
Pediatric Orthopaedics

Consult and referral guidelines

Introduction

We care for children and teens from birth to 18 years. The most common reasons patients are referred include:

- Ankle injury: chronic and acute
- Back pain: chronic and acute
- Knee pain
- Knee injury
- Shoulder pain
- Shoulder injury
- DDH hip ultrasound protocol
- Idiopathic toe walking
- Genu varum/valgum
- In-toeing
- The limping child
- Scoliosis

We want to make referrals easy, fast and efficient for primary care providers. This tool was developed to help create productive visits for you and your patient.

Each guideline includes three sections: suggested workup and initial management, when to refer and information needed. Suggested workups may not apply to all patients, but these are studies we generally consider during office visits.

Special note: We prefer to look at all imaging studies at each visit. If radiology services were obtained outside of Spectrum Health, we ask the patient's family to provide images on a CD.

Feedback regarding these guidelines is encouraged. Please contact HDVCH Direct to share feedback.

For access to all pediatric guidelines, visit helendevoschildrens.org/guidelines

Appointment priority guide

Immediate	Call HDVCH Direct and/or send to the closest emergency department. Contact HDVCH Direct at 616.391.2345 and ask to speak to the on-call orthopaedic surgeon or send to the Fracture Walk-in Clinic.
Urgent	Likely to receive an appointment within 2 days. Call HDVCH Direct and ask to speak to the on-call orthopaedic surgeon regarding an urgent referral.
Routine	Likely to receive an appointment within 10 days. Send referral via Epic Care Link, fax completed referral form to 616.267.2401 or send referral through Great Lakes Health Connect.

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Chronic Ankle Injury	<p>History and exam: assess for joint effusion, areas of tenderness and mechanical symptoms</p> <p>Obtain standing AP, lateral, mortise views</p> <p>PT evaluation and treatment</p> <p>Lace-up ankle brace for activities</p> <p>Rest, ice, compression, elevation, NSAIDs for acute symptoms/exacerbation</p>	<p>No improvement in symptoms after completion of PT</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>
Acute Ankle Injury	<p>History and exam: assess for joint effusion and areas of tenderness including foot</p> <p>Pain in medial or lateral malleoli</p> <p>Bone tenderness posterior and distal fibula region</p> <p>Inability to bear weight, immediately following injury or in office</p> <p>Consider Ottawa Ankle Rules</p> <p>If X-rays necessary, obtain AP, lateral and mortise views (standing, if patient is able)</p> <p>If skeletally mature with no abnormality on X-ray--or skeletally immature with no tenderness over physes--begin physical therapy and offer ankle stirrup brace</p> <p>PT evaluation and treatment</p> <p>Rest, ice, compression, elevation, NSAIDs</p>	<p>Tenderness over growth plate in skeletally immature patient (non-displaced physeal fracture)</p> <p>Ankle injury on X-ray</p> <p>If no fracture, but no improvement in symptoms, and/or continued pain after PT</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Chronic Back Pain	PA and lateral spine radiographs Weight loss for obese patients PT evaluation and treatment CBC with manual differentiation--if associated with consultation symptoms--to rule out leukemia Rheumatology panel: ESR, CRP, rheumatoid factor, ANA screen, HLA B27 antigen and CCP for spondyloarthropathy (if positive, refer to Rheumatology)	Abnormal radiographs Children less than 10 years with chronic back pain If symptoms persist despite PT and radiographs are normal, refer to Physical Medicine and Rehabilitation	Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health
Acute Back Pain	Neurological exam: assess for radicular symptoms 1 - 2 days bed rest, if necessary Gradual increase in activities over 1 - 2 weeks AP and lateral spine radiographs, if symptoms persist beyond 2 weeks PT for residual symptoms	Abnormal findings on X-rays Progressive or significant neurological deficits Bowel/bladder symptoms: refer directly to Emergency Department If symptoms persist--despite PT, and radiographs are normal--refer to Physical Medicine and Rehabilitation	Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
<p>Chronic Knee Pain</p>	<p>History and exam: assess for joint effusion, areas of tenderness, mechanical symptoms, leg rotation profile</p> <p>X-rays of knee—only if recurrent effusions—include AP, lateral, sunrise patella and standing AP views</p> <p>PT evaluation and treatment</p> <p>Neoprene knee sleeve with activities</p> <p>Consider MRI if mechanical symptoms are present or develop, or if continued pain after PT is completed</p>	<p>Mechanical symptoms of knee</p> <p>Continued pain after PT completed</p> <p>Intra-articular abnormalities found on MR</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>
<p>Acute Knee Injury</p>	<p>History and exam: assess hip and knee range of motion and stability</p> <p>Three views of knee: standing PA/AP, lateral and sunrise patellar view</p> <p>If knee effusion within first 1 - 2 hours after injury, obtain MRI to rule out ACL/osteochondral injury</p> <p>If knee effusion develops overnight—and patient has no locking symptoms—begin with PT</p> <p>Use crutches only as needed for symptomatology</p> <p>PT may focus on joint motion, gait training, wean from crutches (if needed), quad/VMO strengthening and modalities as needed if adolescent</p> <p>Rest, ice, compression, elevation, NSAIDs</p>	<p>Consider MRI</p> <p>Intra-articular injury on MRI (ACL tear, meniscus tear, osteochondral fracture) or large knee effusion after injury</p> <p>No improvement after completion of PT</p> <p>Development of mechanical symptoms</p> <p>Persistent effusion, beyond 2 - 3 weeks</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Chronic Shoulder Pain	History and exam: <ul style="list-style-type: none"> • Assess major joints for effusion and generalized joint laxity • Focused shoulder examination to localize primary areas of tenderness: anterior shoulder (biceps and acromion-clavicular joint), posterior shoulder and scapula, and/or lateral shoulder (rotator cuff) • Assess for instability of the bilateral shoulder joints • Assess for voluntary shoulder subluxation/dislocation MRI (with athrogram) if older than 12 years History of unilateral dislocation(s) requiring formal reduction And/or unilateral shoulder instability noted on examination	Symptomatic: unilateral shoulder instability with no improvement in symptoms after completion of PT Intra-articular abnormalities on MRI (labral tear, large rotator cuff tear, chondral lesions) Shoulder pain in the presence of multiple joint effusions	Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health
Acute Shoulder Injury	History and exam: assess for shoulder or elbow joint effusion, localized areas of tenderness (clavicle, shoulder and elbow), instability of the shoulder joint X-ray AP of the humerus and axillary view of the shoulder if concern for fracture or dislocation And/or X-ray AP and lateral views of elbow if any tenderness is elicited on examination MRI (with arthrogram) if > 12 years: <ul style="list-style-type: none"> • History of unilateral dislocation requiring formal reduction • And/or unilateral shoulder instability noted on exam 	Fracture Symptomatic, unilateral shoulder instability Consider MRI Intra-articular abnormalities on MRI (labral tear, large rotator cuff tear, chondral lesions) No improvement in symptoms after completion of PT	Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health

