

MSK SERVICES PATHWAY - HIP 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.

RED FLAG

Diagnosis to monitor

- Septic arthritis
- Fractures
- Dislocations
- Tumours
- Neurological
- Hernia/Groin strain
- Visceral referred pain

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](#)

ASSESSMENT & DIAGNOSIS OF OTHER CONDITIONS

Red Flags Screening

[▶ Click Here](#)

Inguinal Pathology

[▶ Click Here](#)

Septic Arthritis

[▶ Click Here](#)

Sportsman's Groin

[▶ Click Here](#)

Osteoarthritis (OA)

[▶ Click Here](#)

Osteitis Pubis

[▶ Click Here](#)

Hip Impingement

[▶ Click Here](#)

Stress Fractures

[▶ Click Here](#)

Metabolic Bone Disease

[▶ Click Here](#)

Miscellaneous

[▶ Click Here](#)

Adductor Pathologies

[▶ Click Here](#)

Nerve Pathology

[▶ Click Here](#)

RED FLAG SCREENING: SPECIFIC FOR HIP PATHOLOGY

<p>History & Symptoms</p>	<p>Consider Admission/Urgent referral if history of, or suspected malignancy investigate and refer as appropriate</p> <p>SYMPTOMS SUGGESTIVE OF TUMOURS (PRIMARY OR METASTATIC):</p> <ul style="list-style-type: none"> • Past history of cancer – specifically those that metastases to bone including: breast, prostate, lung, kidney, thyroid, myeloma • Deep, intense pain • Nocturnal pain • Pain worsen with weight bearing through affected joint • Unexplained weight loss • Mass presence • Lymphadenopathy • Unexplained limp • Emergence of bony lump • Fever • Fatigue • Atypical symptoms <p>SYMPTOMS SUGGESTIVE OF INFECTION OR SEPTIC ARTHRITIS</p> <ul style="list-style-type: none"> • Risk factors for sepsis include: Comorbidities of RA or OA, prosthetic joint, diabetic, alcoholism, previous intra-articular steroid injection, ulcerated skin, IV drug use • Systemic symptoms • Constant pain • Sudden onset of red, hot, swollen joint • Please see more in ‘Septic Arthritis’ section below for more details • Fever, not always present <p>SYMPTOMS SUGGESTIVE OF LOWER LIMB FRACTURE/DISLOCATIONS</p> <ul style="list-style-type: none"> • Trauma • Pathological fracture - May result from the following low impact trauma in patients with the following co existing diagnoses: • Gauchers’ disease • Paget’s disease • Osteopenia/Osteoporosis • Past history of cancer – specifically those that metastasise to bone • Multiple myeloma • Osteogenesis imperfecta
<p>Examination findings</p>	<p>SYMPTOMS SUGGESTIVE OF LOWER LIMB FRACTURE/DISLOCATIONS</p> <p>Infection suspected</p> <ul style="list-style-type: none"> • Red hot swollen joint • Likely history of penetrative trauma but not always <p>Tumour</p> <ul style="list-style-type: none"> • Emergence of lump or bony mass • Assess for lump or bony mass • Differential diagnoses to consider: Paget’s disease, cold bone lesion (tuberculosis), benign soft tissue lump (lipoma), benign bone tumour • Escalate in line with 2 week Cancer Fast Track Pathways <p>Consider investigations: X-ray, MRI, Bloods</p>

