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THE PREVENTION AND CORRECTION OF DEFORMITY IN THE TREATMENT OF HIP DISEASE.

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In the management of hip disease, whatever may be the explanation, there is a tendency to flexion and adduction of the limb. Whether the case be treated by operative measures, by mechanical appliances, or by the expectant plan, this tendency to deformity is strongly marked, and persists throughout the period of convalescence. There may be seen upon the streets every day, persons who have suffered from this affection, who have recovered from the disease, but who are conspicuous because of unnecessary shortening of one leg, and deformity. (In Figs. 1 and 2, strongly marked cases of the deformity are shown).

Early in the history of the disease, flexion of the femur upon the body is very generally observed, and if means for its rectification and prevention be not employed, it is likely to persist to the end. It is not uncommon to find flexion increasing during the progress of the disease, until the axis of the affected femur is at right-angles to that of the body. In their early history, some cases have the limb abducted from the middle line, but even these, as time passes, so change, that the limb on the affected side becomes adducted. Even when a period of quiescence sets in, and the case is proceeding satisfactorily to recovery, and also after successful operation, the tendency toward these two positions of deformity, viz., flexion and adduction, persists.

By a reference to these diagrams, it will be seen how adduction of the limb causes apparent or practical shortening. The line *ab*, Fig. 3, joining the

acetabula, is normally horizontal, and the lines *ad* and *bc*, representing the lower extremities, are equal in length and symmetrically placed, so that the angles at *a* and *b* are equal. If *b* represent the affected joint, then, through adduction, *bc* takes the place *bc'* and the angle at *b* is made smaller. Now as the patient cannot walk with the limb in this relative position, and the limb is prevented from movement at the joint *b*, the pelvis on that side is drawn upward and the angle at *a* is increased, as in Fig. 4. The limbs are thus brought into symmetry of direction at the expense of apparent shortening. This is well illustrated in Fig. 1.

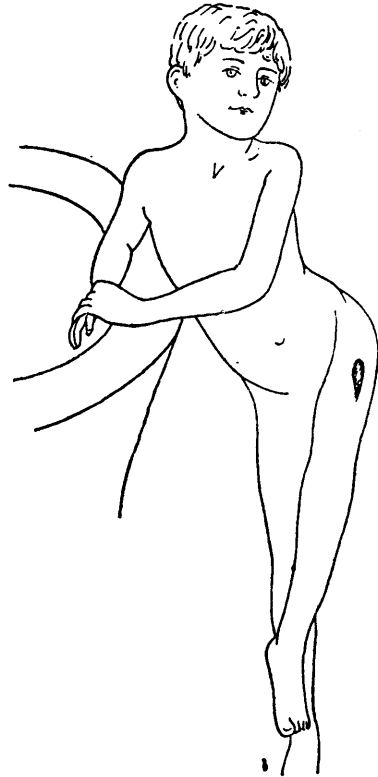


FIG. 1.

By a reference to Fig. 2, it is seen how flexion causes lordosis. The affected limb is strongly flexed upon the pelvis, and an attempt made to extend the leg, so as to bring it into line with the body, at once produces compensatory flexion in the lumbar vertebræ.

Consequent upon these two deformities, it is not uncommon to have several inches of apparent shortening in cases where there is no real shorten-