Method

After the wound toilet is complete a fine Kirschner wire is inserted obliquely across the back of the radial border of the second metacarpal, about an inch proximal to the head of the bone. A second wire is put through the subcutaneous border of the ulna 3 in. distal to the tip of the olecranon. A large stirrup is attached to each of these wires. An assistant now holds the arm suspended by the distal stirrup; the elbow is left at a right-angle. The proximal stirrup is allowed to hang down behind the olecranon. The weight of the arm, so suspended, is enough to produce full length, though alignment and rotations will need to be adjusted.

While the arm is still held suspended the stirrups are connected together by two plaster ropes, each made of three 6-in. cellon bandages. Further adjustment of the fracture may be made while the ropes are drying. These ropes are parallel

FIG. 2.—Lateral view.

with the forearm, about 2 in. from it, and when dry convert the whole structure into a rigid skeleton splint with fixed skeletal traction. The dressing of the wounds is completed with a layer of wool and a bandage which encircles the side bars of the splint. The addition of extra wool anteriorly or posteriorly, combined with firm bandaging, will correct any tendency to a backward or forward bow. Finally a removable anterior plaster cock-up splint may be bandaged on to immobilize the fingers. When the patient returns to the ward the forearm is suspended vertically, with the elbow at a right-angle, and accurately counterbalanced with a weight. This is the best position to allow the swelling to subside, and puts least strain on the splint. Inspection of the wound or further surgical

treatment can be carried out by removing the bandage which holds the dressing, and the arm need not be removed from its suspended position during the process.

Directly all active sepsis has disappeared the wires may be removed and a plaster applied. This can usually be done in two or three weeks. This point needs emphasis, since in the absence of definite indications the disadvantages of skeletal traction, such as wire-track sepsis and delayed union, will outweigh the advantages of this form of immobilization.

I am indebted to Dr. Geoffrey Robinson for his photographs of the splint.

Medical Memoranda

Notes on a Case of Death by Lightning

On Aug. 29, 1942, during a severe thunderstorm about 8.30 p.m., a farmer aged 54 was sheltering under a large bombing aeroplane lying in a grass field. A soldier about 200 yards away saw a "thunderbolt" fall, but did not trouble to investigate as there was no sign of fire afterwards. On the 30th, about 5.45 a.m., the corpse of the farmer was found lying supine under the wing close to the body of the aeroplane. Some camouflage netting, which stretched over the tail of the aeroplane, lay under the corpse. Also under the corpse and under the netting was a cross-piece of metal tubing about six inches long each way.

On the same day about 10.15 a.m. I examined the body, which had been taken to an outhouse near by. Rigor mortis was complete. The clothes, which were damp but not soaking, were removed. The cloth cap had a small hole in it. I could not see charring of the edges of the hole, though I looked carefully. Corresponding to the position of the hole in the cap there was a small hairless spot in the right parietal region looking like an abrasion. The face was congested, especially by the left cheek and left ear, where dark fluid blood oozed out of the pores of the skin. On each buttock over the ischial tuberosity there was a circular area about 1½ in. in diameter looking like a recent superficial burn. I could find no other signs of injury on external examination. The boots he was wearing were heavily shod with iron at heels and toes. His watch was still going. I think perhaps he was squatting or sitting on the ground, and the marks on scalp and buttocks show where the electric current passed.

Two fitters in charge of that particular bomber searched carefully inside and out, and found no sign of damage to the aeroplane, which is largely composed of metal. The aerial had a wire earthing it to a metal rod in the ground some 6 to 8 feet from where the corpse was found.

I do not know if similar deaths have been recorded. It is evidently not safe to shelter under an aeroplane in a thunderstorm. Perhaps it would have been quite safe inside the aeroplane, which was not damaged. I am a civilian practitioner, and record the case hoping it may be helpful to medical officers in charge of aerodromes.

ALFRED V. DILL, M.D.

Tetanus in the Puerperium

Owing to the extreme rarity of cases of tetanus in the puerperium, it has been thought advisable, and important for statistical purposes, to record the following case.