DIAGNOSIS: SEPTIC ARTHRITIS

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • This guideline is for acute onset (less than 2/52) of non-axial skeleton joints and for those older and 16 y/o • Septic arthritis is associated with significant mortality • Early diagnosis of septic arthritis is vital due to the potential for rapid and permanent destruction of the joint, sepsis is another potential complication • Incidence is higher in patients with pre-existing rheumatological conditions such as RA, systemic lupus erythematosus (SLE), OA or those with joint prostheses • In children the incidence is highest in those age less than 3 years • The most commonly affected joints are knee and hip (especially in infants) • Septic arthritis should be considered in any patient who presents with an acute mono-articular inflammation
Subjective History	<ul style="list-style-type: none"> • Sudden onset of hot swollen, tender joint with less than 2/52 history of symptoms • Restricted ROM of the joint • Hip and knee most common • Presence or absence of fever is NOT a reliable indicator of an infected joint • In some cases it can be poly-arthritic in nature • Risk factors include: Comorbidities of RA or OA, prosthetic joint, diabetic, IV drug use, alcoholism, previous intra-articular joint injection, ulcerated skin <p>Prosthetic Joint Infection</p> <ul style="list-style-type: none"> • Persistent joint pain and difficulty weight bearing with prosthesis loosening • May occur within a year of surgery in a patient with history of post-operative wound infection; or • May occur at a later stage with spread from an extra-articular site of infection, e.g. Pneumonia
Examination findings	<ul style="list-style-type: none"> • Reduced hip ROM with severe pain
Investigations	<ul style="list-style-type: none"> • Synovial fluid (SF) aspiration is the principle diagnostic test for native joint septic arthritis • In suspected hip sepsis, diagnostic aspiration will usually require the use of ultrasound or an image intensifier (II) • Blood cultures: will influence choice of antibiotics • Baseline X-Ray is useful because most septic joints have pre-existing joint disease • X-ray bone destruction is not seen until a later stage, approximately 10-14 days following onset • CT scan or MRI (may not be possible with certain prostheses) – useful for diagnosis of abscesses, effusions and osteomyelitis • If prosthetic joint in-situ, then urgent orthopaedic referral is required <p>Blood Cultures</p> <ul style="list-style-type: none"> • WCC, ESR, CRP, U's and E's, LFT's • Culture of aspirate if performed <p>Other Lab Tests</p> <ul style="list-style-type: none"> • If history suggests genitourinal or respiratory origin of infection – take appropriate swabs <p>Imaging</p> <ul style="list-style-type: none"> • Plain films will not detect initial changes but will be useful for comparative reasons • MRI/CT is suspecting osteomyelitis
Conservative management	<p>IF HIP SEPSIS IS SUSPECTED, A&E ADMISSION IS REQUIRED</p> <ul style="list-style-type: none"> • Patients should be admitted to hospital if sepsis is suspected and surgical intervention may be required, IV antibiotics

DIAGNOSIS: SEPTIC ARTHRITIS

TYPE OF INFORMATION	GUIDELINES
Referral on for secondary care opinion:	<ul style="list-style-type: none"> • Urgent referral to orthopaedic surgeon / on-call orthopaedic via A&E • Delayed diagnosis or inadequate treatment can result in changes to joint services, delay in antibiotics

DIAGNOSIS: OSTEOARTHRITIS (OA)

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • Osteoarthritis refers to a clinical syndrome of joint pain accompanied by varying degrees of functional limitation and reduced quality of life • Although pain and reduced function can be important consequences of OA, structural changes often occur without accompanying symptoms
Subjective History	<ul style="list-style-type: none"> • Reports of moderate pain in the lateral or anterior hip/groin/thigh region • Pain on weight bearing; the pain can refer to the knee region • Stiffness - usually less than 30 mins of early morning stiffness and after a period of inactivity is common • Often worse whilst exercising and at the end of the day • Joint may feel as though it does not move as well / stiff • Symptoms can vary with painful times followed by less or pain free times • Pain may be constant with everyday tasks become increasingly difficult • Joint contractures may be present in advanced cases • Outcome measures can be used as a guide to severity of OA e.g. Oxford Hip Score
Examination findings	<ul style="list-style-type: none"> • Limited passive range of motion of flexion, abduction, internal and external rotation compared to less painful side • Exclude spinal pathology • Exclude infection • Leg length discrepancy • Trendelenburg gait pattern • Muscle atrophy, especially gluts and quads
Investigations	<ul style="list-style-type: none"> • Diagnosis of Hip OA needs to be made on a combination of clinical, symptomatic and radiology findings • Joint space narrowing along with other radiographic features, including, osteophytes and subchondral sclerosis on plain film radiographs can be considered as a definitive diagnosis • MRI is not indicated for OA Hip
Conservative management	<ul style="list-style-type: none"> • Aims of conservative treatment for OA of the hip are as follows:- <ul style="list-style-type: none"> • Reducing joint pain and stiffness • Maintaining and improving joint mobility • Reducing physical disability and handicap • Limiting the progression of joint damage • Educating patients about the nature of the disorder and its management

DIAGNOSIS: OSTEOARTHRITIS (OA)

