suffer from the symptoms of a gastro-intestinal infection from time to time, over a period of several years. If it were possible to foresee the ultimate development of the anaemic phase much might be done to prevent the later stages of the disease from occurring. The family history may give a clue. In two of these cases other members of the family had had pernicious anaemia. In the case of a fourth patient (put on liver diet too late in the last stages), who died, her mother had also died of the disease, after a remission lasting nine years.

Attacks of gastro-intestinal symptoms, with perhaps glossitis, in anyone whose family history shows pernicious anaemia, are a portent of the gravest significance. Without the family history the triad "glossitis," "gastritis," "enteritis" should warrant the examination of the gastric juice for achlorhydria. If this be found the case should be looked upon as one of potential pernicious anaemia. Liver treatment seems to be proving of real value in the acute phases, and may be of assistance in preventing relapse. But many cases might be recognized in the pre-anaemic phase, and a long and dangerous illness be perhaps prevented.

REFERENCES.

¹ Minot, G. R., and Murphy, W. P.: *Journ. Amer. Med. Assoc.*, 1926, lxxvii, 470. ² Idem: *British Medical Journal*, 1927, ii, 674.

A FORM OF SENILE SEIZURE.

BY

HUGH BARBER, M.D.LOND., M.R.C.P.,
HONORARY PHYSICIAN, DERBYSHIRE ROYAL INFIRMARY.

WITHOUT any warning, an apparently healthy elderly person falls down unconscious. There may be some degree of clonic spasm of the face or limbs, perhaps more pronounced on one side. In a few minutes there follow loud shouting and violent behaviour, necessitating restraint, but possibly aggravated by it. After a variable time the patient regains consciousness and reason, although perhaps a little dazed and incontinent. On full recovery of his faculties he will say that the whole incident is a blank. The whole duration of the attack is perhaps about three-quarters of an hour, but may be considerably longer. This type of emergency is seen after the event usually in hospital practice, or only in the casualty department. It does not appear to be described in medical textbooks. Of six attacks that I have witnessed the notes of the following case describe a typical example.

A railway storekeeper, aged 66, was found unconscious at 8.30 a.m. on January 24th, 1928. He was put into an ambulance, in which he became very violent, with struggling and shouting, sweating profusely. At 9 o'clock in the casualty department of the Derbyshire Royal Infirmary he was very violent, and continued so until 9.45, when he vomited twice and became conscious, but was somewhat dazed. He was taken to the ward, where he went to bed quietly, saying everything was a blank since his last duty performed that morning. Examination showed him to be a very stout plethoric man; his tongue was furred, his teeth were decayed, and pyorrhoea was present. The lungs were emphysematous; the heart was normal, but sounds distant. Temperature normal, pulse 92; artery thick; blood pressure 130 mm. systolic and 90 mm. diastolic (two days later it was 170 and 110). There were no abnormal signs in the nervous system. The urine contained a trace of albumin occasionally; but the blood urea was only 48 mg. per cent., and the urea test gave a reading of 2.4 per cent. His mind was quite clear, but the head felt heavy. The day after admission lumbar puncture revealed normal cerebrospinal fluid. Five days later he could walk about quite well.

Of six cases (five men and one woman) all were between 60 and 75 years of age. There was some evidence of cardio-vascular degeneration; but they were robust, stout, somewhat full-blooded people, engaged in their duties. There had been some degree of hyperpiesis, but no serious renal disease. In one case the disposing cause of anger precipitated the attack, but otherwise there had been no history of effort, nor were their duties arduous. In five instances the patient had come to himself in about an hour; the sixth patient, after the violence had passed off, I saw walking up and down his room with the doctor and butler in attendance. He came round about three hours

after the seizure, without any knowledge of what had been taking place. The attacks have not recurred nor have vertigo or other symptoms developed. The expectation of life has been what one would deduce from the age and cardio-vascular condition, but does not appear to have been changed by the accidental occurrence of the seizure; nor have the activities been restricted.

