

Controlling joint pain in older people

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Dr Peter Paisley
MBChB MSc FRCA
Anaesthetic Registrar,
Glasgow Royal Infirmary, Glasgow, UK

Dr Mick Serpell
MB ChB FCPodS ECFMG FRCA FFPMRCA
Consultant and Senior Lecturer in Anaesthesia & Pain Medicine,
University of Glasgow, Glasgow, UK



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AUTHORS

Dr Peter Paisley

MBChB MSc FRCA
Anaesthetic Registrar,
Glasgow Royal Infirmary,
Glasgow, UK

Dr Mick Serpell

MB ChB FCPodS ECFMG
FRCA FFPMRCA
Consultant and Senior
Lecturer in Anaesthesia &
Pain Medicine, University
of Glasgow, Glasgow, UK



FIGURE 1
X-ray showing
osteoarthritis
of the knee

How should patients be assessed?



THE DIAGNOSIS AND MANAGEMENT OF JOINT PAIN IN THE ELDERLY CAN BE CHALLENGING

for a variety of reasons. The detection of pain in this group is difficult as demonstrated by the wide-ranging prevalence figures reported. The figure for those in the community experiencing chronic pain ranges from 25 to 76%^{1,9-14} and for those in residential care, it is even higher at 83 to 93%.^{4,8,15} The most common sites affected are the back,^{1,2,4,5,7-9,12-15} hip, or knee,^{2-8,12,13,15} and other joints.^{6,7,9} There is a difference between the sexes with an increased reporting of pain in women (79%) compared with men (53%).¹

What are the common causes?

COMMON CAUSES

There are many potential causes for joint pain in the elderly and a careful history and examination is paramount, with appropriate investigations where required. Common conditions include osteoarthritis (see figure 1, above) and, to a lesser extent, the inflammatory arthropathies such as rheumatoid arthritis.

‘Septic arthritis, if untreated, can destroy the joint within 24 hours’

What are the management strategies?

The differential diagnosis includes non-articular pain such as vascular limb pain and nocturnal cramp, some neuropathic pain conditions (such as compressive neuropathies and postherpetic neuralgia^{16,17}), soft tissue disorders such as fibromyalgia and myofascial pain syndromes. This article will focus on the principal causes of joint pain, their assessment, diagnosis and management.

ASSESSMENT AND DIAGNOSIS

Stoicism in patients, or the erroneous belief, which may be held by carers and physicians, that pain is part of the normal ageing process can hamper its detection.¹⁸ Visual, hearing or

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Table 1

Criteria for a diagnosis of osteoarthritis

- Age > 45 years
- Activity-related joint pain
- No morning stiffness or morning stiffness < 30 minutes

cognitive impairment may also hinder communication. In patients with cognitive impairment, assessment may depend on the history reported by the carers and direct observations such as facial expressions, behavioural changes and non-specific measurable physiological variables such as heart rate and blood pressure.

There are a number of tools available such as the verbal and numerical rating scales, visual analogue scales, the pain disability index and the short form McGill pain questionnaire.¹⁹ Some advocate the use of the simpler instruments such as the verbal and graphical scales because of a low failure rate in the elderly and those who are cognitively impaired.²⁰ However, a recent systematic review looking specifically at pain assessment in the context of dementia concluded that 'no one tool could be recommended' and there is limited evidence on the validity, reliability and clinical utility of current assessment tools.²¹

'Suspicion of an undiagnosed inflammatory arthritis should prompt specialist referral'

In addition to an assessment of pain intensity, a biopsychosocial model should be adopted to ascertain the effect of the pain on the patient's mood, social function and activities of daily living. This will aid monitoring for improvement resulting from initiation of analgesic therapies. It also ensures that the clinician screens for potential psychological sequelae of persistent pain such as depression, anxiety and fear avoidance behaviour.

