The ABC of community emergency care

9 ASSESSMENT AND CARE OF MUSCULOSKELETAL PROBLEMS

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Musculoskeletal problems account for an estimated 3.5 million emergency department (ED) attendances each year. More patients will consult their general practitioner (GP) or treat the problem themselves. Most of these conditions (sprains, bruises, and aches) will be self limiting, requiring clinical diagnosis, and straightforward treatment and advice. However, there are diagnostic dilemmas facing the practitioner on the ''front line''. Even simple injuries often need hospital assessment, usually for radiographs. Some problems are rare but important to diagnose if life threatening or limb threatening problems are to be avoided. The skill is to recognise those conditions where urgent referral and treatment are required. The aim of this series is to arm the practitioner with these skills (see box 1). Major trauma is not covered in this article.

Box 1 Objectives of this article

- The recognition of life threatening or limb threatening problems
- The identification of those patients requiring obvious hospital transfer
- The principles of a secondary survey relevant to musculoskeletal problems
- Differentiation between injury and non-injury presentations
- Differential diagnoses in non-injury musculoskeletal problems including pitfalls
- Follow up arrangements

An overview of the following will be included

- Functional anatomy
- Forces causing injury and the injury spectrum
- Indications/regulations for radiographs

Specific conditions to be covered

- Back pain
- Neck pain
- Rib injury
- Degenerative disease/osteoarthritis
- Hot joints

PRIMARY SURVEY

Primary survey positive patients

Musculoskeletal injuries will rarely lead to a primary survey positive patient, except in major trauma. There are however immediately life threatening problems that might mimic a musculoskeletal condition. These pose a trap for the unwary and are listed below.

- Leaking abdominal aortic aneurysm (AAA) presenting as back pain
- Aortic dissection presenting as inter-scapular pain
- Perforation/peritonitis presenting as shoulder tip pain
- Acute myocardial infarction (MI) presenting as shoulder or arm pain

A high index of suspicion and assessment of the ABCs can help identify these important conditions. A careful history will usually disclose no episode of trauma and a very acute onset of pain.

A leaking AAA presents acutely with abdominal and lower back pain with or without collapse and features of hypotension. The pain of an aortic dissection pain is described as tearing. Ischaemic chest pain is classically tight or band-like. Diaphragmatic irritation from a ruptured hollow viscus can cause shoulder pain, particularly on lying flat. Patients with these suspected conditions need urgent transport to a facility with the capabilities to fully manage these problems.

Immediate management will consist of essential interventions only. Administer oxygen, obtain intravenous access, and give analgesia and possibly cautious fluid resuscitation en route. Do not delay transport to perform these procedures.

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PATIENTS WITH A NORMAL PRIMARY SURVEY BUT OBVIOUS NEED FOR HOSPITAL ATTENDANCE

Certain conditions pose a serious threat to life or limb and must not be missed when considering a ''wait and see'' approach. The conditions listed in table 1 are the ''red flag'' conditions of the musculoskeletal system.

⚠ Tip

For further details on all these conditions, their presentations, and treatment look under the emergency medicine section at http://www.emedicine.com

A major joint dislocation should be reduced as soon as possible particularly if there is no distal circulation or sensation to the limb. Acutely ischaemic limbs for whatever cause have about four hours to be revascularised before irreversible muscle and nerve damage occurs. Therefore make one gentle effort at relocation. Otherwise the limb needs to be splinted in its current position and urgent transfer arranged.

Compartment syndrome is caused by swelling in a myofascial compartment leading to a critically impaired circulation to the enclosed muscles in that compartment and possible distal ischaemia. There will usually be a good history of trauma. The hallmark of this condition is pain out of all proportion to the examination findings and exquisite pain on passive stretch of the muscles in the affected compartment. These patients require urgent transfer because surgical decompression is necessary as soon as possible, but certainly within four hours.

A septic joint is usually hot, swollen, and very tender. All movements are restricted and it may be virtually impossible to move the joint because of pain. Typically the patient is systemically unwell and complains of the pain keeping them awake at night and being of a throbbing nature. These patients require urgent transfer to hospital because they need early surgery to remove the infection and preserve the joint.

Patients with objective *neurological deficit due to nerve root compression or due to other spinal pathology* should be referred immediately. Consider the diagnosis of a *cauda equina* syndrome. The lumbar and sacral nerve roots lie in the spinal canal below the level of L1/2. A central disc prolapse between the levels of L3 to S1 can compress these nerve roots causing retention of urine and weakness of the legs. The patient will present with lower back pain and neurological symptoms and signs. These include saddle area sensory loss and a reduced or absent anal tone on rectal examination. Depending on the level of the injury there will also be obvious neurological deficits in the motor assessment of the lower limbs.

