It will be observed that in all of the three cases in which a bacteriological examination was made, the causal organism of the metastatic infection was the *B. aerogenes capsulatus*. Four of the secondary lesions occurred in the buttocks, and it would seem—as Kenneth Taylor pointed out in his two cases—that continuous pressure, due to the patients' posture, was an important factor in the localizing of the metastatic infection. Whether the intravenous injection of eusol in Cases III and IV was contributory to their recovery it is impossible to say. In Case V there was recovery without the injection of eusol, but the remarkable feature of this case was that, despite the evidence of a systemic infection with the *B. aerogenes capsulatus*, there was an absence of marked toxæmic symptoms.

It will be noted that in the fatal cases, I and II, the intravenous injection of eusol was given when the secondary lesions were already manifest and the patient obviously moribund.

In the successful cases III and IV the intravenous injection of eusol was given early. The metastases occurred late, and recovery followed with the minimum of surgical intervention. In Case III the extensive gas gangrene in the right buttock and thigh occurred five days after amputation of the right arm. Only a small incision was made for the secondary lesion, yet the infection became localized, and a muscle slough separated spontaneously. In Case IV the metastatic infection in both buttocks developed a week after the amputation of the gangrenous feet. Here again the operation for the secondary lesion was limited, and no attempt was made to extirpate the infected muscles. It can only be suggested that in these two cases the intravenous injection of eusol delayed metastasis, and that prior to the secondary lesions the patient had time to acquire an immunity sufficiently powerful to overcome the disease.

I wish to express my thanks to Captain Max Page, R.A.M.C.(S.R.), for his help and advice, and also to Lieutenant-Colonel S. G. Butler, D.S.O., R.A.M.C., for his kind permission to publish these cases.

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, September 16th, 1916. ² *Lancet*, December 23rd, 1916. ³ *Journal of the Royal Army Medical Corps*, December, 1916.

A NOTE ON SKIN GRAFTING.

BY

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SEVERAL successful cases of skin grafting during the past few weeks have prompted the writing of this note. Four large wounds have been treated by the method described. In three the wounds have been covered by firmly-growing skin at the end of a fortnight. In one only a few small islands of skin grew.

Failure follows many cases of skin grafting owing to the loosening of the grafts by excessive discharge, or to their displacement by the shifting of a dressing or its removal. The employment of oiled silk, celluloid or foil next the grafts only lessens the liability. The absence of a dressing does away with the second risk and minimizes the former, since much less discharge occurs when the wound is open to the air. There may be some greater risk of sepsis, but the other advantages outweigh this. A gauze cage can be made to keep off flies if the part is not covered by bedclothes. Several procedures recommended in skin grafting are open to criticism. It is said that grafts should overlap each other and the margin of the wound. Epithelium will adhere to a granulating surface, but not to epithelium. Consequently, the overlapping edges die from lack of nourishment. There being no spaces between the grafts there is a greater risk of the discharge floating the grafts off. It is often recommended to shave down granulations before applying grafts. This I regard as most undesirable, since it increases the discharge. If the surface is flabby and unhealthy, it is much better to wait till firm new granulations appear before applying the grafts. It may, however, be advisable to shave down the edge of the wound if it be raised and hard. The details of the method used are as follows:

1. The skin from which the grafts are to be cut is cleaned with ether soap. The best site is, I think, over

the ileo-tibial band, as the surface is flat and the skin is not easily moved on the subjacent tissues. Grafts of a uniform thickness are cut easily.

2. The granulations are swabbed with saline solution and dried with aseptic gauze.

3. Under a general anaesthetic a graft about the size of two or three postage stamps is cut with a wet razor. In thickness it should be sufficiently transparent to allow the blueness of the razor to be seen through it. On its removal pin points of bleeding should appear.

4. The graft is slipped from the razor on to the wound, slightly stretched with two fingers, and pressed firmly on. About one-eighth of an inch is left between the grafts.

5. No dressing is applied to the grafts. The patient should be in a position in which he can lie comfortably and the contact of the bedclothes avoided by a cradle.

6. Aseptic gauze is stretched firmly over the surfaces from which the skin was cut. This should be left till it peels off readily. If aseptic, the areas are dry. If any sepsis is present, the pus will soon loosen the gauze. It is difficult to avoid the infection of the skin in some cases.

After the operation discharge accumulates between the grafts and forms in some cases an unpleasant-looking scab. This should not be touched before the lapse of a week, when gentle bathing or fomentations will easily remove it. One reads of grafts which disappear entirely for a few days, after which a fine growth of epithelium can be seen over the surface. This suggests to me failure of all but a few fragments to "take," as happened in one of my cases.

The grafts in the presence of discharge may pucker slightly. This is the reason why I think slight stretching of them in application is useful. If there is any blistering of a graft a day or two after operation it is advisable to snip a small button-hole with a pair of sharp curved scissors. In future, except in a very clean dry wound, I would make such a small opening in any graft above the size of a postage stamp at the time of operation. There is nothing novel in the method used, but it is one which has much to recommend it.

ANOTHER WANDERING SHRAPNEL BALL.

BY

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PROFESSOR ARTHUR KEITH's letter in your issue of February 24th prompts me to record the following case, in which a shrapnel ball entered the body between two ribs and was removed from the common iliac vein:

The sequence of events was, baldly, as follows:

January 9th. Wounded between ninth and tenth ribs, anterior axillary line, right side.

January 9th to 14th. X-rayed at casualty clearing station. Bullet seen in chest.

January 14th. Admitted to No. 26 General Hospital. Bullet seen in chest by x rays.

January 15th. Right hæmorrhax diagnosed.

January 17th. Explored with needle and found sterile.

January 18th. Aspirated. A pint of fluid blood; much cough followed.

January 20th. X-rayed again. Bullet not in chest, but seen in abdomen.

January 25th. X-rayed again. Bullet in same position. Bismuth meal.

January 26th. Pain in right iliac fossa, suggesting appendicitis.

January 27th. Pain and tenderness increasing. Swelling above Poupart's ligament.

January 28th. Operation. Appendix removed; bullet removed from vein.

January 29th to 31st. Increasing pain, distension, and vomiting, followed by death.

There was a gash wound in the front of the arm, which possibly took a little "way" off the bullet. When the patient was admitted the breathing was distressed, necessitating the upright position, and there was frequent cough with fairly copious greenish sputum. There were signs of pleural effusion—dullness, diminished breath sounds, vocal fremitus, and resonance, with displacement of the apex beat to the left. There was ægophony on both sides.

The x rays showed the bullet near the middle line at the level of the anterior end of the sixth rib. It moved obliquely upwards and inwards with respiration, and now and then oscillated quite violently through a distance of about an inch.

Captain D., radiographer to the hospital, suggested that it might be in a bronchus, and it seemed very possible that this was so, thus accounting for the cough and sputum and respiratory distress, though there had never been any hæmoptysis. The x ray, of course, showed the hæmorrhax, which rather obscured the outline of the liver and diaphragm.