CASE HISTORY

A strong healthy woman aged 40 was delivered of a healthy child at a farm-holding on Jan. 21, 1942. Apart from difficulty of micturition during the third month, due to an impacted retroverted uterus, which was corrected without difficulty, her pregnancy ran a perfectly normal course. Her labour, too, which was supervised by the district nurse according to arrangement, was accomplished without any trouble, lasting some six hours. There was no tear of the perineum. The puerperium proceeded uneventfully until the tenth day, when the patient complained of a slight "stiffness of the neck." This was regarded by the nurse as a slight attack of fibrositis, but when, next day, the patient complained of stiffness of the jaw muscles and of inability to open her mouth properly or to swallow food and drink, the patient's doctor was sent for. On arrival he found the woman sitting up in bed in evident distress. There was a good deal of pain and stiffness in the neck, and trismus was very pronounced. Speech and swallowing had

become impossible. At this time there were no spasms of the limbs or general convulsions. Facial symptoms were fairly well marked. Later there was partial intermission of the symptoms and the patient could make herself understood. This, however, was only temporary, and she was admitted to hospital on Jan. 31, 1942, where she was seen by a consultant physician. Later that same day, while being fed through a nasal tube, she developed severe spasms and died.

COMMENT

When it was realized that the case was obviously one of tetanus the question that immediately suggested itself was, How did the infection occur? Was it via the skin or the birth passages? It is perhaps significant, especially when it is remembered that the tetanus bacillus is usually present in cultivated ground and horse manure, that this case occurred in a farm-holding. In regard to the skin, careful inquiry failed to elicit any history of recent cuts or external wounds, and examination revealed no evidence of any recent scars. On the other hand one can quite conceive how infection would occur by the birth passages. Although the district nurse supervised the puerperium, it appears that on several occasions the patient "attended to herself." One can easily imagine some member of the family handing the patient the necessary utensils, bowl, wool, etc., and there is a temptation to conclude that infection occurred in this way. Against this possible explanation, however, are the post-mortem bacteriological findings. Necropsy showed no lesions except in the uterus, from which a small piece of adherent placenta was removed, and a very careful bacteriological investigation failed to reveal the presence of tetanus bacilli in any of the birth passages. Some were found in the bowel, but this, apparently, is not unusual in the adult gut. The skin seems the more probable route of infection, in spite of the absence of external evidence, and one can only suggest that some tiny prick or scratch may have healed over before the illness.

The 1940 report of the Royal College of Obstetricians and Gynaecologists contains the findings of a special committee set up to investigate the question of tetanus in relation to childbirth. The conclusion arrived at was that cotton-wool as commonly supplied by chemists often contained many organisms, among which the tetanus bacillus was occasionally found. This may provide another possible explanation of the source of infection, but in the absence of any definite findings, both in regard to the skin and to the birth passages, the mode of infection must remain "something of a mystery."

Dundee.

A. T. DUNCAN, M.B., Ch.B.

Reaction to Rubber-ended Stethoscope

The following case is recorded as an example of extreme sensitivity to rubber. I know of no other instance in which reaction has occurred after such short contact.

A power-loom overlooker aged 35 was referred to me by his doctor on Sept. 2, 1942. He gave a history of reacting to his suspenders—i.e., the small rubber pieces to which the buttons are attached—in the spring of 1941. He was then told to stop wearing suspenders, and the eruption gradually cleared. At Whitsuntide of this year he went for a holiday to the country, and took with him a pair of rubber Wellington boots for walking through the fields. He noticed as he was tramping along, wearing these boots, that his socks kept falling down, leaving a gap between socks and breeches. The same night a circular band eruption broke out corresponding to this area and, of course, he stopped wearing the boots. The reaction was a severe one, and it was on account of this that his doctor referred him to me.