TYPE OF INFORMATION	GUIDELINES
<p>Conservative management</p>	<p>Core treatments include: (NICE)</p> <ul style="list-style-type: none"> • Patient Education - Healthcare professional should offer verbal and written information to all people with OA to enhance their understanding of the condition and its management, and to counter misconceptions, such as that it inevitably progresses and cannot be treated • Exercise - Exercise should be a core treatment for people with OA irrespective of age, comorbidity, pain severity or disability. Exercise should include: Local muscle strengthening and general aerobic fitness. Water exercise and hydrotherapy may be an option • Weight loss advice - Self-referral available <p>Adjuncts: Non-pharmacological treatments</p> <ul style="list-style-type: none"> • Clinicians should consider use of manual therapy procedures to provide short term pain relief and improve hip mobility and function in patients with mild OA hip • Walking aids can reduce pain in OA hip patients when used in contralateral hand • Advice regarding appropriate footwear, including shock absorbing properties • Heat/warmth can be used to ease symptoms • TENS can help with short term pain relief control <p>Adjuncts: Pharmacological treatments</p> <ul style="list-style-type: none"> • Healthcare professional should consider advising 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, COX-2 inhibitors or opioids (discussion with Pharmacist / GP indicated) • If paracetamol or topical NSAIDS are insufficient then additional analgesics can be considered. Risks and benefits should be considered <p>Intra-articular injections</p> <ul style="list-style-type: none"> • Intra-articular (IA) corticosteroid injections should be considered as an adjunct to core treatment for the relief of moderate to severe pain in people with mild-moderate OA • Referral to orthopaedic surgeon is required if IA injection to hip is to be considered
<p>Referral on for secondary care opinion</p>	<p>REFERRAL INTO MR SRINIVASAN'S COMMUNITY SURGICAL HIP CLINIC AT AHWBC</p> <p>The patient can be referred into Mr Srinivasan's clinic if they meet the following criteria. The APP should keep this clinic in mind when triaging:</p> <ul style="list-style-type: none"> • Has had an X-ray in the past, which shows moderate or severe degenerative changes at the hip (pelvic or hip X-ray) • If new imaging is indicated please request a HIP X-RAY with a KING MARK TEMPLATE • ASA1 or 2 patient – essentially look medically well from the MED Q on SystmOne (can have comorbidities but these are controlled) • APPs can refer to Mr Srinivasan's clinic from paper triage, even if they are unsure if the patient is ASA2 or ASA3 as this is sometimes difficult to determine at paper triage • The APP should make it clear in the task to MSK admin if booking in from paper triage: "Secondary Care - Hip; appropriate for Mr Srinivasan's community hip clinic at AHWB" • Admin will arrange a C+B appointment away from AHWB if the patient prefers to go elsewhere. The benefit to the patient is that they can be assessed and operated on in a very timely manner (less than 2 weeks in many cases); keep this clinic in mind when triaging

DIAGNOSIS: OSTEOARTHRITIS (OA)

TYPE OF INFORMATION	GUIDELINES
Referral on for secondary care opinion	<p>Surgical Treatment</p> <ul style="list-style-type: none"> • Patients with hip OA who are not obtaining pain relief or functional improvement with conservative means despite medication and non-pharmacology could be considered for joint replacement • Shared decision making discussion with the patient and a prior approval form completion is required • Most common indication for a THR is degenerative arthritis (OA) of the hip joint. Other indications include RA, injury, bone tumours, avascular necrosis of the femoral head • THR is universally recommended and is generally accepted as reliable and appropriate surgical procedure to restore function and improve quality of life • Minimal invasive surgery has been advocated, this reduces incision size, tissue trauma, blood loss and post-operative pain. <p>Higher age, more preoperative pain, musculoskeletal co-morbidities, such as low back pain in a non-operated hip can predict a poorer outcome following THR</p> <p>Contraindications/precautions to elective hip surgery</p> <ul style="list-style-type: none"> • Current infection of the hip • Other sites of infection • Severe vascular disease • Patients unwillingness to undertake risks outlined • Poor general health • History of osteomyelitis • Morbid obesity

DIAGNOSIS: HIP IMPINGEMENT

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • Hip impingement syndrome, is a result of an abnormality in the femoral head, acetabulum or both • Femoral Acetabular Impingement (FAI) can be CAM or Pincer • Impingement can be caused by catching/impinging of the abnormally shaped femoral head into the acetabulum during a forceful motion (especially flexion) or as a result on contact between the acetabular rim and the head-neck junction • It is unclear but it may lead to the development of OA • Other problems that cause hip impingement include, Perthes disease, Coxa Vara and Slipped Capital femoral epiphysis
Subjective history	<ul style="list-style-type: none"> • Symptoms may include restriction of movement, “clicking of the hip joint and pain • May be exacerbated by sporting activities, hip flexion activities, or prolonged sitting • Pain described as a dull ache • Onset often insidious • Mainly anterior hip discomfort but patients can also complain for lateral and posterior pain • May indicate location of pain by gripping the lateral hip just above the greater trochanter between the abducted thumb and index finger, known as the “C” sign - SEE HERE • Lumbar spine needs to be assessed, as well as other conditions/medications that manifest as musculoskeletal problems.