The minimum necessary interventions should be carried out on these patients but could include administration of oxygen or entonox, splinting, dressing open wounds, intravenous analgesia, and controlled traction or reduction of neurovascularly compromised extremities. These procedures should not delay transfer arrangements.

Table 1 ''Red flag'' conditions requiring immediate hospital treatment

Trauma	Non-trauma
Obvious fracture/dislocation	Referred pain from chest or abdomen
Open fracture	Ischaemia/vascular problems/ suspected DVT
Severe pain not relieved by simple analgesia	Septic arthritis/invasive soft tissue infections
Suspected compartment syndrome	''Kids'' problems such as slipped epiphysis
Neurovascular compromise	Neurological deficit, for example, cauda equina syndrome

⚠ Tip

For further information on the treatment of compartment syndrome and crush syndrome see the ATLS manual,[1] Wardrope,[2] or the eMedicine web site (http://www.emedicine.com). For dislocations, septic joints and neurovascular compromise see Wardrope,[2] Apley,[3] and McRae.[4]

SECONDARY SURVEY PATIENTS

Assessment of the stable patient

The assessment is carried out according to a recognised system (SOAPC) now familiar to readers of this series. The first step is to decide if the problem is attributable to trauma or one of the many causes of non-traumatic limb or spinal pain. The range of diagnoses is very different in these two groups.

⚠ Tip

The first step in the assessment of musculoskeletal symptoms is to decide if the problem is attributable to an episode of trauma or a non-traumatic problem.

Trauma compared with no history of trauma

Patients who present with no history of trauma should alert the clinician to the possibility of missing Referred pain, Ischaemic syndromes, Sepsis, and Kids problems such as epiphyseal abnormalities. Remember the mnemonic ''RISK''. These are the conditions commonly overlooked and can indicate limb threatening or even life threatening problems such as cardiac pain, a slipped upper femoral epiphysis, or a septic joint.

SUBJECTIVE INFORMATION GATHERING—THE HISTORY

Definite trauma

Acute trauma is caused by a single, clear event. This can lead to a wide range of injury from minor self limiting sprains to fractures and/or dislocations of joints. The features of a fracture are pain, swelling, loss of function, and bony tenderness. Dislocations are usually more obvious with similar features to fractures plus an abnormal joint morphology with deformity. In the absence of these features then a soft tissue injury is more likely but consider damage to other structures such as ligaments, tendons, nerves, and vessels.

Mechanism of injury

A clear history of the mechanism of injury is essential to accurate diagnosis in trauma. Elicit the magnitude and direction of the forces causing the injury. Simple errors are made by a failure to follow this advice. For example, if the only history obtained was ''hurt neck in road traffic accident''

the clinician might jump to the conclusion the injury was likely to be a simple neck sprain. However, consider how different your actions might be if a full history were to be obtained such as ''hurt neck in road traffic accident, was unrestrained front seat passenger in car which overturned at speed'' (see fig 1).

Box 2 Elements of history taking in acute trauma

- Mechanism of injury
- Symptoms and progress of symptoms over time
- Previous episodes of injury
- Past history/drugs/allergy
- Level of activity in job or sport

Symptoms and progress

Pain, swelling, and loss of function are the main symptoms after injury. Ask if these symptoms have progressed since the incident. A sudden and complete loss of function at time of impact increases the risk for a more severe injury. Ask about associated symptoms such as paraesthesia and trauma elsewhere.

History and previous injuries

Ask the patient if they have any other significant medical conditions or are taking any medication. Most injuries are acute, but some are an acute episode complicating a chronic problem. The investigation and treatment of an ''acute on chronic'' injury may be slightly different.

Level of activity

Patient expectations are an important consideration in the management of musculoskeletal injuries. A professional athlete will demand as near 100% function as is possible after injury but most patients will manage very well with minor ligament instability as long as they have good protective neuromuscular function. Nevertheless it is important to consider occupation, hobbies, and handedness so that expectations and needs can be identified.

No definite trauma

Patients who present with a limb or spinal pain but with no history of trauma can present diagnostic problems. In most patients the illness will be minor and self limiting or of a chronic nature not needing urgent treatment or investigation. However, a few patients with these ''minor'' symptoms may be suffering from life or limb threatening pathology. The mnemonic ''RISK'' highlights the categories of serious diagnoses that may require exclusion, Referred pain, Ischaemic or vascular problems, Sepsis, and Kids or childhood problems (see box 3)

Consider the RISK diagnoses. Failure to even consider them WILL lead to them being missed.