Assessment should focus on:

- Distribution of joint involvement
- Symmetry
- Any disruption of normal anatomy
- Limitations of movement
- Presence of joint effusions or

Table 2

Red flag symptoms suggesting possible serious underlying pathology

- Significant trauma
- Immunosuppression
- History of malignancy
- Hot swollen joint
- Systemic upset, fever, night sweats, weight loss
- Extremes of age < 20 or > 55
- Rapid deterioration in symptoms
- Nocturnal pain
- Neurological symptoms
- Current or recent infection
- Claudication
- Abdominal mass

a single hot swollen joint

The latter should prompt exclusion of septic arthritis which, if untreated, can destroy the joint within 24 hours.²² The recently updated NICE guidelines stipulate that in patients over 45, a history of activity-related pain without significant morning stiffness is satisfactory for a diagnosis of osteoarthritis without the need for further investigation, see table 1, above.²³

In osteoarthritis the patient will typically describe pain on movement of the affected joint, pain worse at the end of the day and sometimes a degree of background pain at rest. The disease is often localised to the large load-bearing joints, predominantly the hips and knees. There may be evidence of joint swelling, tenderness, Heberden's nodes (bony lumps at the distal interphalangeal joint), Bouchard's nodes (proximal interphalangeal joint), decreased range of movement and mild synovitis. Imaging, when performed, will typically show narrowing of the joint space, the presence of bony cysts, marginal osteophytes and subchondral sclerosis.²⁴ The presence of any red flag symptoms should warrant prompt investigation and exclusion of more sinister pathology, see table 2, above.

In contrast to osteoarthritis, the inflammatory arthritides typically present with symmetrical swollen, stiff, and painful small joints of the hands and feet, usually worse in the morning.²⁴ Early tenosynovitis may not be clinically evident but in the long-term will cause swollen, inflamed, deformed and tender joints. The characteristic boutonnière and 'swan-neck' deformities may be seen, along with ulnar deviation of the digits. Rheumatoid arthritis is a multisystem disease, the diagnosis and management of which is beyond

Table 3

Criteria for referral of suspected rheumatoid arthritis

Routine

- Persistent tenosynovitis of undetermined cause

Urgent

- Small joints of hands and feet affected
- More than 1 joint affected
- More than 3 months between symptom onset and consultation

the scope of this article.

Any suspicion of an undiagnosed inflammatory arthritis should prompt specialist referral for assessment, in accordance with NICE guidelines, see table 3, above.²⁵ Onset is typically in the fourth or fifth decade, with a female preponderance and a prevalence of around 1% of the population.²² This is in stark contrast to osteoarthritis, for which a third of the UK population over the age of 45 have sought treatment.²⁶

MANAGEMENT STRATEGIES

Once the diagnosis is made, a full explanation of the condition should be given to the patient to help them self-manage their condition.²³ Positive behavioural changes should be encouraged such as weight loss, appropriate footwear and graded exercise with a focus on both local muscle strengthening and general aerobic fitness.²³ Recent evidence suggests exercise can reduce pain, improve function and delay joint replacement in hip osteoarthritis.²⁷⁻²⁹

'Functional limitation or reduced quality of life warrant initiation of pharmacological therapy'

Thermotherapy with either heat or cold should be considered as a useful and safe adjunct.²³ A Cochrane review of acupuncture demonstrated a statistically significant benefit in both controlled (sham needles) and waiting-list controlled trials.³⁰ Despite this finding, some argue whether this

FIGURE 2
Algorithm for the use of NSAIDs according to the cardiovascular and gastrointestinal risk (upper and lower digestive tract)³⁵

