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MSK SERVICES PATHWAY - FOOT & ANKLE PATHOLOGY

GPs to follow guidance offered within this pathway and where relevant refer using Ardens templates and within remit of CCG Restricted and Not Routinely funded policy. Patients requiring Podiatry referral will be referred to the Podiatry SPA.

RED FLAG

Diagnosis to monitor

- Septic arthritis
- Dislocations
- Tumours
- Infections
- Achilles tendon rupture
- Fractures
- Inflammatory conditions
- Neurological lesion
- Charcot foot

History & Symptoms

Medical Professionals seeing patients with MSK complaints in primary care should be trained in assessing for alarming features and red flags in all patients.

▸ Click Here

Injury

Consider admission/urgent referral

▸ Click Here

ASSESSMENT & DIAGNOSIS OF OTHER CONDITIONS

Red Flags ▸ Click Here	Plantar fasciitis ▸ Click Here
Hind/mid and forefoot OA ▸ Click Here	Mortons Neuroma ▸ Click Here
Ligaments/Sprains ▸ Click Here	Hallux Valgus/Rigidus ▸ Click Here
Tendinopathies/Achilles Tendon ▸ Click Here	Metatarsalgia ▸ Click Here

▸ Next Page

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RED FLAG SCREENING: SPECIFIC FOR FOOT & ANKLE PATHOLOGY

Red Flags/ sinister conditions that will alter management immediately	**1. Primary or Metastatic Tumours** **2. Infection or Septic Arthritis** **3. Inflammatory arthropathy** **4. Acute ankle/foot Fracture/Dislocation** **5. Achilles tendon rupture (acute)** **6. Charcot foot** **7. Acute drop foot** **8. Soft tissue mass**
History & Symptoms	Medical Professionals seeing patients with MSK complaints in primary care should be trained in assessing for alarming features and red flags in all patients.

CONSIDER ADMISSION/URGENT REFERRAL IF:

History of, or suspected malignancy investigate and refer as appropriate.

1. Symptoms suggestive of Tumours (primary or metastatic):

- PMH of cancer - Bony mets develop in 2/3 of patients with cancer - Mostly prostate, breast, kidney
- Unexplained weight loss
- Non-mechanical night pain
- Deep, intense pain
- Pain worse at night
- Fever
- Mass presence
- Lymphadenopathy

Suspected Tumour Management: Refer urgently for specialist assessment in line with 2 week fast track cancer pathway (via Systm1 communication to GP)

2. Symptoms suggestive of Infection or Septic Arthritis:

- Risk factors for sepsis include: Comorbidities of RA, or OA, prosthetic joint, low socioeconomic level, diabetic, alcoholism, previous intra-articular joint infection, IV use
- Constant pain
- Sudden onset, red, hot, pyrexia or red-hot joint
- High inflammatory markers
- Systemic symptoms
- Fever, not always present

Suspected Infection/Septic Arthrits Management: Refer the patient urgently to A+E with accompanying letter.

3. Symptoms suggestive of an inflammatory condition

- Stiffness- early morning joint stiffness over 30 minutes
- Swelling-persistent swelling of one joint or more, especially if the hands joints are involved
- Squeezing the joints is painful in inflammatory arthritis

Suspected inflammatory condition management: investigate via bloods/x-ray foot and ankle for clinical work-up and refer to Rheumatology (state in Systm1 task early inflammatory pathway – urgent). See Rheumatology pathway for further details.

4. Symptoms suggestive of Acute ankle/foot Fracture/Dislocations:

- Trauma
- Pathological fracture (OP, Paget's, multiple myeloma, PMH Ca)
- Neurovascular deficit
- Deformity
- Muscle wasting
- Unable/difficulties weight bearing
- Pain after a lot of training/running e.g stress fracture
- Has risk factors for osteoporosis

RED FLAG SCREENING: SPECIFIC FOR FOOT & ANKLE PATHOLOGY

History & Symptoms

Suspected fracture/ dislocation management: acute fracture/dislocation should immediately attend A+E (with accompanying letter where possible) or fracture clinic with urgent x-ray, depending on clinician's clinical judgement. Suspected pathological fractures should be referred for investigations to determine root cause via referral to appropriate services as a matter of urgency (GP, secondary care).

If suspicion of a stress fracture where X-ray has shown no bony injury consider MRI.

5. Symptoms suggestive of Achilles tendon rupture

- Often report an audible snap or pop during sport or running activity
- Sudden, significant pain in the calf or back of the ankle - this may be described as being hit by a racquet or kicked in the back of the leg.
  - o Approximately a third of people with tendon rupture do not complain of pain after the acute pain of the rupture has eased.
- Inability to walk or continue the precipitating activity - a limp is often present.
  - o In some cases, the person may be able to walk as plantar flexion of the foot involves muscles other than those related to the Achilles.
- Unable to calf raise
- Simmonds triad (angle of declination, palpation, and the calf squeeze test) to help exclude Achilles tendon rupture:
- Positive squeeze/Thompson test- lie prone with their feet over the edge of the examination couch. Gently and sequentially squeeze the calf muscles - in acute rupture of the Achilles tendon the injured foot will typically remain in the neutral position when the calf is squeezed
- Palpable tendon gap- Feel for a gap in the tendon. No gap may be felt in the acute phase (due to haematoma) or in the chronic phase (due to organization). Bruising may be seen.
- Angle of declination- Look for an abnormal angle of declination - rupture of the Achilles tendon may lead to greater dorsiflexion of the injured ankle and foot compared to the uninjured limb.
- Be aware that diagnosis of chronic rupture may be difficult, because:
  - o Pain and swelling have often subsided and the gap may have filled with fibrous tissue.
  - o The calf squeeze test may produce a false result.
  - o Calf muscles may be wasted.
  - o Other muscles may facilitate plantar flexion.
- Achilles tendon rupture is missed by non-specialists in about 20% of cases.
- Prompt diagnosis is important because delay in treatment can lead to poorer outcomes including disability, more complicated surgery, and inability to return to sporting activity

Ref- https://cks.nice.org.uk/achilles-tendinopathy#!diagnosissub:1 (2016)

Management of suspected Achilles rupture: refer to A&E if acute (with accompanying letter). These patients need to be seen as soon as possible following the rupture in case they require surgery – typically within 2-3 days but could be seen within 6 weeks). If the problem is beyond 6/52 post rupture, refer patient to elective orthopaedics urgently.

6. Symptoms suggestive of Charcot foot

- Dislocation of the joint
- Heat- skin feeling warmer at the point of injury
- Deep aching feeling
- Insensitivity in the foot due to neuropathy
- Instability of the joint
- Redness
- Strong pulse
- Swelling of the foot and ankle (caused by synovial fluid that leaks out of the joint capsule)
- Subluxation/deformity of the foot (misalignment of the bones that form a joint)

History of diabetes/peripheral neuropathy and the trigger for Charcot foot can be a sprain or twisted ankle that goes unnoticed because of reduced feeling from nerve damage.