Box 3 ''RISK'' diagnoses in non-traumatic limb and spinal pain

R—Referred pain from chest/abdomen/spine*
I—Ischaemia/vascular problems/DVT
S—Sepsis
K—Kids problems such as an epiphyseal injury
*Examples include shoulder pain due to irritation of the diaphragm or knee pain due to hip pathology.

History in non-traumatic limb and spinal pain

The most common symptom is pain. PQRST is a good mnemonic to help remember the questions that should be asked about pain (see below). Many serious pathologies cause severe pain with few findings on examination. Pain at

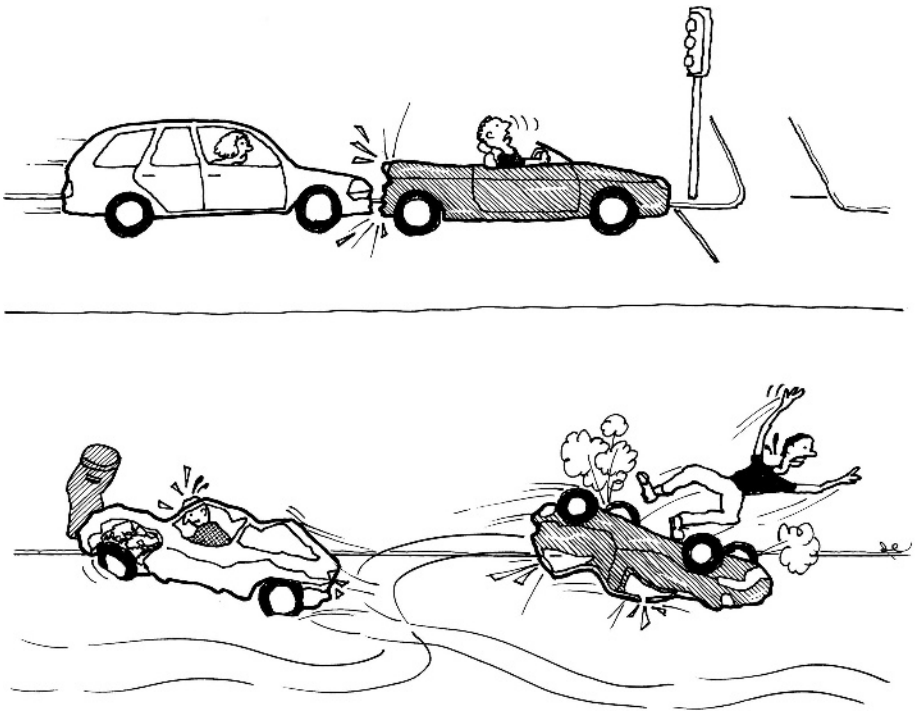

Figure 1 A history of ''hurt neck in road traffic accident'' can mean anything from the injury being sustained in a minor rear end shunt to a major high speed and high risk impact. Always try to gain a clear mental picture of the mechanics of the injury.

night that keeps the patient awake is of special significance. It usually indicates a severe inflammatory process and should always be taken seriously.

Tip

Severe pain at night—consider severe pathology

The ''PQRST'' of pain

P—provoking or palliative factors

Ask if the patient has participated in any unusual activity in the period leading up to the onset of symptoms, or has recently significantly increased the level of an activity (for example, doubling their running distance) that would be unusual for that patient. Note other aggravating or relieving factors.

Q—quality of pain

Is the pain throbbing in nature, toothache-like, or sharp and associated with certain movements? How severe is the pain?

R—radiation and site

Ask if the pain radiates either proximally or distally in the limb. This may be an indication that the problem lies more centrally. Common examples are arm pain radiating from the neck or heart. Shoulder pain from irritation of the diaphragm. Knee pain from the hip and leg pain from the lumbar spine.

S—systemic symptoms/associated symptoms/history

Does the patient have markers of a systemic illness such as fever, chills, loss of appetite, or weight loss?

Joint problems are sometimes associated with systemic illnesses. Ask if there are any other symptoms such as back problems (ankylosing spondylitis), eye problems, inflammatory bowel symptoms, genitourinary symptoms, recent illnesses, and respiratory tract infection. Some types of acute arthritis are part of complex syndromes, for example, Reiter's syndrome

Note medical history, especially if there have been similar problems in the past. Exclude problems with other joints or a history of arthritis. Exclude many of the more common diseases such as diabetes. Does the patient take warfarin or have any coagulopathy?

