

to become hyperextended while the patient was recumbent in the supine position under treatment for hip disease.

1. Thereby increased pressure when weight-bearing was resumed would come upon the anterior part of the articular surface of the tibia.

2. This increased pressure would tend to depress the anterior portion of the enlarged extremity of the tibia and alter the direction of the articular surface.

3. It would also cause greater compactness, and probably early synostosis at the anterior part of the epiphyseal junction.

4. It would thus cause shortening of the tibia, especially at this anterior part.

During the course of disease at the knee it is well known that the increased congestion of the part bringing more pabulum to the chief growing areas of both tibia and femur, causes relatively increased length, so that the affected limb in such a case is usually longer than its fellow. Disease at the hip joint, however, on the other hand, causes so much interference with the nutrition of the entire limb that growth, both in circumference of the bones and in their length, is retarded. The continuance of the hip disease during some years of the actively growing period of life has so interfered with the growth of the limb as to make this one about an inch and a half shorter than its fellow.

The disability of the limb in this patient resulting from hyperextension, from atrophy, from shortening and from disease, was very marked, and it was on this account that advice was sought. The girl's general condition was fairly good, though she was not robust. She used a crutch in walking, and could accomplish but little without its aid.

#### TREATMENT.

The method of treatment adopted was to perform osteotomy of the tibia immediately below the tubercle, and so alter the alignment of the tibia at this point as to make a considerable elbow there, the salient angle pointing forward, thus restoring the normal convexity. This was made sufficient to fully overcome the degree of hyperextension. During the weeks while laid up with a fixation dressing applied, the knee was kept flexed at an angle of about thirty degrees. I have no doubt that the ligaments and other structures of the posterior aspect of the joint shortened somewhat during this period. These causes, together with the change in