History
6 year old male with intermittent hip pain for several months, acutely worsened after climbing the sand dunes.

Diagnosis
Posterior Slipped Capital Femoral Epiphysis-Probable Stickler Syndrome

Discussion
Slipped capital femoral epiphysis (SCFE) is a relatively atraumatic fracture through the proximal femoral physis. SCFE is the most common hip malady in adolescents, affecting males more than females and African-Americans more than caucasians. SCFE prior to adolescence suggests underlying process such as malnutrition, endocrinopathy, developmental dysplasia, and coxa valga. Pathophysiology is probably related to oblique orientation of the physis and increased body weight and activity (particularly abduction, external rotation and extension) during adolescence.

Valgus displacement often presents with a relatively normal appearance on anteroposterior radiographs. Valgus SCFE may be associated with obesity, coxa valga, hypopituitarism, and Stickler syndrome. Posterolateral displacement of the femoral epiphysis makes in situ fixation of valgus SCFE more difficult, due to the necessity of a more medial starting point.

Stickler syndrome is connective tissue disease characterized by midface hypoplasia, cleft palate, myopia, sensorineural hearing loss, joint hypermobility, and epiphyseal dysplasia (short stature). Radiographically there is mild to moderate flattening of the vertebral bodies, undermodeling of the long bones with broad epiphyses (particularly the femora and tibiae), and premature arthropathy. Stickler syndrome is an autosomal dominant with marked intrafamilial and mutation-dependent variability; the molecular defect is related to the COL2A1 gene.

Findings
CR-Neutral and abduction views show coxa valga and slipped left capital femoral epiphysis. Also note that the height of the femoral epiphyses is decreased.
CT-Axial and sagittal images show the femoral head to be posterior relative to the neck. Note the buttressing posteriorly at the neck near the physis related to attempted healing, indicating an acute on chronic process.

Reference
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