T—timing

Does the pain keep the patient awake at night? Is it worse first thing in the morning or after exercise?

Objective information gathering—the examination

Develop a systematic method of musculoskeletal examination:

Box 4 ''PQRST'' history taking of the symptom of pain

- P—provoking and palliative factors
- Q—quality
- R—referred pain
- S–systemic symptoms/associate symptoms
  T—timing

- Joint above
- Look
- Feel
- Move
- Function
- Nerves and vessels

Tip

See article 2 of this series on examination, including the musculoskeletal system. See also Wardrope,[2] Cyriax,[5] and McRae[6] for a fuller examination description of anatomical regions.

Have the patient in a relaxed position. Start by examining the joint proximal to the injury (or spine if indicated). Follow standard orthopaedic practice, using the ''look, feel, move, function'' system. Finish by checking the circulation to the limbs and test neural function distal to the injury.

Where there is no history of trauma, follow the same system but check vital signs and look for other clinical signs as summarised in box 5.

Box 5 Summary of vital signs and clinical signs

- Vital signs—particularly temperature and pulse rate
- Stigmata of systemic disease or of systemic arthritis
- Rashes
- Proximal joints
- Neurovascular examination
- Spine
- (Chest and abdomen if indicated)

Objective information—tests

Radiographs—indications

If a fracture or dislocation is suspected then the patient needs referral to hospital. Many will need immediate referral, but if there is no deformity, no neurovascular compromise, and the injured limb can be effectively immobilised (including non-weight bearing for the lower limb) the patient might be referred for radiography at a more convenient time. Outpatient referral to the radiology department of the local hospital allows non-urgent radiographs to be performed. Many departments have a system of ''hot reporting'' so that radiographs are reviewed immediately. If abnormalities are seen the patient is referred to the appropriate hospital team. If radiographs are normal the patient may return to their GP for further treatment.

Use local guidelines and policy to decide when a radiograph is indicated. The definite fractures are easy to diagnose but unfortunately many fractures are undisplaced and it is difficult to confidently exclude a fracture without a radiograph. Many experienced clinicians would advise ''radiography when in doubt''. Other indications include suspected foreign body within a wound, for example, glass or metal. For further information see the Royal College of Radiologists guidance (http://www.rcr.ac.uk) and guidelines for doctors.[7]

There are other excellent reference sources available for the need for radiography of certain anatomical areas such as the ankle. Probably the best known are the Ottawa ankle rules[8] used to help decision making in the assessment of acute ankle injuries that may either be sprained (most) or fractured (fig 2).

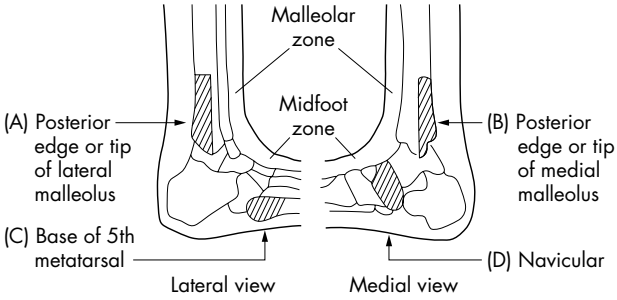

Figure 2 Ottawa ankle rules.

Other decision rules exist for similar use in acute knee[9] and neck[10] injuries.

Be aware that many of these decision tools have limited applicability to groups such as the elderly population whose bones may fracture more easily and very young children where epiphyseal injuries may be more common. The Ottawa ankle rules have however been validated in children down to the age of 6 years.

In January 2000 the Ionising Radiation (Medical Exposures) Regulations came into force to protect patients undergoing exposure to radiographs. Any clinician ordering radiographs independently needs to be accredited and attend training on this subject. For further information on IRMER legislation see the Department of Health web site (http://www.dh.gov.uk/assetRoot/04/05/78/38/04057838.pdf).

Investigations—no definite trauma

Many patients will not require any immediate investigation and may be referred to their GP for further assessment. However, if you suspect any of the RISK diagnoses, investigations such as blood tests, examination of joint fluid, ultrasound, bone scans, and computed tomography or magnetic resonance imaging may be required. In addition, radiographs of the area may be required, but note that many serious conditions may have an initially normal radiograph.

ANALYSIS AND DIFFERENTIAL DIAGNOSIS

Trauma

A ''sprain'' is a tear in a ligament and the term covers a huge range of injury, from the minor partial tear of a part of a ligament to a permanently disabling injury. A careful history and examination permits the definition of the severity and builds an accurate picture of the possible damage caused.