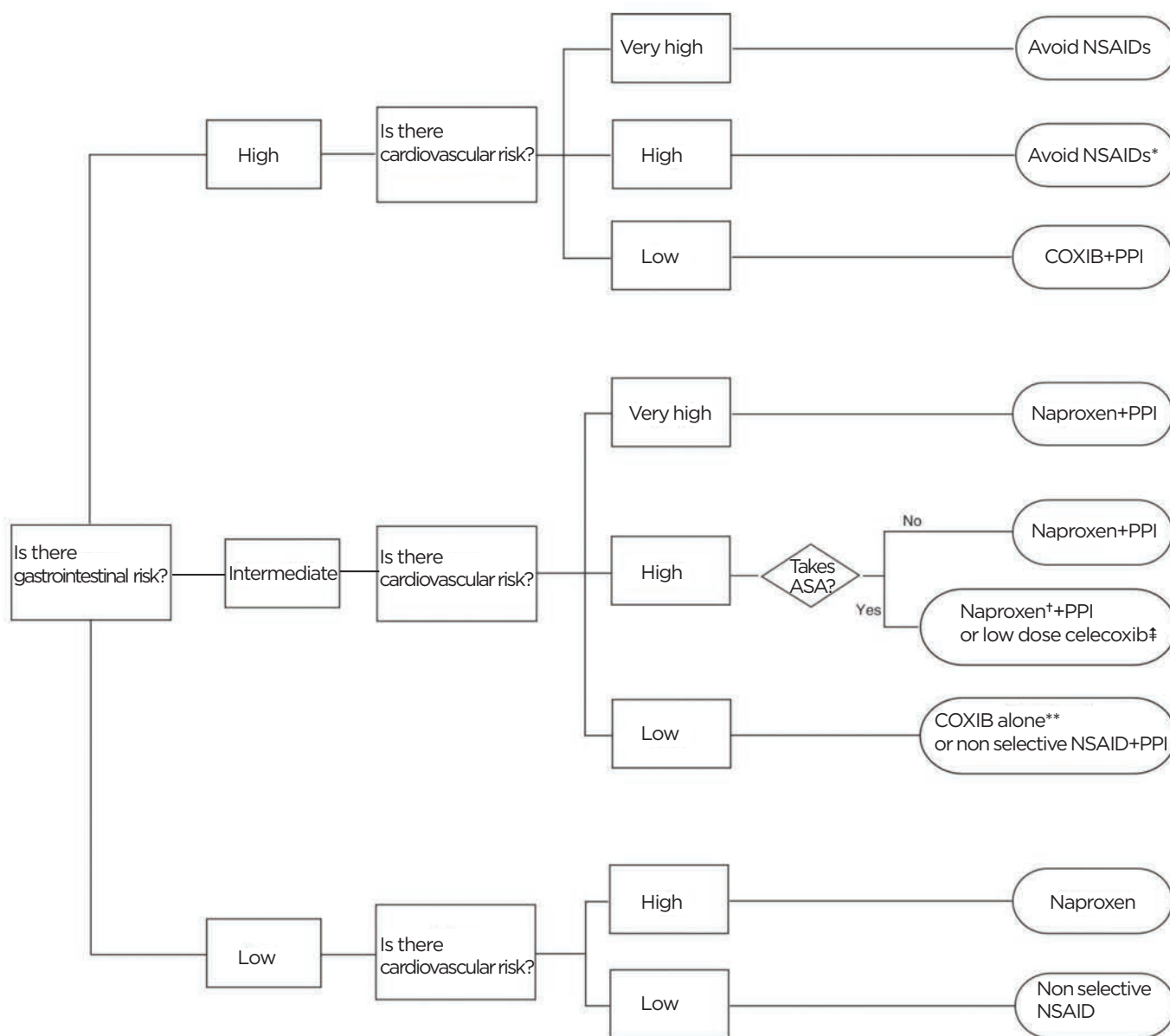
difference is clinically significant and NICE does not at present recommend offering acupuncture to patients with osteoarthritis.²³

Transcutaneous electrical nerve stimulation (TENS) has been shown in a recent one-year follow-up study to

reduce pain intensity, lower analgesic requirements and improve quality of life.³¹ It is a simple, safe, and effective tool with few contraindications.

