

CP Hip Radiographic Screening Guideline

Assumptions and Definitions

Hip surveillance is defined as the active monitoring process which identifies early indicators for hip displacement in children with cerebral palsy (CP). Hip surveillance assumes that all eligible children within a population participate.

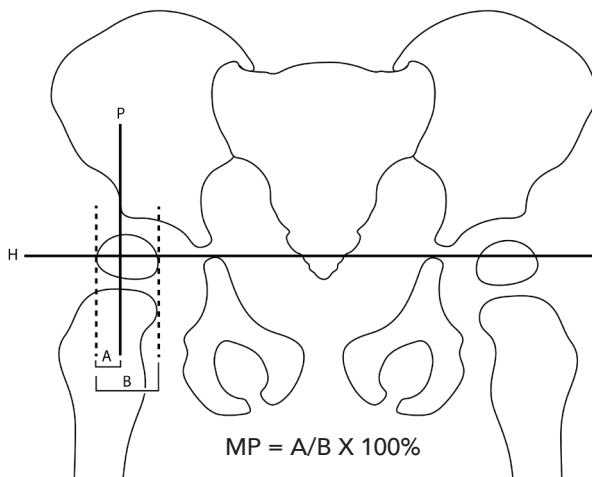
Hip Screening is a suggested radiographic schedule to be used by any CP health care provider (Orthopedist, Neurologist, Physiatrist, Pediatrician, and Advanced Practice Provider). Hip screening identifies when radiographs should be taken for those patients who present for care, while surveillance describes processes designed to identify patients not regularly seen by health care providers and define roles of various stakeholders in the surveillance process.

For the purpose of this consensus statement, **hip displacement** refers to the percent of the femoral head which has migrated out of the acetabulum and is measured by calculating the **migration percentage (MP)**.

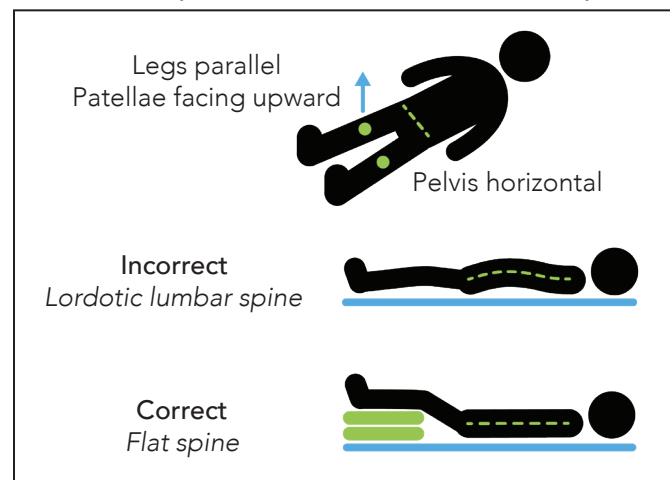
General Principles

1. In children with spastic CP, hip displacement and dislocation are often painful and should be avoided
2. For the purposes of screening children with CP, hip screening should begin at age 2 or first presentation thereafter
3. The initial screening radiograph should be an AP pelvis (frog lateral not needed)
4. Hip range of motion examination **does not** replace the need for regular screening radiographs but is an important adjunct. Clinical examination should be performed yearly on all children with CP
5. Screening guidelines **only** apply if the MP is stable and <30%. Worsening MP coverage (>5% change) will result in consideration of intervention, and necessitates increased vigilance of the child's hips, rather than continuing on this screening schedule
6. Children with hemiplegia, Winters and Gage Type IV (those with asymmetric hip IR, flexion, and adduction) should follow the GMFCS I/II frequency until age 10 and then follow the GMFCS III frequency
7. **Factors to consider when decreasing the screening schedule should include:** skeletal maturity (closure of triradiate cartilage), stable radiographs over a 2 year interval, stable pelvic obliquity and scoliosis
8. It is important to maintain regular hip screening after orthopedic, soft tissue, or reconstructive hip surgery

Migration Percentage



Standard positioning for AP Pelvic radiographs



Migration Percentage Guidelines

<30%	Continue regular screening according to GMFCS level
>30%	Hips at risk – refer to pediatric orthopedic surgeon for consideration of surgical treatment

Hip Screening Guidelines

Ambulatory without Handheld Mobility Aid

GMFCS Level I & II

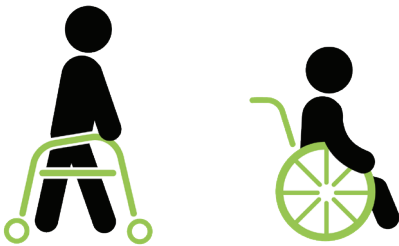


Winters and Gage Type IV
Hip flexion, adduction,
and internal rotation

Age 2	Clinical Exam and AP Pelvis
Age 6	Clinical Exam and AP Pelvis
Age 10	Clinical Exam and AP Pelvis. If Winter and Gage Type IV Hemiplegia, clinical exam and AP Pelvis every 2 years until skeletal maturity (closed triradiate cartilage)
Skeletal Maturity	Clinical Exam and AP Pelvis. Screening can stop at skeletal maturity (triradiate closure) if MP <30%

Ambulatory with Handheld Mobility Aid

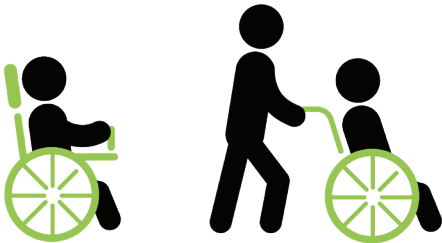
GMFCS Level III



Age 2 - 10	Clinical Exam and AP Pelvis every 12 months after 2 years of age
Age 10 - Skeletal Maturity	Clinical Exam and AP pelvis every 2 years provided MP was stable over previous 2 years
Skeletal Maturity	Clinical Exam and AP Pelvis. Frequency of screening can decrease if MP <30% and there is no change over 2 years after skeletal maturity (closed triradiate cartilage)

Marginal Ambulatory and Non-Ambulatory

GMFCS Level IV & V



Age 2 - Skeletal Maturity	Clinical exam and AP Pelvis every 6-12 months until age 10 and then may decrease to yearly visits provided that the MP is stable and under 30%
After Skeletal Maturity	Clinical Exam and AP Pelvis. Frequency of screening can decrease if MP <30% and there is no change over 2 years after skeletal maturity (closed triradiate cartilage)