	<p>Rest, ice, NSAIDs as needed</p> <p>If no acute injury or abnormality on imaging studies—and symptoms persist for > 3 weeks—may begin physical therapy</p> <p>PT evaluation and treatment</p>		
DDH Hip Ultrasound Protocol	<p>History and exam: assess for asymmetric hip range of motion, hip abduction, leg length, instability of hips</p> <p>If exam is negative—but child has risk factors (breech birth, family history)—continue with serial exams and obtain a hip ultrasound at 6 weeks of age</p> <p>X-ray before 6 weeks of age</p>	<p>Hip instability</p> <p>Abnormal ultrasound</p> <p>Abnormal exam</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p> <p>Please note: an ultrasound may be scheduled at HDVCH prior to the patient's appointment</p>
Idiopathic Toe Walking	<p>History and exam: assess for abnormal muscle tone or spasticity, hip/knee/ankle range of motion</p> <p>Family anxiety or need for education</p> <p>Decreasing range of motion contracture</p>	<p>Heel cord contracture</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>
Genu Varum/Valgum	<p>History and exam: observe genu varum if patient < 24 months</p> <p>Observe if genu valgum < 7 - 8 years</p> <p>If genu varum persists past 24 months of age, obtain standing limb alignment X-ray with patellae pointed forward</p> <p>If genu valgum persists past 7 - 8 years of age, obtain standing limb alignment X-ray with patellae pointed forward</p>	<p>Unilateral genu varum or valgum</p> <p>Pain affiliated with genu varum or valgum</p> <p>Genu varum persistent after age 24 months</p> <p>Genu valgum persistent after age 7 - 8</p> <p>Progressive severe genu varum and valgum</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
In-toeing	<p>History and exam: assess alignment of legs for increased femoral anteversion, tibial torsion, genu valgum and forefoot abduction, leg length discrepancy, increased muscle tone or spasticity</p> <p>Reassure parents</p> <p>Observation</p> <p>Activity as tolerated</p> <p>May use OTC shoe inserts for foot malalignment</p>	<p>Unilateral in-toeing</p> <p>Progressive malrotation</p> <p>Spasticity or increased muscle tone</p> <p>Increased tibial torsion persisting after age 5</p> <p>Increased femoral anteversion persisting after age 10</p> <p>Documented leg length discrepancy > 1 cm in a skeletally immature patient</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>
The Limping Child	<p>History and exam: obtain information regarding any preceding illness or trauma, assess chronicity of symptoms, examine spine, abdomen, hips and knees to help localize symptoms</p> <p>If febrile, or symptoms persist for more than 48 hours</p> <p>X-rays of spine or leg, if localized pain in these areas</p> <p>With repeat exam, CBC with manual differential, CRP, ESR</p> <p>If hip or other joint is irritable, suspected joint infection, or inflammatory labs are elevated, refer to ED for evaluation Osteomyelitis</p>	<p>Abnormal findings on imaging studies</p> <p>Positive hip or ultrasound and/or aspirate</p>	<p>Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health</p>

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Scoliosis	History and exam: neurological exam Scoliometer measurement PA and lateral scoliosis films for scoliometer reading over 7 degrees Request evaluation of Risser scoring with X-ray order Standing PA scoliosis with Risser score	Abnormal neurologic findings Unusual pain or symptoms Risser 0 - 3: <ul style="list-style-type: none"> • Scoliometer reading ≥ 7 degrees in skeletally immature children • Curves > 20 degrees in skeletally immature children Risser 4 - 5: <ul style="list-style-type: none"> • Curves 0 - 20 degrees—no referral or monitoring necessary • Curves 21 - 30 degrees—monitoring at 10 year intervals • Curves 31 - 40 degrees—monitoring at 5 year intervals • Curves > 40 degrees—annual monitoring • Curves > 10 degrees in children older than 10 years 	Referral to include history of injury, therapies attempted, imaging and reports if outside of Spectrum Health

HDVCH Direct phone: 616.391.2345

Helen DeVos Children's Hospital developed these referral guidelines as a general reference to assist referring providers. Pediatric medical needs are complex, and these guidelines may not apply in every case. Helen DeVos Children's Hospital relies on its referring providers to exercise their own professional judgment with regard to the appropriate treatment and management of their patients. Referring providers are solely responsible for confirming accuracy, timeliness, completeness, appropriateness and helpfulness of this material and making all medical, diagnostic and prescription decisions.