The effect was remarkable. I was called away, but returned in three hours to find the child's appearance wonderfully improved. A feed had been taken, and the depression of the fontanelle, which had been very marked, had vanished, and the patient's appearance was no longer that of a dying child.

A second transfusion was performed a few hours later in the hope of intensifying this evidently beneficial effect; 25 c.cm. of citrated blood were easily introduced, using the same syringe and needle all the time, and necessitating three introductions of the needle into the mother's vein and three into the child's vein.

Unfortunately twenty-four hours later the child went into convulsions and died, but I do not associate this with the transfusion in any way, for there were many pus cells in the urine, and there was probably a general blood infection. There was no difficulty in passing the needle into the same wound in each vein each time, and there was not the slightest reflux of blood alongside the needle from the baby's vein; nor, when the needle was removed, was there any escape of blood so long as the peripheral end of the vein was kept raised by the aneurysm needle. Giving antimony intravenously in a stout subject with small veins when dissection was necessary I have found such reflux alongside the needle troublesome, but blood is a more viscid fluid.

Assuming the total blood weight to be one-thirteenth the body weight, it seemed inadvisable to introduce more than 25 c.cm. of blood, and this could easily have been done had it been desirable.

Certain points of detail perhaps call for comment. The child should be kept warm, and as far as possible covered up during the proceeding, about which there need be no great hurry.

The upper end of the saphenous vein was selected because it was one of the largest superficial veins, and was in immediate continuity with the much larger femoral vein, so that the blood would be easily and quickly removed, preventing any tendency to reflux; also there was not the same danger of air embolism which the larger neck veins might offer. It might be urged that the exposure of the mother's vein by incision is unnecessary, but it prevents any possible bungling in the withdrawal of the blood, and the only real need for speed is during the process of transfer.

The very speedy recovery of the child from its collapsed state makes me doubtful whether the depression in the fontanelle and the collapse of an infant in severe gastro-enteritis is as much due to dehydration as to toxæmia, though it is probably caused partly by both. As a practical point arising out of this reflection, the question may be asked whether salines can ever approach whole blood in value, even in early childhood, for the child is suffering from something more than loss of fluid, something salines cannot influence perhaps.

With insufficient experience to express a definite opinion, I would suggest that blood transfusion might prove of very real service in severe degrees of collapse in infancy, whether from gastro-enteritis or from other cause.

THE TYPE OF CASE THE BONESETTER GETS.

BY

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DURING the past year it has fallen to my lot to manipulate a considerable number of cases of knee-joint trouble, in some the result of adhesions, in others of displaced semilunar cartilages.

The following two cases are, I think, worthy of record as illustrating, first, the type of case the bonesetter often cures and acquires fame in so doing, and, secondly, that which he cannot hope to cure and which sooner or later must come to the surgeon for operative treatment. The youth of one of the cases is rather exceptional. Cases have actually been operated upon at the thirteenth year,¹ and recently a case of reduction of displaced semilunar cartilage at 4½ years of age has been reported.²

CASE I.

A. B., aged 10 years, seen on March 12th, 1924, said he had fallen from the top of a wall nine weeks previously and hurt his right knee so that it was swollen and could not be straightened. At the end of four weeks he was able to get about on it, but the joint was unstable, and he fell frequently. He was taken to a consulting surgeon, who diagnosed a displaced internal semilunar cartilage and advised that a knee-cap be worn. The knee, however, still continued to give way, and two weeks previous to being

seen by me he fell down some steps and had been unable to straighten the knee since.

Condition on Examination.—The knee was normal in appearance and all movements were complete except extension, which was not quite complete, there being a sensation of some resilient structure blocking it. This was so slight that it was difficult to realize that there was really anything wrong with the joint. There was no pain on movement nor tenderness on pressure, and the only reply the boy gave to questions was "It's here," accompanying the remark by rubbing the inner side of the joint with his hand. He was then asked to walk, and the disability at once became apparent—he could not get the heel to the ground by quite two and a half inches, and limped across the floor on his toes. The quadriceps was very weak and flabby.

Treatment.—The displaced semilunar cartilage was reduced by full flexion, internal rotation, and extension. The boy was able to walk across the room immediately. A back splint was then applied and massage and electrical stimulation of the quadriceps carried out thrice weekly. No movements of any kind were permitted for a fortnight in order that healing of the torn parts should take place undisturbed. At the end of a fortnight the back splint was discarded and a bandage substituted. In spite of some tenderness over the inner side of the knee movements were begun. At the end of another fortnight the bandage was left off and treatment continued in the gymnasium for another week, when the boy was discharged.

During treatment in the gymnasium the joint was subjected to all sorts of twisting movements, but it stood the test, and the subsequent history proves the completeness of the cure—there has been no further trouble. This is rather remarkable in view of the length of time which elapsed between the first accident and the manipulation.

CASE II.

Miss C., having hurt her right knee two days previously, was brought to me on the evening of Easter Monday. She gave a history of its having been "out" many times before, but she had always been able to get it "back" herself; on this occasion she could not.

Condition on Examination.—The knee was flexed, much swollen, and very tender; all attempts to move it were strongly resisted by powerfully contracted muscles and produced so much pain that they had to be abandoned.

Treatment.—Next morning she was given an anaesthetic and the knee fully straightened quite easily by manipulation. Extension was accompanied by a sound as of something tearing inside the joint. After-treatment as in Case I was carried out, but, owing to the history of frequent displacement, operation was advised. Before this was done the cartilage again became displaced and again was reduced by manipulation—this time without an anaesthetic.

After this there was always a feeling of something moving inside the joint, and at operation the cartilage was found to be detached along the periphery in its posterior two-thirds—a condition to which I give the name "sickle-shape." In this position the detached portion of the cartilage is bent diagonally across the front of the internal condyle of the femur, so that any reduction which could take place by manipulation would result in tearing away more of it from the coronary ligament. Removal of the whole cartilage resulted in a complete cure.

REFERENCES.

¹ Jones and Lovett: *Orthopaedic Surgery*, p. 31. ² Christopher: *Journal of Bone and Joint Surgery*, vol. vi, No. 4, October, 1924, p. 918.

THROMBO-ANGIITIS OBLITERANS.

BY

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THE interesting paper by Professors Telford and Stopford of Manchester on thrombo-angiitis obliterans, published in the *BRITISH MEDICAL JOURNAL* of December 6th, 1924, provides a reasonable diagnosis in a somewhat obscure case recently under my care. The parallel as regards signs and symptoms is close, but as there is a striking contrast in the matter of age and course to date it is thought worthy of record.

The patient is about to complete his 86th year, and, although a lifelong fisherman, I am sceptical of any ground for connecting this fact with the present condition, as is done in one recorded case. The family history and personal history are both exceptionally good.

Some months previous to the first attack there had been acute suppurative of a corn situated over the metatarso-phalangeal joint of the great toe of the right foot. In the beginning of March, 1924, after a slight attack of bronchial catarrh and flatulence, sudden pain was felt in the upper third of the right calf. When I examined the leg several hours later the foot was swollen and oedematous to the ankle, especially over the dorsum of the foot, and of a reddish colour. The limb was stone cold as high as the junction of the middle and lower thirds of the leg. Walking was impossible on account of the pain, which was described as "cramp-