The facts up to now merely demonstrate a case of rubber sensitivity. After I had examined the affected parts of his leg the patient volunteered the information that the previous day his doctor had gone over his chest in the course of a general examination and listened to his heart. Pulling open his shirt, he showed me four perfect rings corresponding to the usual listening-sites. I asked whether the stethoscope was a metal one with a rubber-covered end, and the patient told me that that was so. I am informed that when the doctor listened to the heart no prolonged application of the stethoscope occurred, merely the usual fairly rapid auscultation, and yet the reaction provided four clearly marked red rings.

The above account demonstrates how easily slight contacts may be overlooked in cases of skin sensitivity.

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Reviews

ENDOCRINOLOGY

Endocrinology: Clinical Application and Treatment. By August A. Werner, M.D., F.A.C.P. Second edition, thoroughly revised. (Pp. 924; illustrated. 45s.) London: Henry Kimpton. 1942.

A Manual of Endocrine Therapy. By Bernard L. Cinberg, M.D. (Pp. 178. New York: Brooklyn Chemical Publishing Company, Inc.; London: Macmillan and Co. 1942.

There appears to be no end to the making of books on endocrinology, and it has therefore become our custom to draw attention to the special characteristic of each one rather than to discuss the details. Dr. Werner's *Endocrinology* throughout particularly emphasizes the close association between the endocrines and the autonomic nervous system, which is often insufficiently realized. Nevertheless we feel that the emphasis is not placed just where it should be in such statements as that the ductless glands act as governors over the autonomic nervous system, and that the present state of our knowledge of their functions is rendering such terms as neurasthenia, hypochondria, and nervous breakdown obsolete. Desirable as it is that such vague labels should be replaced by more accurate ones, we hesitate to believe that endocrinology will provide them. Surely of recent years the tendency has been the other way—to attribute to the hypothalamus a larger part in the control of the endocrines, while recognizing the psychosomatic origin of obscure nervous disorders. Once over that objection, the course becomes simpler, for we can approve unreservedly the prominence given by the author to the clinical aspect, while providing the reader with just that amount of anatomical, histological, and physiological information which will enable him to follow the argument without reference to other books. It is interesting to find Dr. Werner faithfully reporting cases successfully treated by preparations now often declared to be practically inert. As he states, when these products were used no better ones were available, and they are not recommended now. But it does show that here, as in other instances, the pharmacologist is a little too apt to sneer at purely clinical findings. The varieties of pituitary disorders are well described, and a judicial attitude is adopted on the vexed question of the number of individual anterior pituitary hormones. On the other hand the author has no hesitation in contradicting the ideas which have led to so lamentable a confusion between Simmonds's disease and anorexia nervosa. He is, however, more convinced of the existence of a male climacteric and of the hormonal origin of involutional melancholia than we should care to be. The lesser-known alimentary hormones are fully described, as is renin. Mongolism is regarded as an endocrine disturbance of pre-natal origin, but among the aetiological factors no reference is made to the age of the mother; it does seem clear, however, that this condition is particularly frequent if the mother is over 40 at the time of conception. The section on the thymus is judicial in tone, but the possible—even probable—association between hyperthymia and myasthenia gravis is not mentioned. Despite these minor points, here is a book of real usefulness.

Dr. B. L. Cinberg's *Manual of Endocrine Therapy* has a quite different purpose, which is to give a brief compendium of the subject without any attempt to provide a textbook. After the initial surprise at being informed that our knowledge (and not merely the therapeutics) of the endocrine system was very meagre until the discovery of insulin in 1922, we encounter a useful abstract of the therapeutic applications of each endocrine, briefly but critically stated, followed by a list of the preparations in current use, but omitting the polyglandular ones which are not biologically assayed. Only preparations thus standardized are recommended. There is also a useful chapter on diagnostic procedures, and a summary of therapy. A caution is given concerning the liability of desoxycorticosterone acetate to produce alarming oedema because of the rapid retention of sodium; this necessitates avoidance of large sodium dosage in conjunction with that synthetic hormone. It is curious to learn that the posterior pituitary has been used in the U.S.A. for the treatment of peptic ulcer, in view of the experimental work of Dodds and Noble, which showed gastric lesions could be induced by the injection of this hormone. The price seems high for so short a book.