Guidelines for management of patients with orthopaedic conditions

compiled by West Suffolk Hospital
Department of Trauma and Orthopaedic Surgery
WEST SUFFOLK HOSPITAL
Department of Trauma and Orthopaedic Surgery

Ideal referrals for common orthopaedic conditions

Consultants at West Suffolk Hospital have prepared this set of guidelines for common orthopaedic conditions to indicate circumstances where, ideally, the patient should be referred to the Trauma and Orthopaedics (T&O) department, and situations where it would be more appropriate to offer treatment in a primary care or community setting.

Although the T&O team are happy to see any referral from primary care, the team do recognise that, for some patients referred to secondary care, the T&O team cannot offer much more than could be provided in primary care or the community.

This booklet sets out to help GPs and other members of primary care teams to signpost patients suffering from joint pain to the most appropriate treatment pathway for their condition.

Martin Wood
January 2012

Updated to reflect new pathways, January 2013
West Suffolk Hip Pain Pathway

Red Flag Guidance for Hip Pathway

Osteoarthritis of the Hip
West Suffolk Hip Pain Pathway

GP Clinical assessment of Hip pain plus x-ray as appropriate via x-ray department of choice

Mild/early OA
- Analgesia & community physio
- No improvement

Moderate/established OA
- Refer to new Hip Service
  - Provided by WSH for Bury practices
  - AHPS for non-Bury practices
  - All referrals triaged within (48) hours
- Stage 1 programme
  - 4 group sessions
  - Physio led with education & information
- Assessment updated
- Improved pain & function
  - Follow up by phone at 1 & 2 months
  - Option to self-refer back in at any time
- No improvement

Advanced/severe OA
- Stage 2 programme
  - 3 individual sessions
  - 1 group education & information session
- Assessment updated
- Improved pain & function
- No improvement

Urgent/Red Flag (see over)
- Patient attends face-to-face assessment with physio within 2-4 weeks of referral (depending on severity)

Mild/early OA
- No improvement
  - Refer to community physio

Moderate/established OA
- Stage 1 programme
  - 4 group sessions
  - Physio led with education & information
- Assessment updated
- Improved pain & function
- No improvement

Advanced/severe OA
- Stage 2 programme
  - 3 individual sessions
  - 1 group education & information session
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- Improved pain & function
- No improvement

Yellow - primary care
Green - new MDT Physio service
Orange - secondary care

Refer to new Hip Service
- Provided by WSH for Bury practices
- AHPS for non-Bury practices
- All referrals triaged within (48) hours

No improvement
Refer to secondary care, via Choose & Book if possible

* Patient fit and prepared to have major surgery BMI ≤ 35

Follow up by phone at 1 & 2 months
Option to self-refer back in at any time

Patient attends face-to-face assessment with physio within 2-4 weeks of referral (depending on severity)

No improvement
Refer to secondary care

Refer to secondary care, via Choose & Book if possible

* Patient fit and prepared to have major surgery BMI ≤ 35
### Red Flag Guidance for Hip Pathway

<table>
<thead>
<tr>
<th>Suspected pathology</th>
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| Emergency conditions, suspected fracture | Acute, severe pain, following:  
- high impact trauma  
- minor trauma or strenuous activity in people with osteoporosis  
With severe limitation of mobility  
May include: inability to bear weight; shortening of leg; external rotation of leg | Refer to A&E as an emergency |
| Suspected septic arthritis or osteomyelitis | Painful joint and fever, especially if:  
- past history of TB  
- recent bacterial infection, e.g. urinary tract infection | Refer to A&E for emergency antibiotics |
| Suspected cancer | Persistent pain  
History of cancer  
Unexplained weight loss  
Failure to improve after 1 month of conservative therapy | Refer using 2 week wait pathway |
| Suspected infection or serious, underlying pathology | Non-mechanical persistent pain associated with:  
- past history of TB, HIV/AIDS or IV drug use  
- constitutional symptoms, fever, chills or unexplained weight loss>10% of body weight in 3-6 months  
- recent bacterial infection, e.g. urinary tract infection  
- immune suppression  
- severe night pain  
- inflammatory arthritis | Consider urgent Rheumatology appointment or advice |