- A grade 1 sprain is where a few fibres of part of the ligament are torn.
- A grade 2 sprain is complete rupture of part of the ligament complex, for example rupture of the anterior talofibular ligament of the ankle lateral ligament complex.
- A grade 3 sprain is complete disruption of the ligament complex with associated instability.

Great difficulty arises in the grading of ligament injury. Grade 3 injuries are usually clinically obvious, with much more bruising and swelling. Instability is the main concern mandating aggressive treatment, splintage, referral, repair, and/or physiotherapy. A repeat examination after five days may be needed to establish the true extent of some injuries. Use a ''wait and see'' policy as long as you have excluded a potentially serious injury.

Muscle tears or strains are common and usually self limiting. Some muscles and tendons can rupture completely; the most common closed ligament injury is rupture of the Achilles tendon. This diagnosis may be missed if not specifically tested (see fig 3).

Fractures are often easy to diagnose but are difficult to exclude. Pitfalls include the scaphoid fracture in adults, hip fractures in the elderly patient, and spinal fractures. Osteogenesis imperfecta (brittle bone disease) should lead to a very high index of suspicion for fracture even with minimal trauma.

No definite trauma

Common diagnoses are osteoarthritis (OA) and degenerative disease. Ask about previous symptoms. These are discussed later in the article.

Figure 3 Simmond's test.

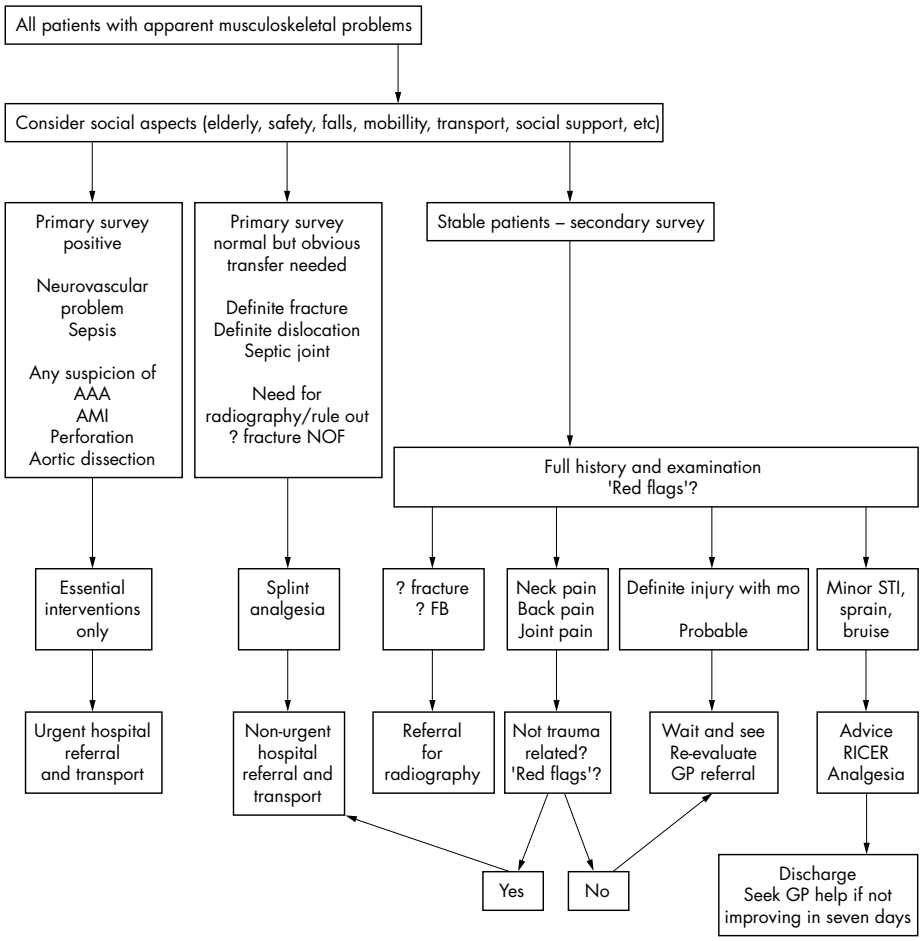

Figure 4 Flow chart for the assessment of musculoskeletal problems.

Consider referred pain, ischaemia, sepsis, and kids (RISK) as causes of pain when no other cause seems apparent. Limb pain could be attributable to a septic joint, a critical ischaemia, or referred from spine, abdomen, or chest

Causes of a ''hot joint'' include gout, pseudogout, infection, acute arthritis, and haematological conditions—see below.

