be overstated, and for this reason it is urged that the fullest advantage should be taken by medical officers of the facilities which exist for the examination of blood cultures in a laboratory.

We are indebted to Captain P. Hayes, R.A.M.C., in whose care the case was, for kindly giving us the clinical details.

CASE OF SIMULTANEOUS BILATERAL FRACTURE OF PATELLÆ BY MUSCULAR TRACTION.

By Temporary Lieutenant J. Anderson, M.B., Ch.B.

Royal Army Medical Corps.

As this case is unique the following particulars are given:—

Driver J. C. A., aged 31, was admitted to the Connaught Hospital, Aldershot, on June 20, 1915, with obvious fracture of both patellæ. He stated he was practising for regimental sports, and that at the time of the accident he was engaged in "hop, step and leap." At the "hop" he stepped off on his right foot and as he landed he felt the right knee-cap give way. At the moment the left foot touched the ground the left patella also gave. At the time the accident occurred he heard "two cracks," one immediately after the other, and the sound he likened to the breaking of pieces of "dry wood." This occurred before either knee touched the ground. The soil was soft sand, and there were no stones to fall on as the track had been specially prepared. He had no pain immediately after the accident, but could not rise from the ground.

The clinical picture was the usual one found in such a condition, with considerable interval between the fragment. There is no family or previous history of bone disease, and patient is a healthy muscular man with large frame.

X-ray examination showed: Left side, simple transverse fracture. Right side, a three-fragment fracture.

Treatment.—Transverse wiring.

Unusual points which justify record:—

(1) Almost simultaneous bilateral fractures by indirect violence.

(2) On one side the fracture was multiple.

CASE OF LAMINECTOMY, LUMBAR REGION.

By Captain G. G. Tabuteau.

Royal Army Medical Corps.

Patient, Private T., admitted to No. 1 Stationary Hospital, April 29, 1915, suffering from gunshot wound of back. There was a circular entry wound apparently caused by a shrapnel bullet, in the left loin above the posterior superior iliac spine. No exit wound. He had been wounded four days previously. Condition on admission: Temperature 100° F., pulse 88, respirations 20. Complete paralysis from the umbilicus
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downwards. Plantar, patellar and inferior abdominal reflexes absent. Sense of touch and pain present and unaltered. Loss of function of bladder and rectum. Urine very strongly alkaline and containing much thick ropy pus. Bladder distended to umbilicus on admission. Urine contained much blood on withdrawal. Regular catheterization required. Bowels relieved by enemata. X-ray examination showed a full shrapnel bullet lying in the lumbar region just to the left of the mid-line, apparently between the fourth and fifth lumbar spines. The bullet was localized by MacKenzie Davidson’s method. Urotropine, ten grains, administered four-hourly.

Operation, May 2, 1915.—Morphia quarter grain, with atropine one one-hundredth grain, was administered hypodermically one hour before operation. Anaesthetic used, ethyl chloride and ether. The lumbar muscles were fully infiltrated with adrenalin chloride and novocain. A vertical incision was made slightly to the left of the middle line, and the muscles separated from their attachments and retracted outwards. Owing to the free use of the adrenalin injection before the operation, hemorrhage from the muscles was nil. The spinous processes of the fourth and fifth lumbar vertebrae were chiselled away, then the left lamina of the fourth vertebra was removed. On opening the spinal canal no hemorrhage was found and the bullet was seen to be lying loose in the canal, from whence it was removed with ease. The wound was closed with catgut sutures through the lumbar fascia, and with silkworm gut sutures for the remainder. A drainage-tube was left in the lower angle of the wound reaching to the vertebra. Patient bore the operation very well. Owing to the use of morphia and the infiltration of the muscles with adrenalin and novocain, very little general anaesthetic was required. Patient complained of pain in the back during the night, which was relieved by hypodermic injections of morphia quarter grain. He was dressed daily. Tube removed on the fourth day. Stitches removed on the ninth day. The wound healed by primary union. Temperature and pulse normal. Bladder condition continued very troublesome. A soft rubber catheter was tied in on May 5, 1915, and the bladder washed out twice daily with boric lotion.

May 8, 1915.—Pus in urine much less. There is some slight return of power in the legs, chiefly in the left. Bowels still have to be relieved by enemata. Complains of pain down the right thigh and leg during the night, which required the administration of one-sixth grain of morphia.

May 11, 1915.—Movement of legs much the same. Still complains of pain.

May 18, 1915.—During the previous week patient’s temperature has been ranging between 99° and 100° F. There is no definite cause to be seen. Movements of limbs very much improved.

May 25, 1915.—Patient passed urine naturally for the first time. Practically full muscular power of the legs now present, and does not
To illustrate "Case of Laminectomy, Lumbar Region,"
by Captain G. G. Tabuteau, R.A.M.C.
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complain of any pain. Legs are considerably wasted, probably partly from disuse and partly from the spinal injury.

May 27, 1915.—Patient allowed up in a chair.

May 30, 1915.—Patient now walking with assistance.

June 3, 1915.—Improvement continues. Had a slight rise of temperature the previous night. Bladder and urine normal.

June 6, 1915.—Patient transferred to England. Pulse, temperature, muscle power, and bladder and rectum normal.

I am indebted to Lieutenant W. F. Neil, R.A.M.C., for his assistance during the operation, and to Corporal F. Martin, R.A.M.C., for the skiagraphy of the case.

REGIMENTAL MEDICAL AID IN TRENCH WARFARE.

By Colonel W. W. Pike, D.S.O.

This, at all times a very difficult subject, has become more so by the use of high explosive shells by the enemy.

(1) The position of the medical officer and aid post in trench warfare should be about half a mile back; the aid post should have good cover, when possible in the cellar of a building or in a well-constructed dug-out and near a communication trench leading up to the front trenches. (i) Slight cases can be directed to this aid post; (ii) more severe cases brought to it by stretcher-bearers after the first field dressing has been applied; (iii) the medical officer can be sent for if any extra severe cases occur.

(2) The above position and conditions would be ideal, but are seldom obtainable.

The above was the introduction and the first two paragraphs of a circular sent out by me to all the medical officers in the Indian Corps, in which I asked for any suggestions officers would like to put forward. The response was very satisfactory, and I am particularly pleased at the clear opinions brought forward by many of the younger officers, showing that they have thought out and grasped the difficult problem which is the subject of this article.

A consensus of opinion is in favour of the position above stated. I will consider the subject under the following headings:

(1) Position of aid post and medical officer.
(2) Equipment—(a) aid post, (b) medical officer, (c) stretcher-bearer.
(3) Personnel of aid post.
(4) Evacuation, to and from aid post.
(5) Forms and arrangement of the dug-out.
(6) Combined aid posts.
(7) Advanced dressing stations.