RED FLAG SCREENING: SPECIFIC FOR FOOT & ANKLE PATHOLOGY

History & Symptoms	**Complications of Charcot foot** Include calluses and ulcers, which occur when bony protrusions rub inside the shoes and may become infected. Bone inflammation (osteomyelitis) and inflammation of the joint membranes (septic arthritis) also may develop. Septic arthritis may manifest with malaise and fever. Blood vessel and nerve compression may occur and often do not cause symptoms due to the loss of sensation in the foot. **Management of suspected Charcot's foot: refer to diabetic clinic urgently.** **ACUTE INJURE** **CONSIDER ADMISSION/URGENT REFERRAL IF:** • Recent trauma to the foot and or ankle • Pain may or may not be present • Swelling • Muscles wasting • Reduced function • New Deformity • Neurovascular deficit • Unable/ difficult to weight bear • Unable to calf raise due to possible Achilles tendon rupture **If suspect a fracture/dislocation/Achilles tendon rupture referral to A&E/fracture clinic.** **If suspecting a malignant lesion then MRI within 2 weeks USS via sarcoma pathway.** **If suspect malignant tumour refer to east midlands sarcoma clinic: www.eastmidlandssarcoma.org.uk/making-a-referral**

DIAGNOSIS: HIND FOOT/MID FOOT JOINT OA

TYPE OF INFORMATION	GUIDELINES
Background information	**HIND FOOT** **Consider the possibility of ankle osteoarthritis as the cause of ankle pain if :-** • 45 or over and • Has activity-related joint pain • Has either no morning joint-related stiffness or morning stiffness that lasts no longer than 30 minutes • Be aware that atypical features, such as a history of trauma, prolonged morning joint-related stiffness, rapid worsening of symptoms or the presence of a hot swollen joint, may indicate alternative or additional diagnoses. Important differential diagnoses include gout, other inflammatory arthritides (for example, rheumatoid arthritis), septic arthritis and malignancy (bone pain) • A larger percentage show radiographic changes than have symptoms from ankle OA. Co-exists with many co-morbidities: obesity, CV disease, psychological dysfunction (loss of social role, mental health, 'feeling old')

DIAGNOSIS: HIND FOOT/MID FOOT JOINT OA

TYPE OF INFORMATION	GUIDELINES
Subjective History	**OA** • Screen for red flags • Typically in older people or after trauma in younger people • Symptoms of ankle osteoarthritis are often episodic or variable in severity, and slow to change. • Use-related pain, often worse towards the end of the day and relieved by rest • More persistent rest pain and night pain may occur in advanced osteoarthritis. • Pain that is worse on movement • Less specific description of pain, vague dull aching • Describe stiffness in the ankle in the morning or after inactivity lasting 30 minutes or less. • Reduced function
Examination findings	• Physical examination findings may include: o Difficulty with walking/weight bearing o Stiffness of joint both active and passively o Crepitus on ROM o Painful or restricted movement. o Bony enlargement around the joint margins and absent or modest effusion (without warmth). o Joint line tenderness. • Functional assessment – activity tolerance, patient-specific limitations in function evaluated (ie walking distance), must include gait assessment. • Assess joints above and below
Investigations	• Suspected Ankle OA - Weight bearing X-ray AP and lateral Ankle • If mod-severe symptoms to mid foot (e.g. talonavicular joint) or ankle joints – refer for MRI to help differentiate pathology and will help guide management (such as specific target for injection). • This is especially relevant if referring the patient to the community clinic at Ashfield HWB Centre for a second opinion • Or • Podiatric surgery team can also offer US guided injections- to consider this as an additional referral route • Consider bloods if diagnosis unclear – o Be aware that atypical features, such as a history of trauma, prolonged morning joint-related stiffness, rapid worsening of symptoms or the presence of a hot swollen joint, may indicate alternative or additional diagnoses. Important differential diagnoses include gout, other inflammatory arthritides (for example, rheumatoid arthritis), septic arthritis and malignancy (bone pain).
Conservative management	• Assess the severity of pain and the effect of osteoarthritis on the individual's function, quality of life, occupation, mood, relationships, and leisure activities. • Formulate an individualized management plan in partnership with the person with OA • Take account of comorbidities that compound the effect of osteoarthritis or the risk of adverse effects from treatments • Take into account the person's expectations, needs, and anxieties. Agree individualised self-management strategies. Ensure that positive behavioural changes, such as exercise, life style modifications, weight loss, use of suitable footwear and pacing, are appropriately targeted • Advise the patient there will be good/bad days. To try laced boots to support the foot. Not usually progressive in nature

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DIAGNOSIS: HIND FOOT/MID FOOT JOINT OA

TYPE OF INFORMATION	GUIDELINES
Conservative management	• The **core treatments** to be offered to everyone with osteoarthritis is: o Education, advice, and access to information o Range of movement and strengthening exercise, along with aerobic fitness training o Weight loss if the person is overweight or obese o Assistive devices (for example, walking sticks) for people who have specific problems with activities of daily living or poor balance • Possible adjuncts to their core treatments are: o Consider a referral to MSK podiatry or orthotics(for reasons such as to cushion and support the area of the foot which has OA such as the forefoot/mid foot) o The use of local heat or cold therapy **Treatments not indicated** • Acupuncture not currently indicated • Electrotherapy not indicated except for Tens for pain relief • Nutraceuticals (glucosamine or chondroitin products) **Pharmacological management** Currently being reviewed by NICE and to currently use the 2008 guidelines. • Healthcare professionals should consider offering paracetamol for pain relief in addition to core treatments regular dosing may be required. Paracetamol and/or topical non-steroidal anti-inflammatory drugs (NSAIDs) should be considered ahead of oral NSAIDs, cyclo-oxygenase 2 (COX-2) inhibitors or opioids. [2008] • If paracetamol or topical NSAIDs are insufficient for pain relief for people with osteoarthritis, then the addition of opioid analgesics should be considered. Risks and benefits should be considered, particularly in older people. [2008] Follow up and review periodically according to the individual's needs.
Referral on for podiatric surgery or Orthopaedic opinion	If no improvement after 6 months of conservative management including the appropriate core treatments consider referral to foot and ankle specialist (Orthopaedic or community podiatric surgeon) (see criteria). If the patient is struggling despite treatment from primary-intermediate care settings at any point, please consider referral to foot and ankle specialist. The foot and ankle community clinic at AHV can be used for a second opinion if the clinician is unsure on whether secondary care management is required. Referral to or discussion with the podiatric surgeon can should also be considered as a referral route for suitable patients. Image guided injections may be considered - Note that this cannot be requested as a discussion patient within the community clinics at Ashfield as the consultant would like to meet the patient and gain informed consent. Consider referral for joint surgery for people with osteoarthritis who experience joint symptoms (pain, stiffness and reduced function) that have a substantial impact on their quality of life and are refractory to non-surgical treatment. [NICE 2014] Refer for consideration of joint surgery before there is prolonged and established functional limitation and severe pain. [NICE 2014] Ref -NICE- Osteoarthritis: care and management (2014), NICE osteoarthritis (2008)

