact with the skin. Again, I should say that I have a special little instrument for carrying out this work, but a normally dexterous person can attain extreme accuracy after a little practice by merely using simple appliances. The advantages of this system are as follows. First, there is accuracy. Secondly, there is rapidity—a great factor; two or three minutes will give the localisation of any embedded metallic foreign body. Thirdly, this system has been used in the past in tens of thousands of cases, and has proved its infallibility.

I have endeavoured to describe the principle as well as the technique, but am not sure that I have made myself understood. I have already been able to help several of those who are taking up X ray work in connexion with the present war, and if I could be of similar use to others by demonstrating the method in practice it would give me much pleasure to do so.

In the statement above regarding photographic uses of the rays for localisation it should be understood that this refers to localisation pure and simple. Sometimes, over and above measurements, it is desirable to see what the anatomical position of the bullet may be. Also, there may be damage to bones and many other things that make photography desirable, and not least of all is the moral support a radiogram appears to give the surgeon. Any system of localisation that depends upon photography has got, in the first place, to prove its superiority to this satisfactory screen method.

I do not here attempt any discussion of the localisation of foreign bodies in the eye, though this is a subject of much interest.

Harley-street, W.

ROYAL INFIRMARY, DUNDEE.—At a recent meeting of the directors of the Royal Infirmary, Dundee, it was stated that a record number of patients were at present accommodated in the infirmary. Three wards have been set aside for wounded soldiers and fully staffed, the two surgeons, Mr. D. M. Greig and Mr. J. Anderson, had taken a ward each, and Professor MacEwan had volunteered to take the other in addition to the surgical ward which he undertook at the outbreak of war. In all, 64 cases had been received, and the directors had informed the authorities that they were prepared to receive 100 wounded sailors, should that unhappily be necessary. A large number of the staff had left to join the army; but their duties had been willingly undertaken by those who were left. The outdoor maternity cases had much increased, owing probably to so many doctors having left the town. The work of the sanatorium was proceeding as usual. A large number of the adult patients had been discharged cured, one man having been accepted for the army.

A CASE OF SPONTANEOUS RECOVERY FROM DETACHMENT OF THE RETINA.

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IN THE LANCET of Sept. 12th last Mr. Charles Higgins recorded some cases of spontaneous recovery from detachment of the retina. One of these, the first that he mentions, I remember well, as I saw the patient in Guy's Hospital when she was under treatment, and her recovery made a great impression on me. I have lately seen another case, and as such experiences are comparatively rare it may be worth recording.

The patient, an unmarried woman aged 45, consulted Mr. A. V. Moberly, of Surbiton, on July 11th, 1914, for sudden loss of vision in the left eye which had come upon her on the previous day. Mr. Moberly examined the eye with the ophthalmoscope and observed the detachment of the retina, and sent the patient to me for further advice. I saw her on July 15th, five days after the sudden loss of vision. The right eye was highly myopic, but with her glass, — 11 D. sph.

— 1 D. cyl. vert., she saw 6/12. In the left eye there was an extensive transparent detachment of the retina, involving considerably more than the lower half of the globe and obscuring the disc and macula. There were no vitreous opacities or other signs of inflammation. Vision in this eye was reduced to bare perception of light. Owing to the patient's circumstances any prolonged treatment by rest in bed, pilocarpine, or mercurial inunctions was impossible, and as I told her that in any case the chances of recovery were extremely remote, she decided to write off the left eye as hopeless and go on with her usual occupation without treatment. About a fortnight later Mr. Moberly wrote that I might like to hear that the patient had come to him to say that the sight in the left eye had returned, and that she could, with the aid of her glass (about — 11 D. sph.), read 6/12 with that eye. I saw her two days later and found that her vision was as Mr. Moberly had stated, and that there was not a trace of the detachment to be seen. The retina was everywhere smoothly replaced and transparent, and the field of vision was complete. The patient said that about ten days after she saw me on the first occasion the sight began to clear on the outer side of the field of vision, and that the whole field gradually became complete. At first she felt as if the eye was half closed, the upper portion of the field of vision being the last to clear.

In a former case of spontaneous recovery from detachment of the retina in both eyes associated with albuminuric retinitis, which I have reported,¹ the area of previous detachment was covered with fine wavy lines of pigment resembling lineæ gravidarum; these the late Mr. Edward Nettleship suggested might be due to the heaping up of retinal pigment in the folds of the retina as the serous exudate was slowly absorbed. In this case there was no such appearance. With the exception of a posterior staphyloma, and the rather thin choroid of high myopia, the interior of the eye was normal in every respect.

I do not know that any satisfactory explanation has been given of the fact that in cases of detachment of the retina vision only remains in abeyance and is restored immediately the retina once more comes in contact with the choroid. The loss of vision can hardly be due to any failure of vascular or lymphatic circulation, as under these circumstances the retina would degenerate rapidly after detachment and recovery after an interval of any length would be impossible. The retina always strips away leaving the layer of pigment epithelium

¹ Transactions of the Ophthalmological Society of the United Kingdom, vol. xxiv., p. 147.

attached to the choroid, and it seems probable that without the pigment epithelium, and possibly the visual purple, the other layers of the retina cannot perceive light. At any rate, for some long period after a detachment the nutrition of the retina remains quite unimpaired and vision is recovered immediately contact with the pigment layer is restored. The extremely defective vision of pronounced albinos suggests that the pigment layer of the retina is essential to vision, and that in detachment of the retina it is the separation of the rods and cones from the pigment epithelium that causes the blindness over the area of the detachment.