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**West Suffolk Hip Pain Pathway**

The West Suffolk Hip Pain Pathway should be used to assist GPs in the diagnosis and signposting of patients to the most appropriate course of action for their condition. The pathway has been designed to optimise patient care for OA Hip conditions and ensure that only those patients who would benefit from surgery are seen by the orthopaedic department, with the rest being managed by the West Suffolk Hip Service. The service is provided by extended scope physiotherapists who have specific training and expertise in musculoskeletal conditions. They have access to advice from secondary care consultants and will be able to diagnose common hip conditions and make direct onward referrals if required.

All onward referrals should be made to the West Suffolk Hip Service (excluding red flag conditions specified on the previous page). Before referral to the West Suffolk Hip Service consider the following management in primary care:

- **Initial management strategies for patients with osteoarthritis of the hip include:**
  - Reassurance and patient education
  - Weight reduction in patients who are obese (BMI > 35)
  - Walking aids
  - Patient specific exercise programmes
  - Advice on cushion-soled footwear

- **Drug treatment typically should include courses of appropriate analgesics and/or non-steroidal anti-inflammatory drugs.**

Onward referral to the West Suffolk Hip Service is recommended in the following circumstances:

- **Failure of Conservative Treatment** - Significant symptoms despite above management, and patient fit for and willing to consider joint replacement Referral should take into account the extent to which the condition is causing pain, disability, sleeplessness, loss of independence, inability to undertake normal activities, reduced functional capacity.

- **Diagnosis in doubt** - i.e. If it is not clear which joint symptoms are arising from back, knee or hip, specific investigations such as joint blocks or MRI may be needed

- **Rapid deterioration in symptoms** - symptoms rapidly deteriorate and are causing severe disability.

- **Patient Concern** - Patient not accepting diagnosis and management in primary care setting.
West Suffolk Knee Pathway

Notes on Knee Pathway

Osteoarthritis of the Knee
West Suffolk Knee Pathway

Knee problem

Not responding to usual primary care

Degenerative
Anterior knee pain
Acute knee injury

Referral triaged by Senior Physiotherapist (< 24 hours)

Severe
Mild - Moderate

Appointment within 2-4 weeks
Appointment within 72 hours

Assessment by MSK physiotherapist - diagnosis made

Mechanical symptoms
Degenerative arthritis

Secondary care (Elective orthopaedic/ - Clinic - A&E referrals)

Refer to Knee Service
Weight loss/lifestyle advice/
Analgesia advice/exercise advice
Physiotherapy for 3 months

Refer to Community MSK service

Early OA
Anterior knee pain
Acute Knee Injury

Secondary care (Elective rheumatology)

Secondary care
(On call orthopaedic team)

Knee fracture/dislocation/
tendon rupture

Inflammatory

Septic arthritis/
crystal arthropathy

GP tests and treatment

Improved
Not improved

Early OA, Anterior Knee Pain or Acute Knee Injury patients referred using the West Suffolk Knee Pathway paperwork may be referred direct to the MSK if their condition is identified at the triage stage

West Suffolk Knee Pathway Aug 2012 V2.2

Yellow - primary care
Green - new MDT physio service
Orange - secondarycare

* Patient fit and prepared to have major surgery - BMI ≤ 35
The West Suffolk Knee Pathway should be used to assist GPs in the diagnosis and signposting of patients to the most appropriate course of action for their condition. The pathway has been designed to optimise patient care for OA Knee conditions and ensure that only those patients who would benefit from surgery are seen by the orthopaedic department, with the rest being managed by the West Suffolk Knee Service. The service is provided by extended scope physiotherapists who have specific training and expertise in musculoskeletal conditions. They have access to advice from secondary care consultants and will be able to diagnose common knee conditions and make direct onward referrals if required.