Nutraceuticals such as glucosamine and chondroitin are not routinely recommended.²³

All patients who describe functional limitation or a reduced quality of life warrant initiation of pharmacological therapy. The physiological changes that occur with ageing and impact on drug handling are too extensive to be covered in this article, but a summary of the >>



* If necessary naproxen + PPI or celecoxib at low doses (200 mg/24 hours) ± PPI as soon as possible in both cases

** More robust information for celecoxib than for etoricoxib

† Naproxen should be taken 2 hours before ASA. If enteric-coated aspirin used, interaction possibilities are greater

‡ If there is a prior cardiovascular event, the European Medicines Agency and Agencia Española de Medicamentos currently contraindicate this option

It is assumed that patients with very high cardiovascular risk should be treated with ASA. Therefore, in the group of low gastrointestinal risk, very high cardiovascular risk is not contemplated, because use of ASA, and gastrointestinal risk is intermediate at best.

Table 4**Physiological changes that occur with ageing and impact on drug handling**

Physiological changes	Pharmacological consequences
Delayed gastric emptying and reduced gastric blood flow	Increased risk of gastrointestinal side effects and reduced gastric transit due to opioids
Decreased body water/increased body fat Reduced plasma proteins	Reduced distribution of water-soluble drugs Lipid-soluble drugs have a longer half-life Increased propensity for drug interactions
Reduced liver size and functioning cells Decreased liver blood flow	Reduced metabolism of drugs
Reduced renal blood flow Decreased glomerular filtration rate	Reduced excretion leading to prolongation of drug effects
Decreased drug receptor density Increased receptor affinity	Increased response to therapeutic effects and side effects of drugs

'Exercise can reduce pain, improve function and delay joint replacement in hip osteoarthritis'

key points is presented in table 4, above. Regular paracetamol, with dose adjusted for weight, remains an effective and safe starting point. There is no convincing evidence of harm when used at an appropriate dose.³²

The efficacy of NSAIDs in the Oxford league table of analgesics is superior to parenteral morphine. The number needed to treat (NNT) to achieve a 50% reduction in pain over six hours compared with placebo is 1.5, 1.8 and 2.1 for etoricoxib, diclofenac and celecoxib respectively. The NNT for 10 mg of intramuscular morphine is considerably higher at 2.9.³³ Caution is required in the elderly because of increased susceptibility to side effects.³⁴

A rational approach would be starting with topical NSAID therapy followed by escalation to oral therapy if required, ensuring concomitant prescription of a gastroprotective agent. Using the lowest dose for the shortest time possible with routine review to assess if the benefits of treatment outweigh the risks is a sensible approach to minimise any potential adverse events.

NSAIDs and COXIBs are equally analgesic, but the incidence of their side

effects differ. An algorithm which can be used to determine which type of drug is preferential, based on the patient's risk of gastrointestinal or cardiovascular events, is shown in figure 2, p13.³⁵

Topical capsaicin has recently been demonstrated to reduce pain intensity in patients with clinically (or radiographically) diagnosed osteoarthritis.³⁶ Capsaicin 0.025% cream should be applied to the painful area four times per day for a six-week trial period, and continued thereafter if effective. It is generally well tolerated as burning and itching usually peaks after one week and then subsides with ongoing treatment.

'Old age per se is not a contraindication to treatment with opioids'

Old age per se is not a contraindication to treatment with opioids. The British Pain Society guidelines for the prescription of strong opioids should be adhered to, ensuring patients undergo frequent review of dosing, side effects and endpoints of treatment.³⁷ If there is no improvement in pain intensity or level of function they should be slowly discontinued. Tolerance and physical dependence are risks, although genuine addiction in this population is not commonly described.

REFERRAL

For those in whom the above treatment modalities have failed to control symptoms, the next step is referral for specialist advice.