DIAGNOSIS: HIND FOOT/MID FOOT JOINT OA

TYPE OF INFORMATION	GUIDELINES
Referral on for podiatric surgery or Orthopaedic opinion	**Surgical Treatment options** • These are typically considered when there has been a failure to improve with conservative management and the patient is keen to explore surgical options via a shared decision-making process. **Surgical Treatment options for Ankle OA:** • Total Ankle Arthroplasty (TAA) and Ankle Fusion (arthrodesis) are considered the primary surgical treatments. Ankle Fusion is still seen as the gold standard due to higher risks of failure/revision rate TAA. • The consultant surgeon would explain the risks of the surgery to ensure an informed decision (local anaesthetic risks, nerve injury, infection, DVT, pulmonary embolism, swelling, scar tenderness, non-union, metalwork problems, persistent pain syndrome due to nerve irritation). • Limitations of Ankle Fusion can also include reduced normal ankle motion which can accelerate joint degeneration at other segments. (Lawton et al 2017). • Ankle fusion is a major operation requiring significantly long rehabilitation period – the patient is in plaster for 6/52, then a boot for 6/52 and can take 6/12 up to a year to significantly benefit from the operation in terms of improvements to pain and function. **Ref - Lawton et al 2017** Total ankle arthroplasty versus ankle arthrodesis - a comparison of outcomes over the last decade. Journal of Orthopaedic Surgery and Research.

DIAGNOSIS: MID FOOT - OA

TYPE OF INFORMATION	GUIDELINES
Background information	See NICE guidelines on OA.
Subjective history	• Subjective symptoms of stiffness and pain. • Age: 45 years old and above • Risk Factors such as hypertension, high BMI and type 2 DM.
Examination findings	• Restrictions to passive and active movements midfoot • Positive squeeze
Investigations	• Weight bearing X-ray AP, Oblique & Lateral • If severe OA needs MRI to help differentiate which joints are affected as this will guide treatment
Conservative management	• ROM and Strengthening exercises and consider physiotherapy/podiatry (if having problems regaining movement, strength and function after 6-12 weeks self-help) • Weight reduction programme • Lifestyle modifications • Orthotics/supportive footwear
Referral on for orthopaedic or podiatric surgery opinion	• If severe OA seen as may consider ultrasound guided injections. • MRI helps to identify joints requiring USGI. • Referral on for orthopaedic or community podiatric surgeon opinion

DIAGNOSIS: MUSCLE AND LIGAMENTS/SPRAIN/STRAIN

TYPE OF INFORMATION	GUIDELINES
Background information	**SPRAINS** **A stretch and/or tear of a ligament** (a strong band of tissue that connects the end of one bone to another). Sprains are classified by severity as: • Grade I - mild stretching of the ligament complex without joint instability. • Grade II - partial rupture of the ligament complex without joint instability. • Grade III - complete rupture of the ligament complex with instability of the joint. **A strain (or 'pull') is a stretch and/or tear of muscle fibres and/or tendon** (fibrous cord of tissue that attaches muscles to bone). o Strains are classified by severity as : • First-degree (mild) strain - only a few muscle fibres are stretched or torn. Although the injured muscle is tender and painful, it has normal strength but power may be limited by pain. • Second-degree (moderate) strain - there are several injured fibres and more severe muscle pain and tenderness. There is also mild swelling, noticeable loss of strength, and sometimes a visible bruise. • Third-degree (severe) strain - the muscle tears all the way through, sometimes producing a 'pop' sensation as the muscle rips into two separate pieces or shears away from its tendon. There is a total loss of muscle function, severe pain and swelling, a visible bruise, and difficulty bearing weight. **Causes and risk factors** **Sprains** occur as a result of abnormal or excessive forces applied to a joint. **Strains** occur either because a muscle has been stretched beyond its limits or it has been forced to contract too strongly. • **The risk of strains and sprains is high in people who frequently participate in sport.** Factors that increase the risk of injury during sports include: o The type of sport - for example, contact sports (such as football, hockey, and boxing) and sports that feature quick starts (such as hurdling, long jump, and sprinting) increase the risk of strains; o Strength and flexibility - a lack of regular exercise can weaken muscles and joints, making them less flexible and hence more prone to injury. o Overload - this can cause excessive pressure to be applied to particular joints or muscles, thereby increasing the risk of injury. o Wearing inappropriate footwear - this can increase the risk for developing ankle sprains and strains. o Inadequate warm up before exercising, and cool down after exercising. o Muscle fatigue - tired muscles are less likely to provide adequate support for the joints. • **Other risk factors for sprains and strains include:** o Sudden trauma, for example; a fall, twist, or blow to the body. o Anatomical variations of the foot and ankle (for example generalized joint laxity or flatfoot) - these may predispose a person to chronic injury. o Type of muscle - some muscle types are more prone to injury than others, for example: • More pennate muscles (short muscle fibres that extend from a central tendon) have a greater percentage of elongation before failure than less pennate muscles. • Fast-twitch muscle fibres are more prone to injuries than slow-twitch muscle fibres. • Muscle-tendon units that span two joints, for example the rectus femoris (which spans the hip and knee joints), are more commonly injured. o Medical conditions that predispose to falls (for example epilepsy or balance disorders). o Excessive alcohol intake and the use of drugs that can cause drowsiness (for example opioid analgesics).

DIAGNOSIS: MUSCLE AND LIGAMENTS/SPRAIN/STRAIN

TYPE OF INFORMATION	GUIDELINES
Background information	o Being overweight or obese - this can put pressure on the joints and muscles. o Previous sprain or strain. • **Sprains and strains are common,** especially in people who frequently participate in sport and when there are predisposing factors . o About 30-50% of musculoskeletal injuries that present in primary care are tendon and ligament injuries, with ankle injury being the most common in both athletes and sedentary people. o CKS was unable to find specific UK incidence or prevalence data; however, in the US, musculoskeletal injuries account for about 2 million injuries per year and 20% of all sports injuries.
Subjective history	• **Symptoms of a sprain typically include:** o pain around the affected joint, o tenderness, o swelling, o bruising, o functional loss (for example pain on weight-bearing), o mechanical instability (if the sprain is severe). • Symptoms of a strain typically include: o muscle pain, o spasm, o weakness, o inflammation, and/or cramping. o Large haematomas can occur as a result of tearing of the intramuscular blood vessels. o There may be obvious swelling, although small haematomas or those deep within the muscle are more difficult to diagnose clinically. o The severity of symptoms will depend on the severity of the injury as well as the time since the injury. For example, it can take up to 24 hours for the full extent of bruising to become apparent. o Symptom duration of more than a few days can suggest more severe injury. o Any predisposing or risk factors, such as a medical condition or previous sprain or strain (enquire about the management and outcome). o Any complicating factors, such as medication that may affect the injury (for example anticoagulants) or a complicating illness (for example neuropathy, bleeding disorder, or history of deep vein thrombosis
Examination findings	**Sprains:** • pain around the affected joint, • swelling, • bruising if acute • functional loss (for example pain on weight-bearing), • mechanical instability (if the sprain is severe) – tests such as AP drawer, Talar tilt could be positive, but should not be used in isolation to diagnose sprains. • Squeeze test (if positive it could indicate syndesomotic sprains) **Strain:** • muscle pain, • spasm • weakness • swelling • haematoma may be present