All onward referrals should be made to the West Suffolk Knee Service (excluding red flag conditions). Before referral to the West Suffolk Knee Service consider the following management in primary care:

- Initial management strategies for patients with osteoarthritis of the knee include:
  - Reassurance and patient education
  - Weight reduction in patients who are obese (BMI > 35)
  - Walking aids
  - Patient specific exercise programmes
  - Advice on cushion-soled footwear

- Drug treatment typically should include courses of appropriate analgesics and/or non-steroidal anti-inflammatory drugs.

Onward referral to the West Suffolk Knee Service is recommended in the following circumstances:

- **Failure of Conservative Treatment** - Significant symptoms despite above management, and patient fit for and willing to consider joint replacement. Referral should take into account the extent to which the condition is causing pain, disability, sleeplessness, loss of independence, inability to undertake normal activities, reduced functional capacity.

- **Diagnosis in doubt** - i.e. If it is not clear which joint symptoms are arising from back, knee or hip, specific investigations such as joint blocks or MRI may be needed

- **Rapid deterioration in symptoms** - symptoms rapidly deteriorate and are causing severe disability.

- **Patient Concern** - Patient not accepting diagnosis and management in primary care setting.
Knee Arthroscopy

Various management pathways for both traumatic and non-traumatic knee pain have been produced recently. It is beyond the scope of this document to include the details of these.

Knee Arthroscopy is indicated for the treatment of:

- Acute Medial and Lateral Meniscal Tears, either meniscectomy or repair
- Removal of loose bodies
- Diagnostic evaluation of suspected intra articular lesions if MRI findings equivocal
- Osteoarthritis associated with meniscal or chondral lesions i.e. with mechanical symptoms of locking or giving way
- Repair excision or grafting of articular cartilage lesions
- Septic Arthritis
- Synovitis due to Rheumatoid Arthritis
- Synovial Tumour or PVNS
- Patellofemoral pain / plica Syndrome / Hoffa Lesion
- Pseudogout / chondrocalcinosis

Knee Arthroscopy is rarely used as a primary diagnostic procedure.
West Suffolk Shoulder Pain Pathway

**Shoulder Pain**

Eliminate Red Flag conditions (see notes)

**Eliminate Calcific Bursitis**
Acute, severe pain on palpation beneath the acromion.
Treat with heat/cold, NSAIDs, steroid injections*
Consider x-ray – refer to T&O after 3 months.

**Significantly reduced rotation**

X-ray – AP and axillary to eliminate dislocation

- **Chronically dislocated**
- **Glenohumeral arthritis**
- **Frozen shoulder**
- **Biceps tendinitis**
- **Acromioclavicular Joint (ACJ) arthritis**

If no dislocation:
Use NSAIDs, steroid injections* as required to manage pain
Consider referral to PHYSIO

**Weak/painful abduction**

- **Instability**
  - No history of trauma
  - History of trauma
  
  - Use NSAIDs, steroid injections* - subacromial to manage pain;
  - discourage use of slings;
  - Consider referral to PHYSIO