Intra-articular injections of corticosteroid, hyaluronic acid and platelet-rich plasma have all been shown to be of benefit for knee osteoarthritis.³⁸ However, any benefits are short lived and this treatment is limited by cost effectiveness, particularly in the case of the latter two.

Referral for joint surgery should be made for patients with severe symptoms, a significant impact on their quality of life, severe functional limitation and in whom non-surgical methods have failed.²³ Counselling about the risks and benefits of surgery, the necessary rehabilitation after surgery, and limitations of a prosthesis, should be begun at an early stage. This is being increasingly recognised with the advent of 'joint school' education programmes forming part of an enhanced recovery after surgery (ERAS) programme.

Although the focus of this article has been limited to the management of peripheral joint arthritis, those patients with low back pain and examination (tender over the joints themselves; pain on lumbar extension) or imaging suggestive of facet joint osteoarthritis should be referred to a pain specialist for consideration of interventional therapy. This can take the form of intra-articular injections or targeting of the medial branch of the dorsal ramus supplying the joint with local anaesthetic, steroid or radiofrequency ablation.

key points

SELECTED BY

Dr Peter Savill
GP, Hampshire

The prevalence of chronic pain in older people in the community ranges from 25 to 76% and for those in residential care, it is even higher at 83 to 93%. The most common sites affected are the back, hip, or knee, and other joints. There is increased reporting of pain in women (79%) compared with men (53%).

Common conditions include osteoarthritis and, to a lesser extent, the inflammatory arthropathies such as rheumatoid arthritis. The differential diagnosis includes non-articular pain such as vascular limb pain and nocturnal cramp, some neuropathic pain conditions (e.g. compressive neuropathies and postherpetic neuralgia), soft tissue disorders, e.g. fibromyalgia and myofascial pain syndromes.

In addition to an assessment of pain intensity, a biopsychosocial model should be adopted to ascertain the effect of the pain on the patient's mood, social function and activities of daily living. This will aid monitoring for improvement resulting from initiation of analgesic therapies. It also ensures that the clinician screens for potential psychological sequelae of persistent pain such as depression, anxiety and fear avoidance behaviour.

In osteoarthritis the patient will typically describe pain on movement of the affected joint, pain worse at the end of the day and sometimes a degree of background pain at rest. The disease is often localised to the large load-bearing joints, predominantly the hips and knees. In contrast to osteoarthritis, the inflammatory arthritides typically present with symmetrical swollen, stiff, and painful small joints of the hands and feet, usually worse in the morning.

Positive behavioural changes should be encouraged such as weight loss, appropriate footwear and graded exercise with a focus on both local muscle strengthening and general aerobic fitness. Recent evidence suggests exercise can reduce pain, improve function and delay joint replacement in hip osteoarthritis. Thermotherapy with either heat or cold should be considered as a useful and safe adjunct. A Cochrane review of acupuncture demonstrated a statistically significant benefit. TENS has been shown to reduce pain intensity, lower analgesic requirements and improve quality of life.

The efficacy of NSAIDs in the Oxford league table of analgesics is superior to parenteral morphine. Caution is required in the elderly because of increased susceptibility to side effects. A rational approach would be starting with topical NSAID therapy followed by escalation to oral therapy if required, ensuring concomitant prescription of a gastroprotective agent. Topical capsaicin has recently been demonstrated to reduce pain intensity in patients with clinically (or radiographically) diagnosed osteoarthritis. Referral for joint surgery should be made for patients with severe symptoms, a significant impact on their quality of life, severe functional limitation and in whom non-surgical methods have failed.

CONCLUSION

In the UK, almost nine million people have sought treatment for arthritis.²⁶ In those over 75 years old the figure is 50% which, with an increasingly elderly population, is likely to become a bigger care burden in the future. Management should include a biopsychosocial assessment by the physician, education regarding self-management and physical exercise, treatment with topical and oral analgesics, and referral for specialist advice where all else has failed.

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