DIAGNOSIS: MUSCLE AND LIGAMENTS/SPRAIN/STRAIN

TYPE OF INFORMATION	GUIDELINES
Investigations	**ANKLE X-RAY** Following an ankle injury, an ankle x-ray is typically only required if there is pain in the malleolar zone AND one of the following:- • Inability to bear weight (walk four steps) immediately after the injury and when examined. • Bone tenderness along the distal 6 cm of the posterior edge of the fibula or tip of the lateral malleolus. • Bone tenderness along the distal 6 cm of the posterior edge of the tibia or tip of the medial malleolus *(the reason for the ankle x-ray would be to check for underlying fracture – Ottawa Rules)* **ANKLE MRI** The APP/consultant may order an ankle MRI If there is persistent pain and giving way following a traumatic injury. Reasons would be to check for osteochondral lesion or severe ligament damage which may require repair.
Conservative management	• **Offer analgesia for pain relief.** o Prescribe paracetamol or a topical nonsteroidal anti-inflammatory drug (NSAID, such as ibuprofen gel). o Codeine can be used as an 'add on' to paracetamol, if necessary. o Consider prescribing an oral NSAID (for example ibuprofen or naproxen) 48 hours after the initial injury, if needed. o For detailed information on prescribing paracetamol, ibuprofen, and codeine, see the CKS topics on Analgesia - mild-to-moderate pain and NSAIDs - prescribing issues. • **If acute Advise the person:** **o To manage their injury using the PRICE measures:** **o To avoid HARM in the first 72 hours after the injury:** • Heat - for example hot baths, saunas, and heat packs. • Alcohol - increases bleeding and swelling and decreases healing. • Running - or any other form of exercise which may cause further damage. • Massage - may increase bleeding and swelling. • **Consider the need for immobilisation.** o **For sprains:** • If severe, a short period of immobilisation can result in quicker recovery. • For less severe sprains, it is advisable not to immobilise the joint. Begin flexibility (range of motion) exercises as soon as they can be tolerated without excessive pain and when able strengthening and functional exercises o **For strains:** • Immobilise the injured muscle for the first few days after the injury. Consider the use of crutches in severe injuries. • Start active mobilisation after a few days if the person has pain-free use of the muscle in basic movements and the injured muscle can stretch as much as the healthy contralateral muscle and progress to strengthening and functional exercises • **Advise the person to seek further medical advice in 5-7 days or consider referral to physiotherapy if there is:** o Lack of expected improvement (for example they have difficulty walking or bearing weight). o Worsening of symptoms (for example increased pain or swelling). o Presence of yellow flags

DIAGNOSIS: MUSCLE AND LIGAMENTS/SPRAIN/STRAIN

TYPE OF INFORMATION	GUIDELINES
Conservative management	• **Manage patient expectations** – For example, it can take 9 months to return to full function and sport following an ankle sprain. Set short term and long term goals to facilitate self-efficacy and motivation with rehabilitation. • **Advise that the person should:** o Take care when exercising or doing sport. They should: • Warm up before exercising (by doing an aerobic activity at an easy pace to gently increase the heart rate and get the body and muscles ready for more intense activity). • Cool down after exercising (by gradually decreasing the exercise intensity level until breathing and heart rate have returned to normal, then doing gentle stretches whilst the muscles are still warm). • Use proper equipment. • Wear appropriate shoes, and replace shoes as they wear out. • Wear comfortable, loose-fitting clothes that allow free movement. • Develop a balanced fitness program that incorporates cardiovascular exercise, strength training, range of movement and proprioception – they may need physiotherapy to assist with this • Add activities and new exercises in a graded manner. • Avoid exercising or playing sport when tired or in pain which is not manageable. • Schedule regular days off from exercise. o Practice safety measures to help prevent falls, such as keeping stairways and walkways free of clutter, using anti-slip mats under rugs, clearing ice and snow from footpaths in the winter, and wearing appropriate footwear in icy conditions (flat footwear with rubber soles rather than leather-soled or high-heeled shoes). o Take particular care when taking drugs that cause drowsiness (for example opioid analgesics) or if they have a medical condition that predisposes them to falls (for example epilepsy or balance disorders). o Avoid getting drunk. o Maintain a healthy weight.
Referral on for orthopaedic opinion	• **Consider the need for referral to an orthopaedic foot and ankle specialist** (urgency depending on the severity of symptoms and clinical judgement) if: o Recovery is slower than expected. If no improvement at all after 3 months of conservative management, consider referral to foot and ankle specialist o There are worsening or new symptoms. o Symptoms are out of proportion to the degree of trauma. o Note - Sprains and strains are often not amenable to surgical intervention • **The prognosis of a sprain or strain largely depends on the severity of the injury** [Jarvinen, 2000] [BMJ, 2015] . o A mild injury will usually heal within a few weeks with conservative treatment, with minimal long-term complications. o A moderate injury should heal within a few weeks, but there is a high risk of further injury in the first 4-6 weeks. o A severe injury may take months to heal fully (such as 9 months for a severe ankle sprain), and result in complications, such as: • For severe sprains – chronic instability, loss of function, pain, and secondary degenerative changes in the affected joint. • For severe strains – muscle atrophy, muscle fibrosis, heterotrophic ossification, and compartment syndrome.

DIAGNOSIS: MUSCLE AND LIGAMENTS/SPRAIN/STRAIN

TYPE OF INFORMATION	GUIDELINES
Referral on for orthopaedic opinion	• **In general:** o If a person with an ankle sprain has an uncomplicated recovery, walking is usually possible within 1-2 weeks, with function restored after 6-8 weeks, and a return to sporting activities after 8-12 weeks (depending on the severity of the injury) [de Bie et al, 2006]. Severe ankle sprains can result in prolonged time away from sport (9 months). o With ankle sprains, pain and intermittent swelling (particularly on the lateral side of the ankle) are the most common residual problems [Struijs and Kerkhoffs, 2010] . *Ref- NICE CKS sprains and strains (2016)*

CRITERIA FOR REFERRAL TO COMMUNITY PODIATRY SURGEONS (NOTTINGHAMSHIRE HEALTH CARE PODIATRIC SURGEONS)

