

relaxed condition more likely than in the round, from the simple fact that it has to carry the whole weight of the body. In a condition of general want of tone this structure lengthens, and the bones come into contact, new elements spring up at once, for if the round ligament is relaxed from general causes, so are all the tissues of the body, and the synovial membrane, cartilages and bones of the hip, sharing in this debility yield to the 'unnatural pressure they have to endure, and inflammation sets in. If this condition may arise out of a congenitally lengthened or imperfectly developed round ligament, or from one lengthened later in life from general debility, so may it occur suddenly, as the result of direct violence to the structure under our consideration.

It has been shown by anatomists, that the round ligament is less firmly attached to the depression in the acetabulum, and the head of the femur in the young than in after years. I have made direct experiment on this point, and find that proportionate to the weight, it requires only about one third the force to detach it from either of these bones, that is required in the adult. Children run and jump a good deal, and in this way the weight of the body coming down upon the round ligament, it may be partially or completely detached at one or both ends, sowing the seed for future mischief.

In this article I have tried to show on theoretical and anatomical grounds that hip joint disease may be purely mechanical in its cause, and not dependent upon any pathological changes in the structures of the joint in the first place.

I shall now record a case in point: I saw a lad of eleven years, in the month of March, 1883; he was then suffering with severe pneumonia, of which he died. I was told that for some time he had been complaining of his hip, and his mother thought he was limping a little; but paid no attention to the matter, as she thought

he would grow out of it. I was fortunate in this case in securing the privilege of examining the hip. There was nothing as yet wrong with the bones, but the synovial membrane, and the cartilages were somewhat spongy and fringy. In this case, however, I found the end of the round ligament attached to the femur, slightly separated, and the whole ligament lengthened. The head of the femur was permitted under these conditions to come into close contact with the upper part of the acetabulum. Here we have a case of incipient hip joint disease; and, I think, from the cause I have pointed out, had this boy lived a little longer, the symptoms would have been fully developed; but I would have lost a practical verification of what, on theoretical grounds, I held to be true.

We often hear of strumous knee-joint disease, and I fear the term is used in a very loose manner. The comparison is made between the knee and the hip, as to the tissues in which the diseased action begins. No comparison can be made between the knee and hip joint when the person stands upon the foot, the bones in the knee are brought into firm contact, and the greater the weight the firmer this contact. In the healthy condition of the hip, this is not the case at all. The head of the femur does not come into apposition with the bones forming the acetabulum. The pelvis is suspended from the two femurs by the round ligaments, somewhat in the manner of a swing. From this it follows that in the erect position the bones entering into the formation of the hip do not touch each other, and especially at the upper part. Indeed the fact of carrying a heavy weight upon the shoulder has no effect in bringing these bones together unless there be a lengthening or a rupturing of the round ligament. I do not mean to say that hip joint disease may not arise from the many causes already assigned to it by able and careful observers, but I do claim that this action of the round ligament has been overlooked entirely in a