Beware children. The slipped upper femoral epiphysis is the classic pitfall where minimal or no trauma is involved yet a significant pathology occurs that needs to be appreciated as early as possible for corrective treatment to start.

PLAN

Many musculoskeletal problems can be treated by simple advice, analgesia, and review by the patient's GP.

The flow diagram (fig 4) shows a system for decision making and safe disposal in musculoskeletal problems.

Most minor musculosketetal injuries can be treated by advising the patient to rest the injured area for the first 24–48 hours, to take regular analgesia, to elevate the injured part if possible. Sometimes the application of cold compresses may reduce swelling. However, the most important advice is to try and retain mobility by gentle exercise and a gradual return to full function. Tell the patient to seek further review if the pain gets worse or does not start to improve in three to five days. It may take weeks for symptoms to subside fully.

COMMUNICATION

The successful management of most minor musculoskeletal injuries depends on the patient understanding the importance of phased rehabilitation as described above. Equally they should be encouraged to seek early review by their general practitioner if the symptoms are worsening.

SPECIFIC PROBLEMS

Back pain

One very common problem is acute *mechanical back pain*, this usually occurs in young fit people. The pain usually starts suddenly and is often severe. However, there are no ''red flag'' symptoms (see box 6). Advice is given to try and stay mobile and good analgesia prescribed. Cases with unusual or continuing severe symptoms should be reviewed early by their GP.

Pain radiating down the back of the leg to below the knee may point to sciatic nerve irritation. A careful neurological examination is needed. Refer for early review by the GP.[11] If there is pain down both legs or any disturbance of motor power, bladder, or bowel function then refer to hospital immediately.

There are many other causes of back pain. Severe pain, an insidious onset, systemic symptoms, and onset with no history of trauma should all lead to consideration of other causes such as referred pain, infection, tumour, and spinal cord compression. An acute onset with collapse, sweatiness, and pallor should alert you to the possibility of a leaking AAA. Always take seriously any changed sensory or motor findings in the lower limbs. The examination of the lower back is not complete without a full neurovascular assessment, abdominal examination and an examination of the saddle area for sensation. (Rectal examination to assess tone

is usually advised but may be difficult in the community setting.)

Consider referral if the cause is not completely clear for further assessment and possible radiography, full blood count, erythrocyte sedimentation rate, C reactive protein, and even computed tomography or magnetic resonance imaging in certain cases. Remember to complete a full systems examination first, recording important findings such as the pulse rate and temperature.

Box 6 shows ''red flags'' that might point to serious spinal pathology in back pain (adapted from the Report of Clinical Standards Advisory Group on Back Pain.[11])

Box 6 ''Red flags'' that might point to serious spinal pathology in back pain

History
- Age <20 or >50 at onset
- Trauma (fall from height/RTA)
- Thoracic pain
- Constant, progressive pain
- Weight loss

PMH
- Carcinoma
- Corticosteroid use
- Drug misuse/HIV

Examination
- Systemically unwell
- Persisting severe restriction of lumbar flexion
- Widespread neurology
- Structural deformity (scoliosis/step)

Neck pain

Causes include whiplash injury, torticollis, referred pain, degenerative disease, and infection. As with back pain, a good history of trauma will permit an assessment of the neck for injury such as fracture with or without dislocation. Guidance on how to ''clear the C-spine'' after trauma has been issued by NICE[12] and Stiell[10] and is summarised by Wardrope.[13]

Box 7 ''Clearing the C-spine after trauma''

Patients fulfilling these criteria will have a very low incidence of unstable spinal injury and may not need radiography
- Younger than 65
- Alert and orientated (GCS = 15)
- No ''dangerous mechanism of injury''*
- No midline spinal tenderness
- No neurological symptoms or signs
- Patient can rotate neck 45 degrees to left and right
- Absence of a distracting injury (for example, long bone fracture)

*Fall from a height above one metre, fall from five or more stairs; axial load to the head such as diving or contact sports; RTA at high speed, roll over of vehicle, or ejection of patient; RTA involving bicycle or recreational vehicle; rear end shunt by a bus, vehicle at high speed, or where car has been shunted into oncoming traffic; in young children have a lower index of suspicion in falls.

Whiplash is very common after usually minor road traffic accidents. Pain comes on after a period of time, usually several hours to days. It is classically aching and worse on one side than the other. Sometimes it is entirely unilateral but is more usually bilateral. Assess for range of movement and neurovascular problems. Treatment is by gentle mobilisation, non-steroidal anti-inflammatory drugs (NSAIDs), advice, and an explanation that symptoms often worsen before they begin to improve and will commonly take weeks to months to settle fully.