TYPE OF INFORMATION	GUIDELINES
Inclusion criteria	**Indications for assessment or treatment with the Podiatric Surgery team** • Hallux Abducto Valgus (HAV) or 'bunions' • Hallux Limitus/Rigidus • Hammer/Mallet toe or any other digital deformities • Tailors Bunion • Metatarsalgia • Traumatic injuries of the foot • Chronic recalcitrant foot pain • Painful skin lesions (only if community podiatry fails) • Nail disorders (only if community podiatry fails) • Sesamoid Pain • Subungal Exostosis • Intermetatarsal Neuroma or traumatic neuroma • Painful Haglund's deformity • Painful Accessory Ossicle • Osteochondrosis • Osteoarthritis of foot Joints • Soft tissue lumps and bumps • Tendon disorders of the foot & lower leg • Previous foot surgery with complications • Diabetes related foot disease
Exclusion criteria	**Contra-indications for day case surgery** • Unstable systemic diseases • Peripheral vascular disease • Lack of postoperative support • Unstable Psychiatric disorders • Severe acute anxiety • Recent or unpredictable drug or alcohol abuse • Anti-coagulant therapy with INR>3 • Consider referral to secondary care* when GA or IV sedation is requested • Consider referral to secondary care if inpatient care is required • Podiatric surgery team at Newark offer surgery under GA

DIAGNOSIS: HIND FOOT/TENDONS/TENDINOPATHIES

TYPE OF INFORMATION	GUIDELINES
Background information	**Achilles tendinopathy** Achilles tendinopathy is a soft tissue disorder which causes pain, stiffness, and swelling of the Achilles tendon. The Achilles tendon is the longest (approximately 12–15cm) and strongest tendon in the body. It attaches the gastrocnemius and soleus muscles in the lower leg to the heel bone (calcaneus) • **Mid-portion or mid-substance tendinopathy** affects an area of the Achilles tendon approximately 2–6 cm above its insertion on the calcaneus. This area is vulnerable to damage because it has a relatively poor blood supply. Mid-portion tendinopathy is the most common site of Achilles tendon damage (about 75% of cases). • **Insertional tendinopathy** affects the insertion of the Achilles tendon on the posterior calcaneum. This occurs in about 25% of cases. • The term 'Achilles tendinitis' is no longer used as histopathology studies have shown that the predominant process in Achilles tendinopathy is degenerative ('tendinosis') rather than inflammatory ('tendonitis'). • **Risk factors for Achilles tendinopathy include:** o Overuse or strenuous physical activity, for example running and jumping. o Ageing - the majority of tendons undergo degenerative changes with increasing age. o Biomechanical factors: • Intrinsic factors include leg length discrepancy, an overly pronated foot, tight or underdeveloped hamstrings, a high-arched (pes cavus) foot, and lateral instability of the ankle. • Extrinsic factors include poor equipment (such as inappropriate footwear), changes to training regimen or poor training techniques (such as a sudden increase in intensity), previous injury, and environmental factors (such as training on hard surfaces or hills, and in cold weather). • **Other factors thought to contribute to the development of Achilles tendinopathy include:** o Use of fluoroquinolone antibiotics, such as ciprofloxacin. • Achilles tendinopathy has been reported in 6% of people who have taken fluoroquinolone antibiotics. • A cohort study in Denmark found that the incidence of Achilles tendon rupture within 90 days of taking fluoroquinolones is three times higher than the background population [Sode, 2007]. • A systematic review found that 5 out of 16 observational studies stated that people taking oral corticosteroids and fluroquinolones were at greater risk of tendon injury that those taking fluroquinolones alone [Stephenson, 2013] • Fluoroquinolone treatment should be discontinued at the first signs of a serious adverse reaction, including tendon pain or inflammation (MHRA March 2019) o Male sex. o Rheumatoid arthritis or other inflammatory joint disease (such as psoriatic arthritis or reactive arthritis) - usually related to insertional tendinopathy. o Family history - the chance of developing Achilles tendinopathy has been reported to be five times higher in people with a positive family history. o Dyslipidaemia. o Type 1 and Type 2 diabetes mellitus. o Obesity. o Hypertension. *[Sode, 2007; Carcia, 2010; Scott, 2011; Wilson, 2010; DTB, 2012; Asplund, 2013; Childress, 2013]*

DIAGNOSIS: HIND FOOT/TENDONS/TENDINOPATHIES

TYPE OF INFORMATION	GUIDELINES
Background information	

CAUSES

- Repetitive strain and microtrauma to the Achilles tendon during activities such as running (including sudden acceleration or deceleration), and jumping make it susceptible to injury and degeneration.
- Psychosocial factors such as low self- efficacy, fear avoidance and catastrophisation can contribute to the initial pain response and the prognosis in terms of whether the condition improves.
- The normal process of tendon repair after injury involves:
  - o An acute inflammatory phase which lasts a few days.
  - o A proliferative phase, lasting approximately 3 weeks, where fibroblasts produce new collagen and new vessels form.
  - o A collagen remodelling phase which can last up to a year.
- This normal healing response fails in Achilles tendinopathy and instead, cells and vessels proliferate in a disorganised way and collagen fibres degenerate.

[Wilson, 2010; DTB, 2012; Sussmilch-Leitch, 2012; Asplund, 2013; Childress, 2013]

DIFFERENTIAL DIAGNOSIS

True tendon pain (from rupture or tendinopathy) is usually confined to the tendon itself

Other diagnoses which cause pain in and around the Achilles tendon include:

- o Achilles tendon rupture - partial or complete rupture
- o Retrocalcaneal bursitis - the retrocalcaneal bursa lies between the calcaneum and the Achilles tendon
- o Plantaris tendinopathy - the plantaris muscle lies deep to the gastrocnemius muscle and is found in 7–20% of people. Injury to the plantaris muscle can produce symptoms that are similar to Achilles tendinopathy
- o Dislocation of the peroneal or other plantar flexor tendons (would need MR and surgical intervention)
- o Posterior ankle impingement - this causes pain on forced plantar flexion when jumping or kicking
- o Ankle osteoarthritis
- o Tendon xanthoma - associated with severe hypercholesterolemia and can appear as nodules related to the Achilles tendon
- o Haglund's deformity - a posterolateral calcaneal prominence (sometimes called a 'pump bump') which can become inflamed. If symptomatic typically requires either foot wear modification and orthotics to stabilise the calcaneous. Referral to MSK podiatry or orthotics service may be appropriate
- o Os trigonum syndrome — a floating bone just behind the ankle joint
- o Calcaneal apophysitis — Sever's disease of adolescents
- o Calcaneal stress fracture
- o Irritation or neuroma of the sural nerve or sacral root pain
- o Systemic inflammatory disease, such as rheumatoid arthritis — consider this if there are bilateral or systemic signs

Other common foot and ankle tendinopathies to consider are :

