

## TENDON TRANSPLANTING IN PARALYTIC DEFORMITIES.

By CLARENCE L. STARR, M.D.,

Orthopedic Surgeon to Hospital for Sick Children; Demonstrator of Clinical Surgery, Toronto University; Member of American Orthopedic Association.

The treatment of paralytic deformities, until a comparatively recent period, has been by means of mechanical support, and many ingenious forms have been devised to meet the necessities of individual cases. Where any operative treatment has been added, it has been in those long-standing deformities, with contraction of the unopposed muscles. In these, a simple tenotomy of contracted structures has been done, and then the necessary mechanical support applied to prevent relapse. The outlook for sufferers from this class of deformity was not bright, for if the apparatus provided did furnish satisfactory support it must be continued throughout the entire life of the individual.

It is only within the past few years that attempts have been made to correct or prevent deformity, by re-arranging the attachment of the healthy active muscles so that they may act to better mechanical advantage, and thus give the greatest measure of support possible, with the limited muscular activity.

The first surgeon to successfully carry out this principle of treatment was Nicolodani. In 1881 he reports having successfully transplanted the peroneal tendon into the tendo-Achillis. It is, however, due to the work of Goldthwait, of Boston, that this operation is brought more carefully before the surgeons of this country. He reports a large series of cases with very satisfactory results. One cannot claim that the operation will cure, or is applicable in all cases of paralytic deformities, but it certainly is worthy of a large place in the treatment of these cases, for by its use some are completely cured, and in others, it allows of the substitution of a simple form of support for a more complex one.

The operation is clearly indicated in those selected cases where a group of muscles is left unimpaired, while the opposing group is paralyzed. So far the principle of treatment has been chiefly applied to deformities of the foot and leg, and, as from an anatomical standpoint, these are the most favorable for operation, better results may be looked for here than elsewhere. Goldthwait, however, reports the successful transplanting of the sartorius into the quadriceps extensor.

The large number and compact grouping of the muscles of the forearm render operation in this region difficult, but Tubby reports transplantation of pronator radii teres, by raising its