Torticollis is an acute neck pain with associated muscle spasm. It occurs most commonly in young fit patients who often wake up with the pain, stiffness, and greatly decreased range of movement. Muscle spasm is seen and felt in the corresponding neck muscles unilaterally. There is no history of trauma nor of infection. Treat with NSAIDs and gentle mobilisation of the neck.

Infection and tumour are rare. Consider them in the same manner as such conditions anywhere else in the body and have a low threshold for referral to hospital if suspected from the history or unusual physical findings such as fever, systemic symptoms, or unexplained tachycardia.

Degenerative disease/osteoarthritis

These chronic progressive conditions can affect any region of the body, but most commonly are encountered in the hip, knee, and cervical and lumbar spine. They may present as a new problem, an acute flare up of the chronic condition after minor trauma, or as a more significant injury or infection superimposed on coincidental findings of degenerative disease.

Ask about trauma stiffness or problems with other major joints. Check other joints for swelling, stiffness, and crepitus on movement. An arthritic joint is more likely to become inflamed after trauma and symptoms and signs may be harder to interpret than in the non-arthritic joint.

The classic example of this is the elderly patient who has fallen and has hip pain. The diagnosis to exclude is a fractured neck of femur. In contrast with popular belief, patients can walk on such injuries especially if the fracture is impacted and stable. If not radiographing, consider early review to ensure good mobility and settling symptoms.

Rib injuries

These injuries are common and often present after minor trauma. Acute rib injuries are very painful and present with pain that is often apparently out of proportion to the initial injury. Presentation is often several days after the injury when the pain may be worse than at the time of injury. Fracture is not as common as bruising and soft tissue injury to the chest wall, but the features can be almost identical. ''Spring'' the chest wall in a lateral and anteroposterior (AP) direction to assess for pain and crepitus. This is also felt when the patient takes a deep breath with the examining hand held firmly over the injured area (see fig 5). Examine the chest also, listening for areas of reduced air entry or added sounds suggesting underlying pneumothorax, contusion, or early infection. Examine the abdomen in cases of lower rib injury. Check pulse, temperature, respiratory rate and oxygen saturation (SaO_2) if available.

Rib radiographs are not routinely indicated but arrange a chest radiograph if the patient is short of breath at rest or on minimal exercise, if there is suspicion of a pneumothorax, there is clinical suspicion that multiple ribs are fractured,

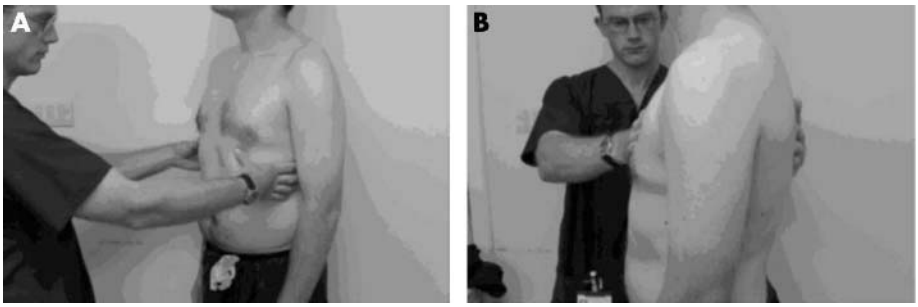

Figure 5 Springing the ribs.

there is a flail segment present or infection has complicated the injury. For uncomplicated rib injury the management includes advice on breathing exercises and good analgesia.

Patients may need referral, particularly the elderly or those with pre-existing lung disease and a poor respiratory reserve. They may need stronger analgesia and supplemental oxygen.

The acutely hot/swollen/painful joint

Pain, swelling, and redness in the region of a joint may be attributable to a condition within the joint (acute arthritis) or in the tissues around the joint (periarthritis).

The commonest problems causing an acutely swollen, hot joint are the crystal arthropathies of *gout* and *pseudogout* and acute inflammatory conditions such as *rheumatoid arthritis*. *Sepsis* is rare but is a diagnosis not to be missed. Acute haemarthrosis is uncommon without a history of trauma or of coagulopathy or anticoagulant treatment.

Bursitis is a common condition that presents with pain, swelling, and redness *around* joints. However, there is no swelling in the joint itself and a reasonable range of joint movement is retained. Very common examples are olecranon bursitis behind the elbow and pre-patellar and infra-patellar bursitis at the knee. Sometimes degenerative changes in tendons lead to calcium pyrophosphate crystals developing in the tendon. This can give a clinical picture of a red, hot, swollen area over a joint (see table 2).