DIAGNOSIS: HIP IMPINGEMENT

TYPE OF INFORMATION	GUIDELINES
Examination findings	<ul style="list-style-type: none"> • Observe gait pattern, glute medius weakness • ROM often reduced into deep flexion and internal rotation • 90 degrees of flexion with combined internal rotation produces pain and sensation of a catch/impinging feeling <p>Impingement tests can also be used, the hip is flexed to 90 degrees and then adducted and internally rotated, positive test is sharp sudden pain in the hip. Tests often re-produce the patient's symptoms.</p>
Investigations	<ul style="list-style-type: none"> • X-Ray of the pelvis is indicated for persistent hip pain. It may demonstrate focal bone pathology, erosive joint changes and/or dysplasia. • They should include standard AP as well as a cross-table horizontal beam • Findings of Dysplasia MUST be clinically correlated to the patient • MRI is widely accepted as the best investigation for further evaluation of the hip. This is best performed with intra-articular contrast (MRA)
Conservative management	<ul style="list-style-type: none"> • The management of hip impingement begins with a trial of conservative measures, including activity modification • NSAIDS can be useful in patients with acute onset
Referral on for orthopaedic opinion	<p>PRIOR TO REFERRAL TO SECONDARY CARE - ENSURE THE LUMBAR SPINE HAS BEEN RULED OUT / TREATED AS A SOURCE OR CAUSE OF SYMPTOMS.</p> <p>Surgery can either be arthroscopic or open with the aim being to improve hip ROM and alleviate femoral abutment against the acetabular rim. <i>N.B. Prior Approval Form is required</i></p> <p>Dysplasia</p> <p>Age <30 - Periacetabular Osteotomy could be considered - an arthroscopic procedure to treat hip dysplasia, which can be completed if the patient is under 30 years of age for joint preservation</p> <p>Age 30-50 -Window for hip preservation surgery is lost; therefore intra-articular injections are warranted prior to any hip surgery. This aims to treat the symptoms in combination with Physiotherapy.</p> <p>Age 50> - injections are possible but not indicated if surgery is indicated, due to the increased risk of infections. Early surgical intervention is therefore indicated.</p> <p>Labral lesions are debrided using a shaver or radio-thermal device:</p> <ul style="list-style-type: none"> • Patients not responding to conservative measures • For open procedures there is some evidence of short term pain reduction but it is not clear if the procedure slows degenerative changes

* For information only: GP management is indicated in all cases

DIAGNOSIS: METABOLIC BONE DISEASE*

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> Metabolic bone disease is the term used to describe a range of conditions including:- Osteoporosis Paget's disease Osteomalacia Osteogenesis Imperfecta (OI) Brittle Bone disease They are all diseases which cause bones to become fragile and break without too much force Osteoporosis is a progressive disease in which the micro-architecture of bone is disrupted with a consequent increase in bone fragility and susceptibility to fracture Such fractures are termed fragility fractures and often result from low energy events such as a fall Paget's disease is an condition in which there is a marked increase in bone turnover in parts of the skeleton resulting in the development of structurally weak abnormal bone with and increased risk of pain, fracture, deformity, osteoarthritis of the large joints Osteomalacia is a condition where there is a deficiency of mineral with the bone itself. This lead to bone pain, deformity and easy fracture. Common cause is Vitamin D deficiency
Subjective history	<ul style="list-style-type: none"> Osteoporosis; in the absence of fracture is asymptomatic and often remains undiagnosed Paget's can lead to bone pain and deformity which usually responds to appropriate treatment <p><i>Refer to Clinical Knowledge Summaries Guidelines</i></p>
Investigations	<ul style="list-style-type: none"> Consider dual energy X-Ray absorptiometry to assess bone mineral density (DXA) Patients with kyphosis or loss of height should have lumbar spine imaging either by DXA or lateral lumbar spine X-ray to examine for fractures <p>Initial blood tests include:</p> <ul style="list-style-type: none"> Urea and Electrolytes LFT's ESR (Consider investigations for myeloma if raised) Calcium, phosphate and alkaline phosphatase 24hour urinary calcium excretion Thyroid function tests Vitamin D3 levels Parathyroid hormone concentration
Conservative management	<p>Before initiating therapy it is important to identify causes of secondary osteoporosis such as:-</p> <ul style="list-style-type: none"> Hyperparathyroidism Alcohol abuse Thyroid disease <p>Non Pharmacological</p> <ul style="list-style-type: none"> There is evidence that weight bearing exercise improves bone health Exercises designed to improve muscle strength and balance when maintained regularly over time have been shown to prevent falls Having healthy, balanced diet that includes sufficient quantities of calcium and other vitamins and minerals is essential to create healthy bones Having a healthy body mass index is also important, as being over or underweight Very low Vitamin D levels leads to osteomalacia whilst reduced levels may contribute to osteoporosis It is possible to maintain healthy levels of Vitamin D by 15 – 20 minutes daily exposure of the face and arms to sunlight without sunscreen during summer months or by taking supplements Other lifestyle factors also contribute to bone health, smoking leads to poor bone health as well as excessive alcohol intake Falls prevention information should be given