- **Impingement**
  - No
  - Yes

**If dislocation, REFER TO T&O**

- **Posterior injection**
- **Local injection**

If no improvement after 3 months, consider referral to T&O

* Steroid injections: 2 injections 6 wks apart
### Red flag conditions

<table>
<thead>
<tr>
<th>Suspected pathology</th>
<th>Clinical features</th>
<th>Referral route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent fractures or dislocations</td>
<td>History of recent trauma. Unusual deformity, swelling or joint effusion</td>
<td>Refer to A&amp;E</td>
</tr>
<tr>
<td>Infection</td>
<td>Symptoms suggestive of septic arthritis e.g. fever or chills; hot, swollen joint</td>
<td>Refer to A&amp;E</td>
</tr>
<tr>
<td>Malignancy</td>
<td>Previous history of cancer or suspected malignancy, unexplained deformity, lymphadenopathy, weight loss, night pain</td>
<td>Consider investigations and referral on 2 Week Wait pathway if appropriate</td>
</tr>
<tr>
<td>Neurological lesion or cervical pathology</td>
<td>Unexplained wasting, significant sensory or motor deficits, neurovascular compromise, pain associated with neck movements</td>
<td>Depending on severity, refer to: MSK community clinic, Neurology, A&amp;E (if suspecting stroke)</td>
</tr>
<tr>
<td>Polymyalgia rheumatica</td>
<td>Age over 50 yrs, symptoms for over 2 wks, bilateral shoulder and/or pelvic girdle aching, morning stiffness lasting over 45 minutes, evidence of an acute phase response</td>
<td>Treat in primary care (if no symptoms of giant cell arteritis) or Refer to Rheumatology if not confident to treat in primary care</td>
</tr>
</tbody>
</table>

### Management options in secondary care (if conservative treatment, where appropriate, fails)

- **Frozen shoulder**
  - Manipulation under anaesthesia or capsular release

- **Glenohumeral arthritis**
  - Arthroscopic debridement and steroid injection, hemi or total arthroplasty

- **Calcific tendinopathy**
  - Arthroscopic removal of calcium deposits followed by debridement may be beneficial

- **Biceps tendinopathy**
  - Arthroscopic debridement, tenotomy

- **Atraumatic instability**
  - Surgery is rarely required – symptoms usually improve with physiotherapy, very rarely, capsulorrhaphy may be required

- **Acrimioclavicular Joint (ACJ) arthritis**
  - Excision of distal end of clavicle

- **Impingement, rotator cuff tear**
  - Impingement – 80% improve within 6 months. If cuff tear is present, repair if possible. Chronic tears in elderly patients – consider shoulder replacement. **NB: Ultrasound scans should not alter GP management and should only be ordered in a T&O setting**

### Shoulder Conditions

The West Suffolk Shoulder Pain Pathway should be used to assist GPs in the diagnosis and signposting of patients to the most appropriate course of action for their condition. The pathway has been designed to optimise patient care for shoulder conditions and ensure that only those patients who would benefit from surgery are seen by the orthopaedic department, with the rest being managed by primary care intervention or physiotherapy. The physiotherapists have specific training and expertise in musculoskeletal conditions. They have access to advice from secondary care consultants and will be able to diagnose common shoulder conditions and make direct onward referrals if required.

For all specialist referrals please record the side of the problem as some of these patients may be referred for further investigations before they are seen in the specialist clinic.

### Painful shoulder (Impingement pain)

Characterised by pain on abduction, on reaching behind the body or on the throwing motion. Rarely seen in individuals below 40 years of age.

**Treatment in primary care:**
- Explain aetiology and advise on avoidance of precipitating movements or activities. NSAIDs, physiotherapy and consider steroid injection. Most patients experience relief within a 2-3 month period.
- If improvement is not seen within 3 months or if atypical symptoms, investigate with x-rays (AP, axillary and outlet views) and refer for specialist opinion.

**Specialist services:**
- Confirm or exclude the diagnosis.
- Provide non-operative or operative management depending on the patient’s needs and symptoms.
### Frozen shoulder

Painful stiff joint usually not following any trauma. May be seen in any age group. Characteristically the passive and the active movements are similarly restricted. This diagnosis cannot be given unless x-rays have confirmed absence of arthritis or bony injury.

**Treatment in primary care:**
- Refer for x-ray AP, outlet and axillary views. If x-rays are normal explain aetiology and long recovery time (1-2 years). NSAIDs and painkillers, physiotherapy.
- If no improvement in 6 weeks or if significant pain unresponsive to non-operative management refer for specialist opinion.

