

## Major musculoskeletal manifestations of MPS by type of disorder<sup>1</sup>

<i>Disorder</i>	<i>Musculoskeletal Manifestations</i>
MPS I /Hurler syndrome	Dysostosis multiplex, disproportionate short stature, joint contractures, CTS, odontoid hypoplasia, atlanto-axial instability, acetabular dysplasia, coxa valga, genu valgum, trigger digits
MPS I /Hurler–Scheie, Scheie	Milder manifestations of Hurler syndrome
MPS II/Hunter	Dysostosis multiplex, disproportionate short stature, joint contractures, CTS, odontoid hypoplasia, atlanto-axial instability, acetabular dysplasia, coxa valga, genu valgum, trigger digits
MPS III/Sanfilippo	Mild somatic manifestations only, mild short stature and contractures in a small proportion (mainly elbow joint)
MPS IVA/Morquio A	Severe skeletal dysplasia, dysostosis multiplex, disproportionate short stature, joint hypermobility, odontoid hypoplasia, atlanto-axial instability, acetabular dysplasia, hip dislocations, coxa valga, genu valgum, pes planus, pectus carinatum
MPS VI/Maroteaux–Lamy	Dysostosis multiplex, disproportionate short stature, joint contractures, CTS, odontoid hypoplasia, atlanto-axial instability, acetabular dysplasia, coxa valga, genu valgum, trigger digits, pectus carinatum
MPS VII/Sly	Dysostosis multiplex, disproportionate short stature, joint contractures, odontoid hypoplasia, atlanto-axial instability, acetabular dysplasia, pectus carinatum
MPS IX/hyaluronidase deficiency	Short stature, periarticular soft tissue masses, nodular synovial masses, joint effusions, acetabular erosions

Adapted from Morishita, *Rheumatology*, 2011.

Abbreviations: CTS, carpal tunnel syndrome; MPS, mucopolysaccharidoses.

**Reference: 1.** Morishita K, Petty RE. Musculoskeletal manifestations of mucopolysaccharidoses. *Rheumatology (Oxford)*. 2011;50(suppl 5):v19-v25. doi:10.1093/rheumatology/ker397.