* For information only: GP management is indicated in all cases

DIAGNOSIS: METABOLIC BONE DISEASE*

TYPE OF INFORMATION	GUIDELINES
Conservative management	<p>Pharmacological</p> <ul style="list-style-type: none"> Women over 75 who have had a fracture should be offered appropriate bone sparing treatment according to current NICE guidelines
Referral on for secondary care opinion	<ul style="list-style-type: none"> Postmenopausal women with an initial fracture are at substantially greater risk of subsequent fractures After a hip fracture, a high proportion of women are permanently unable to walk independently or to perform other ADL's Hip fractures are also associated with increased mortality

DIAGNOSIS: ADDUCTOR PATHOLOGIES

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> Common in sports with sudden changes in direction Adductor longus is the one most commonly involved
Subjective history	<p>Adductor Strains</p> <ul style="list-style-type: none"> Onset usually acute and is generally well localised either to the belly of the adductor longus, proximal musculotendinous junction or tendon near the origin on the inferior pubic ramus (the enthesis) Need to distinguish between strain of a healthy muscle compared to the strain of a muscle that has adaptive changes / signs of tendinopathy May be local tenderness, pain on passive abduction, pain on resisted adduction or combined flexion/adduction <p>Adductor tendinopathy</p> <ul style="list-style-type: none"> May be primary or secondary condition of adductor muscle strain Presents with proximal groin pain, which has a tendency to subside with a good warm up, decrease with gentle activities but may progress with increasing stress Can limit activity in latter stages Pain may migrate to contralateral groin or suprapubic region May be local tenderness over the adductor origin and over the pubic tubercle Pain on passive hip abduction and resisted hip adduction <p>MEN MAY REFER TO TESTICULAR PAIN - THIS MUST BE INVESTIGATED AND RULED OUT AS A CAUSE BY THEIR GP</p>
Examination findings	<ul style="list-style-type: none"> Pain on exercise in groin area Local tenderness <p>If patient complains of testicular pain or testicular referral pattern – GP examination is indicated.</p>
Investigations	<ul style="list-style-type: none"> Ultrasound scan can look for muscle tears and tendinopathy MRI Pelvis - include potential diagnosis of 'adductor pathology' in clinical information

DIAGNOSIS: ADDUCTOR PATHOLOGIES

TYPE OF INFORMATION	GUIDELINES
Conservative management	<p>Adductor Pathology</p> <ul style="list-style-type: none"> • Physiotherapy • No early stretches • RICE • Gentle ROM to onset of pain, gentle massage to decrease pain/spasm • Unloading, strapping • Increase stretching, strengthening • Stabilising exercises • Progress rehab to shuttles, change of direction <p>Adductor Tendinopathy</p> <ul style="list-style-type: none"> • Physiotherapy • Rest, ice • No early stretching • NSAIDS • Eccentric loading programmes
Referral on for orthopaedic opinion	<ul style="list-style-type: none"> • May respond to steroid injection (USGI not indicated) • PRP injections (<i>Prior Approval Form required</i>) • Surgical - adductor release as last resort

DIAGNOSIS: INGUINAL PATHOLOGY (HERNIA)