**Specialist service:**
- Investigate as appropriate, confirm the diagnosis.
- Consider intra-articular steroid injection or manipulation under anaesthesia or other surgical intervention.

### Calcific Bursitis

Significant shoulder pain often associated with local signs of inflammation. May be seen in any age group. Not normally related to trauma.

**Treatment in Primary care:**
- Treat with anti-inflammatory medication and painkillers. Consider x-ray (AP, outlet and axillary views). If infection is ruled out (blood test and clinical findings) consider steroid and local anaesthetic injection.
- If improvement is not seen within 6 weeks consider specialist referral.

**Specialist services:**
- Establish the diagnosis and consider treatment either with steroid and local anaesthetic injections, aspiration or surgical intervention.

### Acromioclavicular joint arthritis

Seen either late following trauma or as a result of degenerative changes in the elderly population. Point tenderness over the acromioclavicular joint without any referral.

**Treatment in primary care:**
- Anti-inflammatory medication, physiotherapy, explain aetiology. Consider local anaesthetic steroid injection into the acromioclavicular joint.
- If no improvement after three months consider specialist referral.

**Specialist services:**
- To establish the diagnosis and provide management either via injections or surgical excision of the joint.

**Shoulder instability:**
- This may either be traumatic or atraumatic. If the shoulder joint is proven unstable (documented anterior or posterior dislocations of the glenohumeral joint) consider specialist referral. In general atraumatic instability is treated with physiotherapy, traumatic instability with surgery.

### Tennis Elbow

Pain localised to the outer aspect of the elbow joint exacerbated by wrist extension against resistance. Not necessarily associated with participation in sports.

**Treatment in Primary care:**
- Confirm diagnosis and arrange treatment with physiotherapy, elbow brace, consider steroid injection (not more than two injections as risk of skin or subcutaneous fat necrosis exist).
- If no improvement with non-operative treatment after 6 months, consider referral for specialist opinion.

**Specialist services:**
- Establish the diagnosis.
Carpal Tunnel Syndrome

Work-Related Carpal Tunnel Syndrome

Carpal Tunnel Pathway

Carpal Tunnel Pathway Notes

Indication for Referral
Carpal Tunnel Syndrome

Mild and Moderate Carpal Tunnel Syndrome can be managed in primary care using the Carpal Tunnel Pathway.

Work-Related Carpal Tunnel Syndrome

No clear association between work activities and development of “de novo” Carpal Tunnel Syndrome. Work activities may aggravate pre-existing Carpal Tunnel.

i.e.
- Symptoms for less than three months
- Intermittent symptoms, with periods of complete resolution
- No fixed sensory or motor symptoms or signs
- Treatable or self limiting cause of carpal tunnel syndrome

Exclude: pregnancy, hypothyroidism and diabetes clinically and/or by investigation.

Consider following management in primary care:
- Nocturnal, neutral wrist splint
- Activity/work-place modification (if clear association apparent) and referral to hand therapy service
- Steroid injection around median nerve if trained injector available

Carpal Tunnel Pathway

This pathway is for the management of mild to moderate Carpal Tunnel Syndrome in Primary Care.

Refer to orthopaedics if symptoms of Carpal tunnel with:
- Persistent symptoms with no periods of complete resolution;
- Fixed sensory or motor symptoms or signs (e.g. sensory blunting muscle wasting);
- Rapid deterioration of symptoms

History and examination
Access severity of symptoms
Refer if severe

Consider pregnancy, hypothyroidism, rheumatoid arthritis and diabetes clinically and/or by investigation

Primary care management options
- Nocturnal Splinting (may take 8 weeks to take effect)
- Activity/work-place modification (if clear association apparent)
- +/- referral to hand therapy service
- Corticosteroid injection by trained injector (where available in practice)

No improvement and symptoms > 6 months

Refer to Carpal Tunnel Release Provider (community or acute) through Choose and Book.
- Specialty: Orthopaedic/Clinic: Hand and Wrist
- (Please ensure the T9 threshold form is completed and sent with referral)

Produced by the Orthopaedic department at West Suffolk Hospital in conjunction with the West Suffolk CCG.

