

Table S1. Radiographic evaluation criteria of Severin classification

Grade	Standard
I	Normal hip, CEA>25°
II	Moderate deformity of head and neck, concentric reduction, CEA>25°
III	Dysplasia but no subluxation, continuous Shenton's line, CEA<20°
IV	Subluxation, disrupted Shenton's line
V	Dislocated hip articulating with a false acetabulum
VI	Complete dislocation
CEA: Center-Edge Angle	

Table S2. Clinical evaluation criteria of McKay classification

Grade	Standard
Excellent	Hip joint pain-free, stable, no limp, full range of motion in the hip joint, Trendelenburg sign (-)
Good	Hip joint pain-free, stable, normal gait or slight limp, slight restriction in hip joint movement, Trendelenburg sign (-)
Fair	Hip joint pain-free, stable, limp, moderately restricted hip joint movement, Trendelenburg sign (+)
Poor	Hip joint pain, instability, limp, severely restricted hip joint movement, Trendelenburg sign (+)

Table S3. Avascular necrosis evaluation criteria of Kalamchi and MacEwen classification

Grade	Standard
I	Changes Affecting the Ossific Nucleus
II	Lateral Physeal Damage
III	Central Physeal Damage
IV	Total Damage to the Head and the Physis

Figure S1. **A:** ROC curve of the congruity index for predicting poorer McKay classification. **B:** ROC curve of the congruity index for predicting clinically significant AVN.