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • Inguinal and femoral hernias can be defined as herniation of the bowel through the inguinal ring or femoral canal, secondary to incompetence of the musculature of the posterior inguinal wall • They may cause diffuse groin pain • Inguinal hernias can be direct or indirect and they are graded as Type I, 2 3A, 3B, 3C or 4 depending whether they involved normal size internal ring, dilated inguinal ring, encroaching on the inguinal floor, femoral hernia or recurrent • Small hernias may become painful as a result of exertion
Subjective history	<ul style="list-style-type: none"> • Suprapubic pain with a characteristic dragging sensation to one side of the lower abdomen aggravated by increased intra-abdominal pressure (IAP) • Aggravated by coughing and sneezing
Examination findings	<ul style="list-style-type: none"> • Can reveal occasionally an obvious swelling • May be a cough impulse
Investigations	<ul style="list-style-type: none"> • Ultrasound may be able to detect coupled with a Valsalva manoeuvre
Conservative management	<ul style="list-style-type: none"> • Treatment usually consists of surgical correction which can be laparoscopic or open using a synthetic mesh
Referral on for secondary care opinion	<ul style="list-style-type: none"> • For consideration of surgery if hernia is suspected • Referral to 'General Surgery'

DIAGNOSIS: SPORTSMAN'S GROIN

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • There are often many different descriptions for the Sportsman's groin; Conjoint tendon injury, Gilmore's groin or Posterior abdominal wall dysfunction • It refers to a variety of injuries involving the inguinal region and usually involves a tear at the external oblique (EO) or of the EO aponeurosis and superficial inguinal ring • Defect in the posterior wall is generally thought to be in the region of the conjoint tendon • Pain often flares with activity and does not hurt when inactive • Prevalence especially in athletes with chronic groin pain is reported to be as high as 80%
Subjective history	<ul style="list-style-type: none"> • Posterior wall/conjoint tendon area is particularly vulnerable as it is a transition zone for changes in collagen and tissue type • It is often a pivot point for different forces • Muscle fibres of the transverse, internal oblique that insert along the pectineal line unite to form the conjoint tendon • It is at this point that injuries often occur • Repetitive stretching or sudden intense force can lead to their separation from the inguinal ligament • Can also occur with repeated micro-trauma and overload
Examination findings	<ul style="list-style-type: none"> • Can be difficult to detect on physical examination • They often occur with co-existing pathologies like, Osteitis pubis and adductor tendinopathy • Present with groin pain • Patients can describe vague insidious onset of deep groin pain usually the pain is unilateral over the lower abdomen and may extend into upper thigh, dull ache may radiate to scrotum, hip and back • Aggravated by cough, sneeze • Aggravated also by sit ups, kicking, sprinting • Relieved by rest but can recur with exertion despite analgesia, physiotherapy and rest • Can be associated muscle spasm and often guarding • It is not usually possible to palpate the defect and resisted adduction may elicit pain but that may be due to co-existing conditions such as adductor tendinopathy • Tenderness over conjoint tendon and pubic tubercle is common and can be exacerbated by sit-ups
Investigations	<ul style="list-style-type: none"> • Ultrasound / MRI can be used but they can be negative therefore don't request until discussed with Consultant
Conservative management	<ul style="list-style-type: none"> • Definitive treatment is often surgery • Rehabilitation post-surgery can vary depending on the surgeon and the amount of re-enforcement • Avoid sharp sudden movements • Isometric initially then progress to concentric then eccentric • Walking ,jogging and sports specific will depend on surgeon • Long term conditioning, flexibility and anterior/posterior slings
Referral on for secondary care opinion	<ul style="list-style-type: none"> • Consultant Triage Clinic indicated for opinion • If surgical opinion required

DIAGNOSIS: OSTEITIS PUBIS

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • Condition involves inflammatory reaction affecting the Pubic Symphysis but can involve other structures as the condition progresses • The reaction develops in response to overuse when load is placed on the pubic bones • Generally self-limits with rest and reduced activity • Can occur in conjunction with groin strains due changes and alterations in biomechanics • Diagnosis can be challenge, can include muscle strain, tendinopathy, pelvic instability
Subjective history	<ul style="list-style-type: none"> • Insidious onset of groin pain, which can be felt in the adductors, anterior thigh, or low abdomen • Symptoms can be vague and are often worse with exercise such as twisting and turning • NSAIDS often help but do not give permanent relief. Short periods of rest reduce the severity of the symptoms but on resumption of normal sporting activity the pain often returns to the same intensity • The condition is often progressive in nature until symptoms may prevent participation in activity
Examination findings	<ul style="list-style-type: none"> • Clinical tests can vary from patient to patient • Pain reproduction can be from resisted sit ups, resisted hip flexion, adductor squeeze test • Pelvic and lumbar ROM may be limited • May be reduction in hip internal rotation • Can be pain and/or muscle guarding on passive hip abduction, FABER or Thomas test • Tenderness can be felt in the adductors, rectus abdominus and pubic symphysis
Investigations	<ul style="list-style-type: none"> • X-rays can show pubic symphysis irregularity, reactive sclerosis, pubic widening • Bone scan and reveal local uptake over the pubic tubercles • CT scan is the most sensitive (Consultant request)
Conservative management	<ul style="list-style-type: none"> • Rest is often the only treatment, however it may be that an active approach with pelvic and core stabilisation may be the preferably • Gradual progression of training load depending on the patient is the main focus • Maximise ROM of hips and pelvic biomechanics • Rehabilitation model should be based on unloaded painful structures, regaining pain free function, initiate core program, length/strength of muscles • Progression to running, kicking, turning and twisting
Referral on for secondary care opinion	<ul style="list-style-type: none"> • Failure to progress after 6-12 months of conservative management