References: Primary care management of Carpal tunnel syndrome Postgrad Med 2003;79:433-437 doi:10.1136/pmj.79.934.433C
Clinical Knowledge Summaries website: Management of Carpal Tunnel Syndrome.
Treatments not recommended
Diuretics
NSAIDs
Vitamin B6

Carpal Tunnel Syndrome (CTS) should be pain or paresthesia or sensory loss in the median nerve distribution and one of the following:
- Tinel’s test positive: Nocturnal exacerbation of symptoms
- Phalen’s test positive: Motor loss with wasting of the abductor pollicis brevis

Tinel’s test (percussion of the median nerve at the wrist creating tingling in the median innervated fingers) is considered to have a specificity of 99% and a sensitivity of 64%.
Phalen’s test (wrist flexion provoking tingling in median innervated fingers within 60 seconds) has a 95% specificity with a sensitivity of 75%.

Consider referral to orthopaedics for nerve conduction studies if diagnosis is in doubt.
CTS and cervical spondylosis often occur together and may exacerbate one another: double crush - consider referral for surgery as Carpal Tunnel decompression can relieve symptoms.

NB Work-related Carpal Tunnel Syndrome - no clear association between work activities and development of “de novo” CTS. Work activities may aggravate pre-existing CTS.

Physiotherapists and occupational therapists can offer workers and their employers advice on task modification, which will often control mild or moderate symptoms of CTS. The ergonomics of the workplace can be be assessed to avoid protracted hand use at extremes of joint range. The position of the wrist during work is crucial in controlling symptoms of CTS. The pressure in the carpal tunnel is lowest in neutral wrist position (normal range 0-7mm Hg) but swiftly rises if the wrist is moved into flexion or extension.

Inadvertent injection of depot steroid into the median nerve is potentially disastrous to hand function. It may leave a chronic disabling paresthesia and should only be performed by a trained injector.

Severe Carpal Tunnel Syndrome

**Indication for referral:** Severe Carpal Tunnel Syndrome

- **Failed non operative treatment:** i.e. unchanged or increasing severity of symptoms > 6 months
- **Severe signs/symptoms,** at presentation i.e. permanent neurological symptoms or signs
- **Conditions** where nerve is at risk, i.e. elderly, diabetics, rheumatoid arthritis
- **Diagnosis in doubt** - i.e. If it is not clear where symptoms are arising from. Specific investigations such as nerve conduction studies may be needed
- **CTS** and cervical spondylosis often occur together and may exacerbate one another (double crush) - Consider referral for surgery as carpal tunnel decompression can relieve symptoms
- **Rapid deterioration in symptoms** - symptoms rapidly deteriorate and are causing severe disability
- **Patient Concern** - Patient not accepting diagnosis and management in primary care setting

**Treatment of choice** - Open carpal tunnel release

No effect is demonstrated for the following treatments which are **Not Recommended:**
Diuretics, NSAIDs, Vitamin B6
Guidelines for management of patients with orthopaedic conditions

Dupuytrens
Ganglion
Trigger Finger or Thumb
Dupuytren’s

Classification and referral of Dupuytren’s

Mild Dupuytren’s disease does not require surgical treatment. Patients with Moderate disease should be referred for possible surgery, preferably before disease becomes severe.

Mild:
- No functional problems
- No contracture
- Mild metacarpophalangeal joint contracture only (<30 degrees)

Treatment:
- Reassure
- Observe

Moderate:
- Notable functional problems (gloves, can’t get hand in pocket)
- Moderate metacarpophalangeal joint contracture (30 – 60 degrees)
- Moderate proximal interphalangeal joint contracture (<30 degrees)
- First web contracture

“Heuston’s tabletop test”: Patient can’t get hand flat on table without seeing daylight underneath, or can get a finger underneath = moderate or severe disease – requires referral for surgery.