It would seem that the attack is due to slight haemorrhage on the surface of the brain, perhaps below the pia mater, producing coma and cerebral irritation, analogous to what may be seen occasionally after concussion. The bleeding must be quite distinct from a free subarachnoid haemorrhage: the one lumbar puncture observation revealed normal fluid. That it is a vascular lesion seems probable, because of the sudden onset, and there is the analogy of epistaxis and retinal haemorrhage occurring in this type of patient. Uraemia does not seem probable; the recovery is too complete, and the urea in the blood was not unduly high in the one case tested. The type of patient is not suggestive of epilepsy, although the analogy of a convulsion from loss of cerebral function probably holds good. A temporary oedema may be the cause, although a local aura might be expected. A localized haemorrhage, either venous or arterial, seems the most probable explanation. Embolism or thrombosis is possible, but the situation of the lesion is probably in a region where anastomosis is very free.

A SIMPLIFIED METHOD OF ARM-TO-ARM
BLOOD TRANSFUSION.

BY

E. F. SKINNER, M.D., M.B., F.R.C.P.,
ASSISTANT PHYSICIAN, SHEFFIELD ROYAL HOSPITAL.

THERE are so many methods of carrying out the transfusion of blood, each worker having developed his own technique, that it is almost futile to suggest a new method. However, as one who has done a large number of transfusions of all kinds and by all methods, I feel justified in making a short practical note on the subject.

There can be no question nowadays of the efficacy of transfusion as a therapeutic measure for a variety of conditions, and each clinical condition has its supporters for one or other method of carrying out the operation; but also there can be equally no question that, granted facilities, the transfusion of whole blood direct from donor to recipient is the best procedure. This was the original method, but, owing to various technical difficulties, it has long been discarded in favour of the "citrate" or "defibrinated" method.

The transfusion of whole blood is hindered by the readiness to clot exhibited by blood immediately it leaves the endothelial surroundings of blood vessels, and, of course, if blood is to remain whole—that is, to retain all its physiological and physical qualities—this tendency to coagulation must be retained. It forms one of the most important properties of blood, and in cases of haemorrhage is the one quality most desirable in the blood to be introduced. To render the blood uncoagulable by citrate appears to me a distinct disadvantage when dealing with cases of severe bleeding, and it is in such cases, particularly in obstetrical emergencies, that transfusion offers its greatest and most obvious use.

I make a plea, therefore, for the development of whole-blood transfusion, and venture to assert that with the extremely simple apparatus described below anyone who is accustomed to venipuncture can carry out a whole-blood transfusion with ease and certainty.

The apparatus consists of a syringe of 5 c.cm. capacity, with a piston of special pattern having a groove along one side. The barrel of the syringe is closed at the bottom, but has two openings in the middle opposite to each other. When in action the syringe is so arranged that by a simple turn of the wrist the groove in the piston can be put into apposition with either of the two side openings in the syringe, and either draw in or expel its contents.

The only other apparatus necessary is two pieces of rubber tubing of stout make about 8 inches long, and two needles such as are used for venipuncture, and which can be put directly into the tubing. The drawing will make

the above description clearer.

In carrying out the operation the donor and recipient are placed parallel and side by side, or head to head with feet in opposite directions, whichever is found most convenient. I usually find the two right arms best, in which case the second position is adopted.

A small table of suitable height is placed between the two couches, and on this the arms are brought close together, and the usual preparations carried out for sterilizing the skin and

making the veins prominent. Before inserting the needles I find it an advantage to fill the syringe with medicinal paraffin first, then empty it and refill it with a solution of sodium citrate, subsequently half emptying it and then leaving the piston with the groove midway between the side openings.

A needle already attached to the syringe is then inserted into the recipient's vein (this is usually done first, as it is the more difficult) and the piston turned round till the groove is opposite the recipient's opening, and if the needle is in the vein a little blood appears in the syringe immediately the piston is slightly pulled up. The piston is then turned to "midway" again and the donor's needle inserted into his vein, the same manoeuvre being carried out to ascertain whether the needle is satisfactorily in the vein.

If the venipunctures have been carried out satisfactorily, a little vaseline is smeared over the skin round the entry of the needle and the tourniquet removed from the recipient's arm. Blood is now drawn from the donor, the piston turned and pushed down, delivering the full amount to the recipient; another turn, and the blood is drawn from the donor as the piston slides up the syringe barrel; turn again and depress the piston, and the charge is delivered to the recipient, and so on.

The operation is so simple that if venipuncture has been successful 500 c.cm. of blood can be transfused in a very short time (ten minutes), and there is certainly much less reaction after this procedure than after any other.

