Developmental Dysplasia of Hip (DDH)

The term DDH is used in referring to patients who are born with dislocation or instability of the hip, which may then result in hip dysplasia. More broadly, DDH may be defined simply as abnormal growth of the hip. Abnormal development of the hip includes the osseous structures, such as the acetabulum and the proximal femur, as well as the labrum, capsule, and other soft tissues. This condition may occur at any time, from conception to skeletal maturity.

Early diagnosis is the most crucial aspect of the treatment of children with DDH. The use of ultrasonography and other diagnostic imaging modalities and the implementation of improved educational programs will most likely decrease the number of children with DDH who are diagnosed late.

Female sex, being the first-born child, and breech positioning are all associated with an increased prevalence of DDH. Other musculoskeletal disorders of intrauterine malpositioning or crowding, such as metatarsus adductus and torticollis, have been reported to be associated with DDH. Oligohydramnios is also reported to be associated with an increased prevalence of DDH.

Ortolarni sign and a Barlow's provocative test performed in newborns is crucial to detect the problem. The former detects the dislocated hip and the latter a dislocatable hip.

USG is used to detect and also treat in the 1st 4 to 6 months. X-rays are the gold standard for detection and assessment after treatment, after 4 months of age.

Treatment of DDH begins with careful examination of the newborn. If evidence of instability is present, a Pavlik harness should be considered and, if used, fitted appropriately. Use of the Pavlik harness for guided reduction, which occurs when the hip does not completely reduce initially is well known.
After 6 months, closed reduction(CR) is typically performed with the aid of arthrography, which is used to determine the adequacy of the reduction. This is followed up with a hip spica on for 12 weeks and then an abduction brace for a maximum period of 15 months. Regular X-rays to see hip development and looking out for a residual acetabular dysplasia is what is practiced.
Around 1 year, open reduction(OR) is required where all obstacles to prevent reduction are identified and removed. The hip is reduced and then the protocol is followed as for CR. One may have to add a pelvic osteotomy after the OR at about 2 years to maintain the reduction. After 3 years, one would need an additional femoral osteotomy, all to maintain reduction at that age.
Hence, the surgeries become more tedious & elaborate as the patient is older.

Thus the best way to manage this condition is to detect & treat it as early as possible.