Treatment:
- Refer for surgery:
  - Limited fasciectomy

Severe:
- Severe contracture of both metacarpophalangeal (>60) joint and proximal interphalangeal joint (>30).

Treatment:
- Refer for surgery:
  - Limited fasciectomy
  - Dermofasciectomy + skin graft
  - Fusion
  - Amputation

Ganglion

Most ganglia do not justify surgical treatment on the NHS.

Over 50% of ganglia will spontaneously resolve if left long enough (up to 10 years). Pain associated with a ganglion may persist after surgical excision. (? due to defect in wrist capsule which caused ganglion). Up to 40% recurrence rate after surgical excision.

Classification and referral of Ganglia

Mild:
- Asymptomatic lump, transilluminates.

Treatment:
- Reassure
- Observe

Moderate:
- Symptomatic lump; long duration of symptoms
- Occult ganglia
- Cancer phobia

Treatment:
- Reassure / Observe
- Aspiration for cancer reassurance
- Refer for ultrasound if concerns re diagnosis

Severe:
- Severe pain with restriction of activities of daily living; concern re diagnosis

Treatment:
- Refer for specialist opinion and possible surgery
## Trigger Finger or Thumb

**Classification and referral**

Mild or moderate trigger finger should initially be managed in primary care. Resistant or recurrent disease should be referred for possible surgical treatment.

Note - if a patient has triggering caused by an underlying condition such as Diabetes or Rheumatoid Arthritis, or if they have required surgery in the past, they are unlikely to be cured by steroid injections.

### Mild: ("pre-triggering")
- History of pain, catching or “click” around finger or thumb
- Tender A1 pulley; but fully mobile finger

**Treatment:**
- Analgesia
- Topical NSAID, Massage

### Moderate:
Triggering with:
- Difficulty actively extending finger
- Need for passive finger extension
- Loss of complete active flexion

**Treatment:**
- Night Splinting
- Steroid injection to flexor sheath up to x2
- If no improvement or recurrence within 3 months refer for surgical release

### Severe:
- Fixed contracture

**Treatment:**
- Urgent Referral for Surgical trigger release
Hallux Valgus and Bunions

Hallux valgus is defined as an angle of greater than 15 degrees at the first metatarsophalangeal joint in the AP plain. A bunion is the formation of dorsomedial osteophyte at the first metatarsophalangeal joint. There are many surgical options which achieve mixed clinical results and have a multitude of complications. Conservative measures should be tried before referral for surgical treatment.

**Primary treatment:**
- Advice on low heeled, wide forefoot shoes with soft leather uppers
- Referral to chiropodist
- Referral to orthotics (e.g. comfort shoes)

**Refer when:**
- There is severe deformity (overriding toes)
- There is severe pain from the metatarsophalangeal joint or bunion
- Conservative methods have failed

Plantar Fasciitis

Plantar fasciitis is a benign, usually self-limiting condition which ultimately responds to conservative treatment and even in the presence of a calcaneal spur on an x-ray is not usually treated surgically. A calcaneal spur is not indicative of any disorder.

**Primary treatment:**
- NSAIDs
- Silicone heel pad
- Steroid injection under the trigger point
- Physiotherapy for stretch exercises of plantar fascia and tendo-achilles

**Refer when:**
- There is doubt about the diagnosis
- Patient not accepting diagnosis and management in primary care setting

Paediatric Flat Foot

Flat foot can either be flexible or fixed. A flexible flat foot is flat when weight-bearing but forms a normal arch when non-weight-bearing or when standing on tip toe. Flexible flat foot is non-pathologic and requires no treatment. Rigid flat foot may be caused by tarsal coalition or neuromuscular conditions and is pathological.

**Primary treatment:**
- Flexible flat foot requires no treatment

**Refer when:**
- Flat foot is rigid
- Other pathology is suspected