Where conditions allow there can be no doubt that arm-to-arm transfusions should be done, and this simple type of apparatus is capable of doing the operation efficiently. It is made by Duffaud et Cie, Paris, and is the invention of a Frenchman (Dr. Joubet). It is certainly one of the most beautiful pieces of apparatus I have ever used, but as sent out by the makers it is accompanied by two or three pieces of tubing and two kinds of needles and cannulae—one for the donor and one for the recipient; to my mind these are totally unnecessary, and only tend to complicate what can be a very simple technique.

The syringes are made in two sizes—5 c.cm. and 10 c.cm.; personally I consider the 5 c.cm. the better; there is no point in using the 10 c.cm. syringe when 500 c.cm. of blood can be comfortably delivered in a few minutes with the smaller apparatus.

The syringe is not on the English market, but can be obtained from the makers direct or from Messrs. Bell and Croyden, who have promised to hold a stock of them, since when bought direct it requires about two months before they are delivered through the custom-house.

MINIMAL RISES OF TEMPERATURE IN RHEUMATOID ARTHRITIS.

BY

L. SCHMIDT, M.D.,

MEMBER OF THE INTERNATIONAL COMMITTEE ON RHEUMATISM.

PISTANY, CZECHOSLOVAKIA.

THERE is one type which stands out from the large group of rheumatoid arthritis cases; it is distinguished by constant though often minimal rises of temperature, and is associated with a very slow course, which is unrelenting in its progress and often defies all forms of treatment. Outwardly these cases are hardly distinguishable from those of other types.

In a discussion some years ago of pyrexia in rheumatoid arthritis¹ I stated that "the febrile types of rheumatoid arthritis are certainly commoner than we generally assume." I presumed then that the rise of temperature in such chronic articular cases might be due to the action of toxins, and further observations have served to confirm this view to a large extent, so that I have found this a useful basis for rational therapy. Though at that time I only considered temperatures well above 98.6° F. of importance, I have gradually become convinced that minimal rises of temperature, even of only a few tenths of a degree, if continuous and not due to any other cause, are of decided importance from a prognostic as well as from a therapeutic point of view. Morning temperatures of 97.9° to 98.2° F., which are often regarded as normal by medical practitioners and the general public, should receive serious attention in these cases, since they indicate the need for a systematic recording of the afternoon temperature. It will almost invariably be found that the afternoon temperature is above 98.6° F., and that almost without exception the accompanying signs are of serious prognostic significance.

A survey of these cases is not very cheering. The patients mostly state that they have been ill for years or at least for many months. In spite of various therapeutic measures, the pain, swelling, deformity, and atrophy of muscles and skin slowly increase. Psychological disturbances become superimposed on the organic troubles and find expression in the facies. The emaciation and obvious anaemia, which are almost constantly associated with this disability, emphasize the tragedy of the aspect.

I regard these cases of articular rheumatism with a continuous though minimal pyrexia, when there is no demonstrable focus of infection in other organs and no evidence of tuberculous rheumatism (Poncet's disease), as being due to cryptogenic bacterial lesions of polymorphic etiology. The question of the primary seat of the lesion, and whether in certain cases it is the bacteria or only the bacterial toxins which invade the joints and there produce the various changes, must be left open. The important point is the entry of substances foreign to the body, or at least to the joints, into the joints and the surrounding tissues in such amounts that the irritation set up leads to various degrees of inflammation and their sequels. The joint tissues and the surrounding fluids are thus toxic whether they take the form of macroscopic or merely of microscopic exudates and chemotactic combinations. Absorption of such substances has, according to this view, the same significance as an auto-inoculation.

It seemed that the first step towards a cure of these arthritic patients must take the form of general treatment as in the case of tuberculosis, and here a so-called "mastkur" (fattening regime), carried out with great care and precision, plays an important part. Objectively improvement becomes manifest in two directions: the body weight increases, and the small rises of temperature tend to disappear, though in some cases only after a considerable time. Both these reactions are very delicate and of great prognostic significance; they usually run parallel.

Pursuing the reasoning outlined above the following conclusion was reached: When such an arthritic patient is in a negative phase and the organism is incapable of reacting it is not only useless but foolish to begin by increasing the supply of toxic molecules from the joints which the