LECTURE ON THE NURSING OF ORTHOPÆDIC CASES.

DELIVERED TO THE BRITISH COLLEGE OF NURSES.

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It is difficult to define orthopædic surgery: perhaps the phrase that comes nearest to the ideal description, in accuracy and brevity, is "the surgery of the locomotor system." I prefer, personally, to regard orthopædic surgery simply as a form of general surgery, in which particular regard is paid to function. This point of view, at any rate, should direct and dominate the nursing of orthopædic cases. An operation may be a mere incident in the whole process of cure; and the benefit to be derived from an operation may be wholly lost, if after-treatment is neglected or inadequate.

"Maintenance of function" must be the slogan of the orthopædic nurse; and that means not only the restoration of lost function, but the retention of function in all normal parts. For example, in treating a fracture, one's efforts must not be devoted exclusively to the production of perfect bony unions of the fragments; the circulation, the muscles, the movements of all the joints of the limb, and even the patient's will to work, and his outlook upon life, must all be restored to the normal. To plate a femur, and send the patient out of hospital with a stiff knee, is useless; to let a person get a dropped foot, or a stiff shoulder, while an injury of some other part of the limb is being successfully treated, is similarly unpardonable. In treating any injury, but particularly in the case of fractures, we must always remember to maintain as much as possible of the normal function of the part; for instance, a compound fracture of the radius and ulna often means prolonged confinement to bed; we must not forget to exercise the shoulder, and to encourage the patient to keep his legs in good physical condition by vigorous exercises. And while we are on this subject of fractures, let me emphasise that the common practice of first allowing muscular wasting to take place, in consequence of disuse, tight bandaging, and splinting, and then to attempt to restore muscularity by massage and exercises, is all wrong; the proper plan is to *prevent* wasting, as far as possible by massage, electrical stimulation of the muscles and actual voluntary movements, so far as these are possible, whilst the treatment of the fracture is actually in progress. It is perfectly possible, for example, in a Colles' fracture, to massage the muscles daily, even when the limb is still on a splint. To produce muscular wasting, and then to correct it, is ridiculous.

We must be careful, too, not to introduce any fresh disability, through incorrect nursing methods. A painful knee is always more comfortable if it is slightly flexed; but if the patient suffers from a disease in which permanent stiffening of the knee is liable to take place, that knee must be kept straight at all costs. For example, a pillow should never be placed behind the knee in a case of rheumatoid arthritis: and flexion of the hip or knee must be strenuously avoided in tuberculosis of the hip, knee, etc. Again, in any case in which the patient is confined to bed for any length of time, care should be taken to prevent the feet being pressed down by the weight of the bedclothes (decubitus); a *small* cradle should always be placed over the feet, and the patient should be instructed to pull the feet well upward; whilst, if there is any weakness of the extensor muscles, as in some forms of paralysis, paraplegia, etc., light rectangular night-splints should be applied.

The common practice of bandaging the arm to the side after dislocation of the shoulder has been, and still is, responsible for enormous loss of wage-earning capacity to working men. In middle-aged and elderly workmen, this practice almost invariably results in permanent inability to raise the arm above the horizontal position; the result is that painters, electricians, mechanics, and so on, are unable to do their work, and being unable at their age to get any other kind of work, remain permanently unemployable. The proper position of rest from a case of injury at the shoulder is that of right-angled abduction; this, of course, necessitates the use of a somewhat cumbrous splint, which, perhaps, is the reason why these cases are so often treated by letting the arm hang by the side, or, worse still, by bandaging it there; and mere conservatism, the unthinkable perpetuation of a custom which was never in accordance with common sense, accounts for a great deal. Also a man with the arm bandaged to his side can be treated as an outpatient, whereas the maintenance of rectangular abduction for three to six weeks may possibly necessitate in-patient treatment in some cases; but permanent disablement is a big price to pay for the avoidance of a few weeks' rational splintage.

And, by the bye, where a moderate degree of abduction only is needed at the shoulder, the Middledorf triangle is a most uncomfortable splint. The bottom half of the triangle is entirely unnecessary; it sticks into the hip, and keeps the wrist awkwardly hyper-extended; a far more comfortable, and equally efficient, device is a simple equilateral triangle made in exactly the same way as a mattress; this is fastened with tapes between the upper arm and the side, and the forearm rests most comfortably in a sling. These triangular abduction-cushions can be made by any upholsterer at small cost, and I use them in six sizes, from 4½ inches to 7 inches, along each side of the triangle.

I pass on now, from general observations, to make a few practical comments on certain specific points in orthopædic nursing.

In *semilunar cartilage* cases, it is imperative to restore complete movement of the knee in both directions; even a few degrees of limitation of flexion will prevent the full restoration of the quadriceps muscle, without which real stability of the knee is impossible. The knee-joint itself should be kept firmly bandaged for a few days after the operation, to prevent any accumulation of fluid within it; meanwhile, the quadriceps muscle should be energetically massaged and faradized, to prevent wasting; if no fluid appears, active movements, properly graduated, should be begun in a few days, and should be steadily increased. Cycling, rowing, and swimming are excellent exercises for restoring full muscular power.

The nursing of a patient on a *double abduction frame* is a great test of a nurse's skill. Much depends upon the accurate construction of the frame; the main back-bars must not be so wide as to allow the sacrum and buttocks to sag through the splint; the main bars should pass down only just to the outer side of the posterior superior iliac spines, and should then begin to diverge for the support of the lower limbs; and the saddle must be padded with genuine lamb's wool, and carefully and smoothly covered with soft leather or leatherette. Much care is always devoted to the patient's skin; but it is not always recognised that the preparation of the saddle is equally, if not more, important; the saddle should be thoroughly softened and lubricated, best of all with ordinary saddle soap. In many orthopædic hospitals, using this method, it is found unnecessary to take the patient off the splint at all, more than once in three months.

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