Women's and Children's Hospital, Lyell McEwin Hospital, Flinder's Medical Centre

Paediatric orthopaedic referral guidelines

Contents

Mandatory referral content

Demographic

- child's name
- date of birth
- parent/guardian contact details
- referring GP details
- interpreter requirements

Clinical

- reason for referral
- clinical urgency
- duration of symptoms
- management to date and response to treatment
- relevant pathology and imaging reports
- past medical history
- current medications
- functional status
- family history

Priority

Priority will be based upon the information provided in this referral and will be triaged according to the clinic process:

Emergency: Proceed to the emergency department

Urgent: Contact the Orthopaedic Registrar via the hospital switchboard

Routine: Next available appointment. All referrals will be triaged by the Paediatric Orthopaedic and Physiotherapy team and will be triaged and booked accordingly.

Please note this is a guideline for referral only. If concerned about a patient please contact the Orthopaedic Registrar via switchboard at your local hospital for further information regarding your referral.

Endorsed June 2014

Contact information

Specialist paediatric orthopaedic service	Address	Contact details
Women's and Children's Hospital	**72 King William Road** North Adelaide SA 5006	**Paediatric Outpatients** Tel: (08) 8161 7399 Fax: (08) 8161 6246 **Hospital switch** (08) 8161 7000 ask for Orthopaedic Registrar
Lyell McEwin Hospital	**Haydown Rd** Elizabeth Vale SA 5112	**Orthopaedic Outpatients** Tel: (08) 8133 2095 Fax: (08) 8182 9499 **Hospital switch** (08) 8182 9000 ask for Orthopaedic Registrar
Flinders Medical Centre	**Flinders Drive** Bedford Park SA 5042	**Orthopaedic Outpatients** Tel: (08) 8204 5196 Fax: (08) 8177 0834 **Hospital switch** (08) 8204 5511 ask for Orthopaedic Registrar

Ankle and feet

Flat feet

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > most children under age 3 have flat feet > does patient have painful flat feet? **Physical examination** > flexible flat foot → no treatment (if arch corrects when standing on tip toes or arch can be seen in a non-weight bearing position) > rigid flat foot → referral required (if arch does not reform when standing on tip toes or in a non-weight bearing position) **Investigations** > Only required for a rigid flat foot weight-bearing x-ray (AP, lateral and oblique)	**Reassurance** > most children with a flexible flat foot do not require any treatment > normal for arch to develop by age 6 > the vast majority of patients with flexible flat feet do not require an orthopaedic referral > orthotics do not help form an arch > **provide flat feet factsheet**	**Routine** > rigid flat foot > asymmetry deformity > progressive deformity or lack of spontaneous resolution > painful flat foot/feet > localised tenderness > difficulty in activity

In-toeing

Initial pre-referral workup	GP management	Guidelines for specialist referral

Clinical history
> common causes
  > infant: Metatarsus adductus
  > toddler: Internal tibial torsion
  > school age: increased femoral ante version
Physical examination
> observe gait
> check internal and external rotation of the hip, thigh-foot angle and foot posture
Investigations
> nil
	Reassurance
	> most children will improve as they grow without treatment
	> may persist into adult life but causes no major issues
	> **provide in-toeing factsheet**
		Routine
		> in-toeing exceeds normal limits for age
		> asymmetry deformity
		> associated patella pain
		> tripping in school age affecting activities
		> progressive in-toeing

Out-toeing

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > common to see in early walkers > may be associated with flat feet and knocked knees > be aware of serious causes Slipped Capital Femoral Epiphysis (SCFE) **Physical examination** > observe gait > place in prone position and check internal and external hip range of motion > thigh- foot angle > foot posture **Investigations** > nil	**Reassurance** > reassure parents; the majority outgrow their condition without treatment > exclude other causes	**Routine** > asymmetrical deformity > progressive deformity or lack of spontaneous resolution > pain > functional problems > thigh-foot angle greater than 30-40 degrees

Toe-walking

Initial pre-referral workup	GP management	Guidelines for specialist referral

Clinical history
> usually idiopathic, family history of toe-walking
Physical examination
> observe gait
> assess spine
> functional tests:
  > measure calf length and size
  > perform neurological assessment
Investigations
> if concerned:
  > spinal x-ray
  > bloods - CPK
	Reassurance
	> reassure parents
	> **provide toe-walking factsheet**
		Routine
		> unable to dorsi-flex feet beyond neutral, stand with heels down or walk on heels
		> signs of cerebral palsy with hypertonia, hyperreflexia or ataxia
		> asymmetrical deformity
		> calf hypertrophy
		> abnormal spine examination

Knees

Bow legs (genu varum)

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > physiologic bowing is most common cause in birth up to 3 years of age > be aware of pathological causes (rickets, Blount's disease) **Physical examination** > determine height and weight percentiles > assess gait > measure intercondylar distance standing with feet together **Investigations** > x-rays if; > one-sided deformity > increasing deformity > lack of spontaneous resolution > over 3 years old	**Reassurance** > reassure parents physiological bow legs will self-resolve with normal development by age of 3 years; no specific treatment is required > if concerned; serial measurement of intercondylar distance to be done 6 monthly to document progression or resolution > **provide bow leg and knocked knees in children factsheet**	**Routine** > persistence of bow legs over 3 years age > intercondylar separation greater than 6cm > asymmetrical deformity > excessive deformity > progressive deformity or lack of spontaneous resolution > pain > after traumatic event > associated with other skeletal deformity

Knocked knees (genu valgum)