DIAGNOSIS: STRESS FRACTURES

TYPE OF INFORMATION	GUIDELINES
Background information	<ul style="list-style-type: none"> • Repetitive micro-trauma/overuse • Sudden or rapid increase in training load • Poor training surfaces – too hard or cambered • Females, early training (premenarchal) • Biomechanical abnormalities • Dietary problems
Subjective history	<ul style="list-style-type: none"> • Pain usually develops during exercise and can be poorly localised. • Pain will eventually prevent exercise
Examination findings	<p>Stress fractures of the NOF</p> <ul style="list-style-type: none"> • May be associated with tight muscles as they become fatigued because of intense training • Presentation is of gradual onset of groin pain, poorly localised aggravated by activity and weight bearing <p>(Femoral stress fractures are rare)</p> <p>Stress fractures of Pubic Rami</p> <ul style="list-style-type: none"> • Occur occasionally in distance runners and it is important to differentiate from adductor problems • Usually a history of overuse with pain referral into the buttock, groin and thigh • Treatment usually consists relative rest from aggravating activities until pain / localised tenderness has resolved • Fitness can be maintained with physiotherapy, cycling or swimming • Biomechanics should be addressed <p>Avulsion fractures</p> <ul style="list-style-type: none"> • More often seen in skeletally immature athletes, usually between ages of 14-17 • Occur most commonly at the apophysis where the tenoperiosteal junction • Common sites are the origin of the Sartorius at the ASIS, Rectus femoris, hamstrings at ischial tuberosity, lesser trochanter at insertion of iliopsoas • Occurs when muscle is either forcefully stretched beyond is freely available ROM • Common presentation is sudden onset of pain, localised swelling, tenderness, limitation of movement • X-ray can confirm diagnosis • Treatment of rest, ice, elimination of tension and load at the fracture site, decreased weight bearing, ROM exercises, strengthening as pain settles
Investigations	<ul style="list-style-type: none"> • X-ray is generally unremarkable. • CT scan or MRI is required for diagnosis
Conservative management	<ul style="list-style-type: none"> • Treatment usually consists of rest from aggravating activities and protective weight bearing if needed • Usually resolves but physiotherapy is required to work on biomechanical factors • See above for individual fractures
Referral on for secondary care opinion	<ul style="list-style-type: none"> • Failure to progress after 6 months of conservative management

DIAGNOSIS: MISCELLANEOUS

TYPE OF INFORMATION	GUIDELINES
Background information	<p>Greater Trochanteric pain syndrome (trochanteric bursitis)</p> <ul style="list-style-type: none"> • Pain localised to lateral aspect of the hip, can radiate down lateral side of the thigh • Aggravated by activities such as stairs, going up and down stairs • Site of tenderness is often immediately above the greater trochanter • It is estimated that greater trochanteric pain syndrome resolves in over 90% of people with conservative measures <p>Conservative management:</p> <ul style="list-style-type: none"> • Referral through to physiotherapy • Rest, NSAIDs, stretching of glut med, pelvic stability, correction of biomechanical abnormalities, weight loss if appropriate • Peri-trochanteric injections in primary care can help into area of maximal tenderness • Ensure that the lumbar spine has been assessed and has been eliminated as a cause of the symptom • If symptom persist for 3 to 4 months despite appropriate conservative management/CSI consider referral on for orthopaedic opinion- further investigation may be required <p>Please see : https://cks.nice.org.uk/greater-trochanteric-pain-syndrome-trochanteric-bursitis</p> <p>Gluteus Medius Tears / Tendinopathy</p> <ul style="list-style-type: none"> • Gluteal tendinopathy is the most common hip tendonitis • The most common onset of gluteal tendinopathy is due to poor hip and gluteal muscle control that leads to overstraining of the gluteal tendons, causing pain and hip-pelvis instability • This weakness or insufficiency of gluteus medius can produce LBP / Hip / Groin / Knee Pain <p>Conservative management:</p> <ul style="list-style-type: none"> • Referral through to physiotherapy • 3 to 4 months of appropriate conservative management addressing pain, AROM of the lumbar spine and hips, strengthening programme for whole lower limb kinetic chain and core • If symptoms persist despite appropriate treatment may need to rule out facet joint L5/S1 OA or Pars Defect first (MRI Lumbar Spine) • US guided injection may be appropriate if symptoms persist despite appropriate conservative management. Referral on for an orthopaedic opinion will be required for this <p>Iliopsoas Bursitis</p> <p>Iliopsoas bursitis is an inflammation of the bursa located beneath the iliopsoas muscle. This muscle is located in front of the hip. A bursa is a fluid-filled sac between bones, muscles, tendons, and skin. It provides cushion between tissue to decrease friction and irritation. Iliopsoas bursitis can make it difficult to walk and exercise</p> <ul style="list-style-type: none"> • Pain may be experienced from the bursa at the attachment of the muscle at the lesser trochanter or in the anterior thigh • Symptoms can be exacerbated by: <ul style="list-style-type: none"> • Walking up a flight of stairs • Exercising • Extending your leg • Rising from a seated position • May be aggravated by hip flexion