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AMPUTATIONS IN WAR SURGERY.

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THE first maxim of the surgery of the extremities at all times is, I take it, a rigid conservation, and this is far more true in time of war than in the ordinary work of civil practice. With careful treatment many injured limbs, the result of shell wounds (which, had they been caused by a motor omnibus, would have been condemned to summary amputation), make a good recovery, and leave a useful, if imperfect, member. Nevertheless, there remain cases, all too numerous, where the sacrifice of a limb has to be faced as the only safe course, and one is driven to amputate in conditions utterly different from those of any previous experience, in which the routine methods are inapplicable, or, if applied, bring disaster in their train.

The object of the present note is to call attention to a method of amputation first suggested, as far as I know, by me, and now widely practised in the military hospitals of this part of France both by British surgeons and by our French confrères. It has, I think, certain advantages over the methods previously employed, and in many cases saves life or limb; and, further, it seems advisable to communicate the method, and the reasons behind it, to the profession at home, as the resulting stump is to the uninitiated somewhat surprising, and it has reached our ears that some surgeons at home have been startled into uncharitable remarks that a little reflection would perhaps have suppressed.

The chief conditions calling for amputation in the present war have been compound comminuted fractures and gaseous gangrene; the latter one of the most terrible complications in the earlier days of the war, but apparently diminished for the time by the advent of colder weather. In both a virulent infection is present and ordinary amputations are very frequently followed by recrudescence of the infection in the flaps. Further, the mortality following secondary amputations has in the past been high. It is impossible to make even a guess at the figures for the present war, but on the combined statistics of the Spanish-American and Boer Wars Lagarde states it as 42·5 per cent. in the case of the thigh and 21·2 per cent. for the leg. In the present war, where gangrene has been a prominent feature, the figures, at any rate in the earlier days, would probably be higher.

It has long been recognised that in war surgery amputation flaps should be cut rather short, and in the present war the French surgeons soon found

that it was better not to stitch them at all, but to pack gauze between the flaps. The method I advocate goes still farther—goes, in fact, right back to the dawn of surgery. It consists in a simple circular division of all the tissues, including the bones, at the same level, and that level the lowest possible. The skin is divided by a circular sweep, the muscles are divided at the level to which the skin retracts, and the bone is then sawn at the same level. The bleeding points are secured and tied, the nerves pulled down and cut short, and a dressing is then applied to the raw surface of the stump.

The operation is, as will be seen, very simple and very rapid in execution, and the results have been surprisingly good. The stump is not painful if care be taken to shorten the nerves, and there is very little shock. Most surprising of all, it can be performed at the margin of gangrenous tissue, without, apparently, any danger of the gangrene spreading to the stump; in one case of massive gangrene reaching the middle of the upper arm amputation was performed half an inch from the gangrenous tissue, and the stump remained healthy. The acuteness of the case may be judged from the fact that the operation was performed within 48 hours of the infliction of the wound. And in cases of compound fracture of the femur, with the wounds in the groin and buttock and the fracture just below the trochanters, I have amputated below the wounds, enucleating the lower fragment and laying open the sinuses on to the surface, with complete success. I am convinced that disarticulation at the hip-joint would in this case have proved fatal—indeed, no surgeon who saw the case would have attempted it.

To sum up, the advantages claimed for the method are: 1. Economy of tissue. The amputation is performed at the lowest level at which a flap could be cut, or even lower, and all recoverable tissue is thus preserved. 2. It is applicable to otherwise hopeless cases, such as wounds or gangrene at the root of the limbs, and in these cases carries a much better prognosis than disarticulation at the hip- or shoulder-joint. 3. It is very rapidly done, and there is very little shock. 4. The surface from which septic absorption can occur is the least possible, and the drainage is free. 5. The nutrition of the stump is unimpaired; in this respect its advantage over a flap amputation is obvious. 6. It is so simple that it is within the range of everyone, and does not need an experienced surgeon for its performance.

It has, I think, other advantages in particular cases. One in particular, that presents itself not infrequently, is the case of multiple wounds. As an example a case in one of the French hospitals in this town may suffice. The patient was wounded by a shell which reduced the foot to pulp and sprinkled the whole limb with splinters to above the level of the knee. In this case it was urgent to remove the foot, and the presence of septic wounds in the leg made it impossible to obtain suitable flaps. The foot was removed by transverse section of all the tissues just above the ankle-joint and the other wounds treated by free drainage. The patient made a good recovery with the loss of the foot only.

The chief disadvantage of the method is that a second operation—a re-amputation—is necessary. But this second operation can be postponed until the infection of the wound has disappeared, and can be undertaken in conditions wholly favourable