Initial pre-referral workup	GP management	Guidelines for specialist referral

Clinical history
> physiologic knocked knees seen in children between 3-5 years of age
> may be hereditary
Physical examination
> determine height and weight percentiles
> assess gait
> measure intermalleolar distance standing with knees together
Investigations
> x-rays if:
  > one-sided deformity
  > increasing deformity
  > lack of spontaneous resolution
  > over 8 years old
	Reassurance
	> reassure parents physiological knocked knees will self-resolve with normal development by the age of 8 years; no specific treatment is required
	> if concerned, serial measurement of intermalleolar distance to be done 6 monthly to document progression or resolution
	> for assessment and management via the Orthopaedics Department
	> **provide bow leg and knock knees in children factsheet**
		Routine
		> persistence of knocked knees over 8 years old
		> intermalleolar separation greater than 8cm
		> asymmetrical deformity
		> progressive deformity or lack of spontaneous resolution
		> pain
		> after traumatic event
		> associated with other skeletal deformity

Osgood-Schlatter disease

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical History > knee pain is most common cause in children between the ages 10-15 years **Physical examination** > pain/swelling over tibial tubercle > prominent and tender tibial tubercle **Investigations** > plain radiographs are used to exclude serious pathology/ other diagnoses	**Reassurance** > reassure parents the condition is self-limiting symptoms and condition which will resolve with skeletal maturity > modify activities which increase pain, provide quadriceps stretching exercises > treatment of anti-inflammatory response - rest, ice, pain relief > **provide Osgood-Schlatter diseases in children factsheet**	**Routine** > symptoms no resolving with conservative management > symptoms persisting for more than 18 months

Hip

Developmental Dysplasia of the Hip (DDH)

Initial pre-referral workup	GP management	Guidelines for specialist referral

Clinical history
> risk factors include:
  > female
  > breech delivery
  > intrauterine packaging deformities
  > family history of DDH
Physical examination
> examine hip using Barlow's or Ortolani's test for hip instability at every well-baby check
> limited hip abduction
> deep uneven gluteal crease/fold
> leg length discrepancy
> waddling gait after walking age
Investigations
> hip ultrasound if under 4 months
> x-ray AP Pelvis over 4 months
	> ultrasound only if over 6 weeks old and clinical concern	**Urgent**
		> abnormal clinical examination
		> positive Ortolani's or Barlow's test
		> limited hip abduction
		> leg length discrepancy
		> abnormal investigations
		> any clinical concerns
		> contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)

Perthes Disease

Initial pre-referral workup	GP management	Guidelines for Specialist Referral
Clinical history > commonly present between 4-10 years of age > variable pain on activity – thigh, groin, knee pain **Physical examination** > limp > hip irritability > decrease hip range of motion **Investigations** > x-ray plain AP and frog leg views	> pain management: paracetamol, NSAIDS > refer to Orthopaedic Department	**Urgent** > Contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)

Slipped Capital Femoral Epiphysis (SCFE)

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > hip/thigh/referred knee pain in 10-18 year age group > increased pain with activity over hip joint > obesity > family history of SCFE **Physical examination** > obligatory hip external rotation during hip flexion in supine > acute loss of hip internal rotation > short leg > external rotated leg > Trendelenburg gait **Investigations** > x-ray plain AP pelvis and frog leg lateral both hips	> send to Paediatric Emergency Department > ensure patient is non-weight bearing on affected side with bilateral crutches	**Emergency** > **confirmed SCFE require immediate referral to emergency department** > contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)

Other

Infection – bone e.g. osteomyelitis

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > any bone may be effected- spongy bone is more common in the metaphysis of long bones > unwell child- febrile, anorexia, localised tenderness, non-weight baring > beware of sub-acute osteomyelitis **Investigations** > bloods- FBE, ESR, CRP > x-ray	> send to Paediatric Emergency Department if clinically unwell > do not prescribe antibiotics as will need cultures obtained to determine appropriate antibiotics required	**Emergency** > **if clinically suspected, send referral with patient to emergency department** > contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)

Infection – joint e.g. septic arthritis

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > infection is more common in infants and toddlers > unwell child- febrile, lethargic, non-weight baring **Investigations** > no need for investigations if clinically suspected – refer straight to paediatric emergency department > FBE, ESR and CRP if easily obtained	> send to Paediatric Emergency Department if clinically unwell > do not prescribe antibiotics as will need cultures obtained to determine appropriate antibiotics required	**Emergency** > **immediate referral to emergency department with referral letter** > contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)

Limping child

Initial pre-referral workup	GP management	Guidelines for specialist referral

Clinical history
> standard
> common diagnoses not to be missed
  > all ages – trauma, infection (septic arthritis, osteomyelitis), tumour, referred pain
  > 1-4 years - DDH, irritable hip
  > 4-10 years - Perthes disease, irritable hip, JIA
  > 10-18 years - SCFE
Physical examination
> standard
Investigations
> depends on clinical presentation
> bloods – FBE, ESR, CRP
> x-rays – hip (AP and lateral)
> ultrasound - hip
	> send to Paediatric Emergency Department if clinically unwell	**Emergency**
		> **immediate referral to emergency department with referral letter**
		> contact local hospital on-call orthopaedic registrar via switchboard (phone numbers provided on page 2)
		> unwell child, flushed, lethargic, fever, flat, anorexic
		> irritable and stiff joint
		> not improving

Tumour – bone and soft tissue

Initial pre-referral workup	GP management	Guidelines for specialist referral
Clinical history > standard **Physical examination** > standard **Investigations** > consider: > x-ray > bloods – FBE, U&E, ESR, CRP, LFT Do not needle biopsy suspected tumour.	> refer immediately to Orthopaedic Registrar on-call	**Urgent** > **all tumours or suspected tumours must be referred and discussed with the local hospital on-call orthopaedic registrar via switchboard** (phone numbers provided on page 2)

For more information

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