- Tibialis posterior- Pain and swelling posterior to the medial malleolus. Pain worse with weight bearing and with inversion and plantar flexion against resistance
- Peroneal-Pain and swelling posterior to the lateral malleolus. Pain with active eversion and dorsiflexion against resistance. May have a history of chronic lateral ankle pain and instability
- Flexor hallucis longus- Pain and swelling over the posteromedial aspect of the ankle. Seen in dancers or athletes who use repetitive push-off manoeuvres. Pain with resistive flexion of the great toe
- Anterior tibial- Pain over the anterior ankle Weak dorsiflexion of the foot Caused by forced dorsiflexion

DIAGNOSIS: HIND FOOT/TENDONS/TENDINOPATHIES

TYPE OF INFORMATION	GUIDELINES
Subjective History	**ACHILLES TENDON** • Ask about symptoms that might indicate Achilles tendon rupture, o Sudden intense pain in the back of the leg, and inability to walk or carry on with the precipitating activity. • Ask about typical symptoms of Achilles tendinopathy including: • Pain in the back of the leg or heel: • Pain is usually intermittent, worse in the morning, and aggravated by activity or exercise. • Stiffness in the tendon. • Stiffness may occur in the morning or after a period of immobility, and ease with movement. • Ask how symptams are affecting function: Ask about risk factors such as diabetes mellitus, dyslipidaemia, and fluoroquinolone use.
Examination findings	**Examine both legs:** o Exclude Achilles tendon rupture. If no evidence of an Achilles tendon rupture is found: • Look for swelling, deformity, and any signs of inflammation. • Palpate along the length of the tendon for tenderness, heat, crepitus, localized thickening, and nodularity. • Assess function by asking the person to perform a tendon-loading activity — in most people, simple single-leg heel raises are sufficient. More active people may need to hop on the spot to reproduce pain.
Investigations	• **Achilles tendinopathy is usually a clinical diagnosis and imaging (such as ultrasound or MRI) is not routinely recommended in primary care.** **Reasons for X-ray – if referring for orthopaedic consultant opinion** • If the patient has insertional tendinopathy - you may want to consider X-ray to check for Haglund's deformity ("Pump bump"). Lateral weight bearing and calcaneal axial views may be helpful. An x-ray is not required for mid-achilles tendinopathy. • It is useful to determine if Haglund's deformity is evident when secondary care or community podiatric surgery intervention (surgery, injections) could be indicated. This is because the prognosis can be worse with the presence of a Haglunds deformity and also because during surgical intervention, the bony prominence would be shaved as part of the procedure. During surgical intervention the Achilles may have to be detached and debrided. This adds to the time taken to recover- typically 12-18 months. The patient would also be advised that a lump could still remain post treatment. **Alternative investigations** • **Arrange investigations** (such as lipid profile or HbA1c) as appropriate, if an underlying systemic cause is suspected.
Conservative management	• If Achilles tendon rupture has been excluded: • Explain that the symptoms of Achilles tendinopathy usually take 12 weeks to resolve. • Manage as appropriate any underlying causes, such as: • Fluroquinolone antibiotics — discontinue (discuss with microbiology if unsure regarding alternatives). • Hypercholesterolemia - see the CKS topics on Hypercholesterolaemia - familial and Lipid modification - CVD prevention for further information. • Diabetes mellitus - see the CKS topics on Diabetes - type 1 and Diabetes - type 2 for further information.

DIAGNOSIS: HIND FOOT/TENDONS/TENDINOPATHIES

TYPE OF INFORMATION	GUIDELINES
Conservative management	• **Advise the person that:** • Cold packs or ice can be applied to ease symptoms after acute injury. • Paracetamol can be used for pain relief — nonsteroidal anti-inflammatory drugs (NSAIDs) may be useful for analgesia in the acute phase but are not recommended in the longer term. See the CKS topics on Analgesia - mild to moderate pain and NSAIDS - prescribing issues for more information. • Manage the patient's loading strategies to facilitate a graded return to previous function. . • **Refer the person to physiotherapy:** • For assessment and supervised graded loading exercises if their symptoms fail to improve within 7–10 days. • For all tendon-related issues – consider any psychosocial factors as well as physical factors that may delay or inhibit recovery and address accordingly. Facilitate self-efficacy and manage patient expectations effectively through appropriate advice, reassurance and short-term/long-term goal setting. • Adjuncts - Orthotics for a heel lift can be used to ease symptoms and aid recovery. (a rigid 12mm heel lift used temporarily might be a simple, cost-effective and potentially beneficial intervention).
Referral on for orthopaedic opinion	• Most people with Achilles/Tibialis posterior/peroneal tendinopathy improve with conservative treatment. Pain and function usually improve after 12 weeks of conservative treatment. • If the patient is not improving within 12 weeks, consider referral to orthopaedics (foot and ankle specialist) in the community clinics (if ongoing management plan is not clear and need further guidance) or as a secondary care referral (if the management strategy is clear i.e. the APP feels there is a clear surgical target). • For an insertional tendinopathy AND ankle X-ray has been performed – this could be booked as a discussion patient at AHWB community clinic for consideration of USGI ordering from consultant. • For a mid-portion tendinopathy – USGI not ideal due to possible rupture rate. May consider high volume saline injections by needling or PRP - will need review with consultant which can be in the Ashfield community clinic or referral into secondary care **SURGERY** Surgery is very rarely performed for these patients. • Prognosis • One follow-up study of people with Achilles tendinopathy found that 8 years after injury [Paavola et al, 2000]: • 84% of people with Achilles tendinopathy had completely returned to their normal activity level and 94% were asymptomatic or had only mild pain with strenuous exercise. • 40% had developed problems with their other Achilles tendon and 29% needed surgery. • Achilles tendinopathy becomes more resistant to treatment if it is not recognized and managed at an early stage. *[Paavola et al, 2000; Asplund, 2013]* *Ref Nice CKS Achilles tendinopathy (2016)*

