top of the trochanter in the natural condition of the parts always lies in the line drawn from the anterior superior spine of the ilium to the most prominent part of the tuber ischii. The second is Bryant's test, which consists in letting fall a vertical line from each anterior superior spinous process to the mattress, and comparing the distances from each trochanter to the nearest point on these lines. On the side of fracture the distance will be found to be less than on the uninjured side.

Still another measurement is mentioned in Holmes' Surgery, called the transverse; which is obtained by taking the distances from the median line of the body to the vertical antero-posterior line at right angles to the former drawn through the top of each trochanter. On the side of fracture the distance will be found to be diminished on account of the inward displacement of the bone due to the impaction.

Fractures of the shaft of the bone are caused both by direct and indirect violence, and are most frequent in the middle third. They occur at all ages, and are occasionally due to muscular action alone, especially in persons whose bones are weakened by scrofula or other cachexia, or in cases which are effected by a latent form of osteitis. I have myself seen a fracture in a female of about forty-five years of age caused by simply turning in bed. Rheumatic pains had preceded the event for some weeks. In another case I saw a surgeon of eminence produce fracture of the femur in a child while examining, with the exercise of but little force, the condition of the limb in long standing hip disease.

We are inclined to think that as to the direction of the fracture it would generally be outwards and forwards for two reasons, viz.: 1st, the facing inwards of the head of the bone; 2nd, the fact that the posterior side of the shaft is usually considerably concave. In all cases where the shaft is broken by a fall from a height upon the feet it will be readily seen that the force of the fall would be transmitted in a direct line from the condyles to the acetabulum, and would therefore cause the shaft to bend in an outward direction. This effect would, however, be probably somewhat modified by the posterior concavity of the bone so as to produce more or less projection of the broken ends forwards. Again in cases of fracture caused by a force acting directly upon the bone, the latter not being a fixed part would be apt to rotate a little so as to bring the fracturing force somewhat towards its concave side, and thus a more or less anterior direction would be given to the displacement.

Usually there will be no difficulty in diagnosing fractures of the lower end of the femur. In all, except fracture of one condyle, there will be shortening of the limb. Crepitus will also be present, except in the rare cases of impaction. When there is a T fracture of the condyles, we may expect to find widening of the end of the bone; also in all forms of fracture into the joint there will be much swelling of the knee.

In fracture of the lower end of the shaft just above the condyles the upper fragment is generally displaced anteriorly with perhaps a slight variation to either side. The lower fragment is rotated backward by the action of the popliteus muscle.

Having thus briefly considered a few points in connection with the various fractures of the thigh, let us now direct our attention to their prognosis and treatment.

In complete fracture of the neck within the capsule, bony union is very rarely attained, and there will result a considerable amount of shortening, varying from one to two inches. Furthermore, more or less lameness and disability will persist to the end of life. Sometimes even death will ensue after a variable time in these cases, because of the confinement and consequent bed-sores arising in the old people, who are generally the subjects of this form of fracture. Many of these patients will not submit to the application of the usual kinds of apparatus intended to keep the limb at rest or secure extension. In such we must often be content with simply flexing the leg and thigh and placing the limb quietly on its outer side upon a pillow, or if that position does not satisfy the sufferer we must try to find some more comfortable one. Thomas' splint for hip disease is recommended for some of these cases, by which means the patient can be allowed to move about on crutches instead of being confined to bed.

Impacted fractures of the neck, when carefully handled and treated with proper skill, may not get displaced from their original position and will then probably recover with but little shortening and a useful limb. In fractures of the shaft in adults there will result generally shortening of