Degenerative disease such as *osteoarthritis* often causes joint swelling but the joint is not usually hot and red.

Gout occurs when crystals of uric acid from the blood precipitate in a joint, causing an intense and acute inflammation of the joint. *Pseudogout* is a very similar condition caused by deposition of calcium pyrophosphate crystals. Both can present as a red, hot, painful, and swollen joint. The skin overlying a gouty joint is often tight, red, and shiny. The pain has a classic deep, gnawing character and the patient often has suffered previous episodes. It commonly affects the first metatarsophalangeal joint of the foot but also affects the ankle and less commonly the knee. Pseudogout tends to affect the wrist, where calcification is sometimes seen in the triangular ligament on radiography; and the knee, where calcification may be apparent in the meniscal cartilage.

Where the patient has a clear history of previous gout, treatment is with NSAIDs. In a typical case of gout or pseudogout where the patient is well, has no systemic symptoms of infection, and they are not feverish, give a short course of NSAIDs and arrange next day review by the GP.

The diagnoses not to miss are *osteomyelitis* and *septic arthritis*. Septic arthritis can arise de novo or from spread from an area of osteomyelitis into the joint. They both present in a similar way. There is either no history of trauma or a history of insignificant trauma for the degree of pain. There may be a history of joint penetration, either in an accident or caused by a medical intervention. The patient cannot move the joint at all and strongly resists any passive movements. Early in the course of these illnesses, all these classic findings may not be present. Consider sepsis a possibility in any acute joint problem and arrange for early review. If in doubt, refer for a further opinion to the patient's GP, rheumatology, or accident and emergency.

Haemophilia and *sickle cell disease* are both haematological disorders that can result in acute joint pain from either bleeding into the joint or ischaemia and infarction of tissues around the area. Refer urgently if the patient has a history of these conditions.

Table 2 Causes of an acute hot swelling in or around a joint

Acute arthritis	Peri-arthritis
Gout	Bursitis
Pseudogout	CPPDD (calcium pyrophosphate deposition disease
Sero-positive arthritis (for example, rheumatoid)	
Sero-negative arthritis (for example, Reiter's syndrome)	
Sepsis	
Haemarthrosis	

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Emedicine (http://www.emedicine.com)
Royal College of Radiologists (http://www.rcr.ac.uk)
Department of Health (http://www.dh.gov.uk)

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Clinical Evidence—Call for contributors

Clinical Evidence is a regularly updated evidence-based journal available worldwide both as a paper version and on the internet. *Clinical Evidence* needs to recruit a number of new contributors. Contributors are healthcare professionals or epidemiologists with experience in evidence-based medicine and the ability to write in a concise and structured way.

Areas for which we are currently seeking authors:

- Child health: nocturnal enuresis
- Eye disorders: bacterial conjunctivitis
- Male health: prostate cancer (metastatic)
- Women's health: pre-menstrual syndrome; pyelonephritis in non-pregnant women

However, we are always looking for others, so do not let this list discourage you.

Being a contributor involves:

- Selecting from a validated, screened search (performed by in-house Information Specialists) epidemiologically sound studies for inclusion.
- Documenting your decisions about which studies to include on an inclusion and exclusion form, which we keep on file.
- Writing the text to a highly structured template (about 1500–3000 words), using evidence from the final studies chosen, within 8–10 weeks of receiving the literature search.
- Working with *Clinical Evidence* editors to ensure that the final text meets epidemiological and style standards.
- Updating the text every six months using any new, sound evidence that becomes available. The *Clinical Evidence* in-house team will conduct the searches for contributors; your task is simply to filter out high quality studies and incorporate them in the existing text.
- To expand the topic to include a new question about once every 12–18 months.

If you would like to become a contributor for *Clinical Evidence* or require more information about what this involves please send your contact details and a copy of your CV, clearly stating the clinical area you are interested in, to Klara Brunnhuber (kbrunnhuber@bmjgroup.com).

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Clinical Evidence also needs to recruit a number of new peer reviewers specifically with an interest in the clinical areas stated above, and also others related to general practice. Peer reviewers are healthcare professionals or epidemiologists with experience in evidence-based medicine. As a peer reviewer you would be asked for your views on the clinical relevance, validity, and accessibility of specific topics within the journal, and their usefulness to the intended audience (international generalists and healthcare professionals, possibly with limited statistical knowledge). Topics are usually 1500–3000 words in length and we would ask you to review between 2–5 topics per year. The peer review process takes place throughout the year, and our turnaround time for each review is ideally 10–14 days.

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