DIAGNOSIS: PLANTAR FASCIITIS

TYPE OF INFORMATION	GUIDELINES
Background information	Plantar fasciitis is a condition in which there is persistent pain associated with chronic degenerative and reparative processes affecting the origin of the plantar fascia and surrounding peri-fascial surfaces • It accounts for about 80% of cases of heel pain, with a lifetime prevalence of around 10% and is most common in people 40–60 years of age • Plantar fasciitis is usually diagnosed by clinical findings alone; if characteristic signs and symptoms are present the diagnosis is likely to be accurate **DIFFERENTIAL DIAGNOSIS** **If characteristic symptoms and signs are not consistent with plantar fasciitis, consider the following:** • Achilles tendonitis presents with tenderness on the posterior-superior aspect of the heel and along the Achilles tendon on palpation, with pain radiating up the calf with extension of the foot or when standing on tiptoes (complete rupture causes severe pain and loss of foot stability). It is caused by activities associated with overuse of the calf muscles such as running, and wearing high heels. • Flexor hallucis longus tendinopathy may mimic plantar fasciitis, but can be differentiated from it by pain with resisted plantar flexion of the big toe. Tenderness is posterior to the medial malleolus on the plantar surface of the big toe. • Calcaneal stress fracture, which typically presents with diffuse, warm swelling, and can be diagnosed by squeezing the calcaneum, inducing pain. Typically it occurs in a person who has walked a long distance carrying a heavy pack. The pain initially occurs with activity but rest pain may develop. It is confirmed by radiography, although changes may be subtle or even absent. • Fat pad atrophy which causes centralized heel pain, and a flattened atrophied surface may be felt on palpation. Suspect if there is a history of trauma such as landing on the heel. This is also common in elderly people who are obese, and in athletes who train on hard surfaces. Walking barefoot or on hard surfaces exacerbates the pain. • Sub-calcaneal bursitis is most common in the elderly, and athletes who have done a lot of running, walking or jumping. The person presents with posterior heel pain under the fat pad of the calcaneum. Unlike plantar fasciitis it is not made worse by dorsiflexion of the toes. • **Other causes less likely to be misdiagnosed as plantar fasciitis:** **NEUROLOGICAL CAUSES:** • Tarsal tunnel syndrome presents with poorly localized pain, numbness, and burning on the medial side of the foot, ankle, and sometimes the calf that is worsened with standing and walking. Reproduction of the symptoms with Tinel's test supports the diagnosis. This involves tapping with fingers or a tendon hammer over the tibial nerve which runs below and posterior to the medial malleolus, on a dorsiflexed, everted foot. Unlike plantar fasciitis, dorsiflexion of the toes does not make the pain worse. • An L5-S1 radiculopathy may cause plantar heel pain. It can be ruled out by a comprehensive neurological examination. • Nerve entrapment (such as lateral plantar and medial nerves) can mimic plantar fasciitis, but tends not to specifically affect the medial tuberosity. In particular, the first branch of the lateral plantar nerve may present with tenderness on the medial side of the edge of the heel, with pain radiating to the lateral side of the heel. • Peripheral neuropathy lacks a specific focal area of pain and sensations may still be felt at rest.

DIAGNOSIS: PLANTAR FASCIITIS

TYPE OF INFORMATION	GUIDELINES
Background information	**Other musculoskeletal causes including:** • Plantar fascia rupture, which presents as a sudden onset of pain and bruising. There may be a palpable gap and evidence of collapse in the medial longitudinal arch. • Plantar fibromatosis which causes pain in the mid-section of the plantar fascia and palpable nodules. • Fracture of the calcaneum caused by landing on the heel from a height. The person is not able to weight bear. • Infection (osteomyelitis or subtalar pyoarthrosis) which is rare in the absence of an open wound. It presents with a red, hot, swelling and systemic illness. • Haglund deformity, which is a prominence of the superior aspect of the posterior calcaneus. Repeated pressure such as from ill-fitting shoes can lead to retrocalcaneal bursitis. • Retrocalcaneal bursitis, which presents as pain, redness, swelling and tenderness to palpation between the calcaneus and Achilles tendon. • Sinus tarsi syndrome which is caused by repeated hyperpronation of the foot or lateral ankle sprains. The talocalcaneal sulcus (sinus tarsi) is the anatomical space bounded by the talus, calcaneus, talocalcaneonavicular joint and posterior facet of the subtalar joint. Pain is worse when walking on an uneven surface, and after exercise. • Inflammatory arthropathies, and gout can be ruled out by appropriate investigations. • **Neoplasm and vascular insufficiency are very rare causes of heel pain** (but should be considered in recalcitrant cases).
Subjective history	• **Ask about the nature of the heel pain, and the general health and physical activity of the person** • Characteristic symptoms of plantar fasciitis include: • An initial insidious onset of pain. • Intense pain during the first steps after waking or after a period of inactivity. • Lessening pain with moderate foot activity, but worsening later during the day or after long periods of standing or walking. • **Document any risk factors** • Plantar fasciitis most commonly affects people 40–60 years of age who are overweight or obese, or who are on their feet for extended periods.
Examination findings	• **Examine the foot at rest (when sitting), and when standing and walking.** • Tenderness on palpation of the plantar heel area (usually, localized around the medial calcaneal tuberosity) is a defining sign of plantar fasciitis. • Limited ankle dorsiflexion range (with the knee in extension) and a positive 'Windlass test' (reproduction of pain by extension of the first metatarsophalangeal joint) is suggestive of plantar fasciitis. • Abnormal walking/limping due to pain may be observed.
Investigations	• None indicated in initial stages • MRI/CT if symptoms do not improve or for differential diagnosis

DIAGNOSIS: PLANTAR FASCIITIS

TYPE OF INFORMATION	GUIDELINES
Conservative management	• **Self-help advise the person to:** o Rest the foot (by avoiding standing or walking for long periods) where possible. o Wear shoes with good arch support and cushioned heels (such as laced sports shoes) and avoid walking barefoot. o Advise purchasing insoles and heel pads to insert in the shoe, with the aim of correcting foot pronation (however 'magnetic' devices should be avoided). o Lose weight if overweight to prevent future episodes. o Apply ice for 15-20 minutes o Take analgesia on an 'as required' basis to relieve pain. o Recommend self-physiotherapy to include Ankle DF stretches in non-weight bearing and weight bearing positions. • **Refer people with mild symptoms to a podiatrist or physiotherapist if self-care has not been effective after a few months.** o Consider earlier referral to a physiotherapist and or podiatrist for people with more severe symptoms that are having a significant impact on their ability to function normally. • Physiotherapy for loading and strengthening work and support with graded return to normal activities to promote long-term resolution of plantar fasciitis. • Orthotics for soft heels / night socks / splints • In some circumstances short-term relief of symptoms by injecting the plantar fascia with a corticosteroid may be considered appropriate, after considering the following points: o The injection is often very painful and post-injection pain may last for several days. o Symptoms commonly return within a month following the injection. o Rarely a corticosteroid injection can cause fat pad atrophy or plantar fascia rupture. • If the initial treatment was beneficial but symptoms return, the treatment may be repeated once with a minimum of 6 weeks between injections. • Preference is for a ultrasound guided injection as can often locate exactly the most problematic area. If fails would consider PRP injection • These patients can be booked in a discussion slot at the Ashfield consultant clinics for booking of USGI if pains are located to under the heel.
Referral on for orthopaedic or podiatric surgeon opinion	• Consider referral to an orthopaedic or podiatric surgeon if pain persists for up to 6 months with no improvement after treatment by a physiotherapist or podiatrist, which has included strengthening rehabilitation • Specialist treatments that may be offered include: • Ultrasound guided steroid injections or PRP injections. **Prognosis** The long-term prognosis for plantar fasciitis is good. One prospective survey found that over 80% of people achieved complete resolution of their symptoms within a year *Ref- https://cks.nice.org.uk/plantar-fasciitis#!topicsummary*

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DIAGNOSIS: FOREFOOT PAIN- MORTON'S NEUROMA

