5 Definition of Types

Contents

The ultrasound typing correlates with the pathological changes in the hip joint rather than with the height of the dislocated femoral head. The height of the dislocated femoral head does not automatically correlate with the severity of the anatomical deformity.

There are two forms of hip dislocation.

1. The hip joint fails to form properly during embryological development. The femoral head and socket show severe deformities and the femoral head was never in the correct position (teratological form). The cell configuration for the labrum, bony roof and hyaline cartilage were never normal (arthrogryposis multiplex).
2. Initially the femoral head was positioned in the socket but certain biomechanical factors cause the normal development to cease and the femoral head begins to slide out of the socket deforming the acetabulum (developing dislocation of the hip–DDH).

Basic Principles

If a femoral head slides out of the socket, this process of dislocation leads to deformity. This is primarily of the cartilage part of the acetabular roof but, inevitably, the bony portion becomes damaged also. The femoral head leaves "grinding marks" on the acetabular roof during the process of dislocation.

Through accurate analysis of the pathological changes in the cartilage and bony socket it is possible to state the severity of the pathology affecting the hip joint. Eventually these pathological changes need to be reversed by treatment without causing further iatrogenic damage to the femoral head (avascular necrosis). The ultrasound "types" of the hip joint therefore classify the bony and cartilaginous socket. The more accurate and precise the typing, the more appropriate and precise the treatment can be.

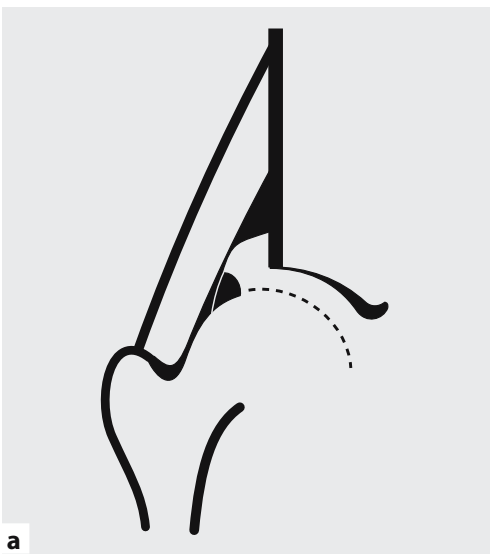

Fig. 5.1. a The bony roof is good; the bony rim is sharp; the cartilaginous roof covers the femoral head. **b** Description according to **a**: standard sectional plane; type I hip joint