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TYPE OF INFORMATION	GUIDELINES
Background information	<p>Conservative management:</p> <ul style="list-style-type: none"> • Referral through for physiotherapy to strengthen and stretch hip flexors muscles • Over-the-counter anti-inflammatory medications if appropriate • Corticosteroid injection into the bursa to relieve inflammation- this will need to be ultrasound guided and further investigations may be required prior to this • If no response with 3 months of appropriate conservative management refer for orthopaedic opinion <p>Haematomas</p> <ul style="list-style-type: none"> • Commonly affect the thigh muscles and can occur after a collision with a blunt object • Can be painful but don't normally limit function • After a severe force often get bleeding into a confined space which can result in significant pain, muscle spasm and reduced ROM • Complications occur if there is increased pressure in the compartment leading to decreased blood flow • Treatment – RICE, walking aid's may be required, gentle active and passive ROM to help reduce muscle spasm <p>Myositis Ossificans</p> <ul style="list-style-type: none"> • Characterised by the formation of local heterotrophic bone in soft tissue, may be due to blunt trauma • Soft tissue mass may be evident shortly after the injury, calcification may be seen 3-4 weeks on x-ray • Mass is usually well defined 6-8 weeks post injury • Can sometimes last 6 months and then subside • Treatment: avoid aggravating activities, gentle ROM to prevent contractures. Graduated strengthening as pain allows • Physiotherapy modalities, such as massage and excessive loading can aggravate

DIAGNOSIS: NERVE PATHOLOGY

TYPE OF INFORMATION	GUIDELINES
Background information	<p>Obturator Neuropathy</p> <ul style="list-style-type: none"> • It is fascial entrapment of the obturator nerve as it enters the adductor compartment • Pathology, distinct fascia can be found deep to the adductor longus and pectineus overlying the anterior portion of the obturator nerve. • The arterial blood supply to the adductor muscles is related intimately to the nerve along with thickening of the fascia • These changes can result in nerve entrapment syndrome • It can be a diagnostic challenge as it may mimic Osteitis pubis and adductor tendinopathy • It is important to distinguish between post-exercise pain and altered neurology
Subjective history	<ul style="list-style-type: none"> • Chronic groin pain in athletes • Pain onset often during or post exercise • Altered sensation or neural symptoms reported
Examination findings	<ul style="list-style-type: none"> • Exercise related groin pain in the area of the proximal groin • May have associated weakness • No pain at rest but may get pain on passive abduction or resisted adduction • Weakness of the adductor muscles is often reproduced following exercise as well as numbness over the distal thigh

DIAGNOSIS: NERVE PATHOLOGY

TYPE OF INFORMATION	GUIDELINES
Investigations	<ul style="list-style-type: none"> • EMG shows changes in the adductor muscles
Conservative management	<ul style="list-style-type: none"> • Physiotherapy, neural glides, massage, adductor soft tissue release, spinal mobs
Referral on for secondary care opinion	<ul style="list-style-type: none"> • If no improvement refer to Triage Clinic or Secondary Care for opinion • Diagnostic Nerve Block (USG) by Orthopaedics not Pain Management • Surgery to free obturator nerve may be considered