TYPE OF INFORMATION	GUIDELINES
Background information	Important to differentiate benign lesions from aggressive benign or malignant lesions. (Clinicians should check for red flags that could indicate sinister pathology such as a cancerous tumour and refer to the appropriate specialist services). Morton's neuroma is a nerve entrapment condition in which there is a benign neuroma of the common plantar digital nerve(s) which can cause severe pain/paraesthesia. The condition can occur in one foot or both feet. It usually affects the nerve between the third and fourth toes, but sometimes the second and third toes are affected. Morton's neuroma can occur at any age, but most often affects • Middle-aged (40-60 year olds) • 4-15 times more common in women • May be because women tend to wear tight or high-heeled shoes that can put pressure on the feet • Typically associated with a flexible foot type (in women) • Increasingly seen in runners, possibly because of the increased pressure on the toes that occurs when running.
Subjective history	**Mortons neuroma:** • **Typical symptoms** of Morton's neuroma include: o Pain in the forefoot, most commonly felt in the third inter-metatarsophalangeal space, less commonly in the second, and rarely in the first or fourth. o Pain whilst walking, exacerbated by increased activity or particular footwear, and relieved by removal of footwear and massaging the toes. o A sharp, stabbing, burning, or tingling sensation (sometimes described as feeling like an electric shock) in the distribution of the affected nerve. • Some people with Morton's neuroma may be asymptomatic, with the neuroma being detected as an incidental finding on examination of the foot for another reason • Mortons neuroma can often be misdiagnosed- consider differential for example Metatarsalgia
Examination findings	• Pain is elicited on applying pressure to the involved inter-metatarsophalangeal space. • Mulder's click: • Grip the neuroma between your forefinger and thumb (with your thumb on the plantar aspect of the foot). • With your other hand, simultaneously squeeze the metatarsal heads (1–5) together in the transverse plane. • A click can be felt and heard as the enlarged nerve subluxes between the metatarsal heads as they are compressed. • Absence of this sign does not rule out neuroma. • Loss of sensation to the affected toes is a strong indicator of Morton's neuroma, but a sensory deficit may not be apparent on examination. *Reference: NICE CKS Mortons Neuroma*
Investigations	• Ultrasound guided injection (there is little point doing an ultrasound on its own if an injection will be required at the same time) • At AHV- Mr Chilamkurthi can order an US-guided injection if the patient is booked in as a "discussion patient" at his AHWB triage clinic • The APP should use a discussion slot in Mr Chilamkurthi's community AHWB centre if they deem an US-guided injection could be of benefit • Referral to podiatric surgeon should be considered as a referral route for this condition • If there is no Morton's neuroma shown on Ultrasound, the radiologist will not inject

DIAGNOSIS: FOREFOOT PAIN- MORTON'S NEUROMA

TYPE OF INFORMATION	GUIDELINES
Conservative management	• If benign/painless-observe and reassure • Consider podiatry/podiatric surgery referral • Advise on footwear and padding/orthotics/insoles • Weight loss if appropriate • Ultrasound-guided injection (see above section on "investigations" for Morton's Neuroma. This can be ordered via Mr Chilamkurthi's community triage clinic (use a discussion slot).
Referral on for orthopaedic or podiatric surgeon opinion	If no improvement with conservative management consider referral to specialist foot & ankle specialist or podiatric surgeon, if patient wishes to consider surgery. The patient should be made aware of potential risks with surgery, including the potential for permanent loss of sensation in the toes, 15% risk of recurrent or stump neuroma formation and the risk of developing CRPS

DIAGNOSIS: (HALLUX VALGUS/RIGIDUS)

TYPE OF INFORMATION	GUIDELINES
Background information	**Consider the Procedures of Limited Clinical Value and Procedures Not Funded Policy – soft tissue correction of hallux valgus to treat Hallux Valgus is a restricted procedure.** **Prior approval form will need to be completed prior to referral to secondary care or to a podiatric surgery consultant.**
Subjective history	• Pt has noticed hallux valgus deformity • Age: typically 45 years old and above • Risk factors for OA such as hypertension, diabetes mellitus, high BMI.
Examination findings	• Hallux valgus • Restrictions to movement 1st MTP.
Investigations	• Weight bearing X-ray AP & Lateral • An MRI is not indicated to diagnose great toe osteoarthritis
Conservative management	• Advise on footwear and padding • Podiatry • If mild- Moderate OA to big toe – may consider injection to joints as superficial joint • Injection could be administered via the APP, MSK podiatry • X-ray or US guided injections could be offered in secondary care or by podiatric consultant
Referral on for orthopaedic or podiatric surgeon opinion	If no improvement after 6-12 weeks of conservative management (depending on severity of symptoms) and the patient wishes to consider surgery consider medical optimisation and then refer to Specialist Foot & Ankle Consultant or Podiatric Surgeon.

DIAGNOSIS: FOREFOOT PAIN- METATARSALGIA

TYPE OF INFORMATION	GUIDELINES
Background information	Metatarsalgia (also known as Metatarsophalageal joint synovitis) is a general term used to denote a painful foot condition in the metatarsal region. It is a common inflammatory condition occurring most frequently in the second, third and/or fourth metatarsophalangeal joints, or isolated in the first metatarsophalangeal joints.
Subjective history	• Metatarsalgia typically affects the bottom of the second metatarsophalangeal joint. However, any of the other metatarsals can be affected. • Symptoms of metatarsalgia include: • Pain and tenderness of the plantar surface of the heads of the metatarsal bones or of the metatarsophalangeal joint • Increased pain during the mid-stance and propulsion phases of walking as body weight is shifted forward onto the forefoot • The pain is typically described as a deep bruise. Sometimes, it will feel like there is a rock under the ball of the foot. These symptoms are usually worsened when walking or standing barefoot on a hard surface or poorly cushioned shoe, and better when in well-cushioned shoes. At the end of a day, with substantial standing and/or walking, the area can throb. • The sensation of having a 'pebble' or 'lump' under the metatarsal region when walking. • The patient may get symptoms of mortons neuroma, which can be part of the umbrella term of metatarsalgia (see section on mortons neuroma within this pathway)
Examination findings	• Pain and tenderness of the plantar surface of the heads of the metatarsal bones or of the metatarsophalangeal joint • Development of callus under the prominent metatarsal heads • Patients with neuroma will have pain with squeeze test in the region of the 3rd and 4th metatarsal heads • Be mindful that in the diabetic population you may not see callus formation and the patient may not report pain but you may see ulceration of the MTP joint • Patient may demonstrate subtle inflammation at base of second digit- must compare this to the other foot • Assessment of patient in standing- may observe that the lesser toes may be floating and unable to purchase • May coexist with flexion deformities at PIP joint (Hammer toes)
Investigations	• X-ray Weight bearing and AP lateral
Conservative management	• Advise on footwear and padding • MSK Podiatry/orthotics
Referral on for orthopaedic or podiatric surgeon opinion	• If no improvement with conservative management consider referral to specialist foot & ankle specialist or podiatric surgeon, if patient wishes to consider surgery.