

## **British Society for Rheumatology and IASP Musculoskeletal Pain Taskforce Guidelines for the Integrated Management of Musculoskeletal Pain Symptoms (IMMsPS). Summary Document**

This document provides a brief executive summary and the main guidelines schemas which summarise each component of the guidelines. A more detailed version can be found on the same website at:

<http://www.hope-academic.org.uk/Academic/researchdevelopment/Themes/Neurosciences/Pain/IMMsPS.htm>

### **1. Executive Summary**

**Lead Author: Professor Anthony Jones**

#### **1 Scope and Purpose of the guideline.**

##### **1.1 Background**

Musculoskeletal pain is one of the most common reasons for referral of patients to primary care physicians and rheumatologists (Woolf and Pfleger, 2003). It is a major cause of distress (Fishbain et al., 1997) and disability (Hawley and Wolfe, 1991).

The costs of arthritis and related conditions to the economy and the health services in the UK are £18 billion and £5.5 billion, respectively, with 206 million working days lost in the UK in 1999-2000 - equivalent to a loss of production of £18 billion (ARC figures for 1999-2000).

The main therapeutic conditions targeted by the guidelines are pain in association with osteoarthritis, inflammatory arthritis, chronic regional (e.g. back pain) and widespread pain (fibromyalgia). The guidelines have been drafted on the pragmatic principle of most benefit for least risk of harm. They are informed by evidence where it exists and the principle that if there is reasonable evidence for positive therapeutic effect in one condition then, as long as there is no evidence to the contrary, we have assumed it may have some benefit for another. The IMMsP guidelines are tailored to the individual's needs and preferences.

Current health policy in the UK requires that the management of chronic conditions is carried out predominantly in primary care and focuses on the development and implementation of self management strategies. It is essential that the members of the primary care team feel well equipped to manage patients with MsP. This guideline is designed to provide sufficient information for health care professionals to manage most people with non-inflammatory conditions in primary care thus reducing referrals to secondary care. However, it is also intended for guidance for managements of the more complicated patients with MSP in secondary care, so MSP management can be as integrated as possible across primary and secondary care. Patients with inflammatory conditions are likely to continue to require secondary care input for their complex disease-modifying therapy but their pain can be managed in the primary care setting.

The current evidence from functional imaging studies is that all types of pain are processed within a common human pain matrix in the brain and that acute pain and chronic arthritic pain are also processed within this same common matrix of brain structures (Jones, 1999;Kulkarni et al., 2005). Only two or three of these structures (Primary somatosensory, insula cortices and the lateral thalamus) are concerned with where the pain comes from. The rest of the pain matrix is mainly concerned with the psychological context of the pain and planning motor responses to the pain. It is therefore likely that there is much common physiology for the perception all types of pain and that there may be substantial commonalities of effect between different types of therapeutic interventions. So far, there is no evidence to refute this. As the level of evidence for different interventions being specific for different musculoskeletal pain conditions is relatively poor or absent, we have developed the guidelines on the principle that if there is reasonable evidence for positive therapeutic effect in one condition, then as long as there is no evidence to the contrary, we have assumed it may have some benefit for another. So, for instance trials of paracetamol have not been performed in fibromyalgia, but clinically many patients find it useful. Many patients with fibromyalgia also have OA so we have kept paracetamol as a generic intervention.

#### **1.1.1 Need for the Guidelines**

The clinical resources and knowledge-base available for the management of musculoskeletal pain are highly variable as is the proportion of patients managed in primary and secondary care. There is therefore a need to begin the process of providing a guideline for the management of musculoskeletal pain that can be used by all health-care professionals who have appropriate training across the health economy.

#### **1.1.2 Objectives of the Guidelines**

The aim of this guideline is to provide an integrated approach to the management of patients with chronic musculoskeletal pain that is not primarily dependant on a definitive diagnosis. The latter is obviously very important both in terms of disease management and providing a prognosis, but the process of making a diagnosis in some cases is difficult and may take time. Our intention is that the lack of a precise diagnosis should not inhibit adequate pain management. We have therefore tried to make the guidelines as simple and generic as possible.

#### **1.1.3 Target Audience**

The generic design of these guidelines has the added advantage that adequately trained health-care professionals, including practice nurses, pharmacists, physiotherapists, not trained in all aspects of musculoskeletal diagnosis and assessment can engage with using these guidelines to manage the pain in parallel with whatever diagnostic processes may be taking place.

#### **1.1.4 Areas the Guidelines do not cover**

These guidelines do not specifically cover the management of malignancy in association with musculoskeletal pain, although the principles of management of the pain will be very similar. Although chronic regional and widespread pain are often associated with chronic visceral pain and headaches the latter are not specifically covered by this guideline. Although there is often overlap between neuropathic pain

and musculoskeletal pain we have not provided guidelines for the management of neuropathic pain.

## **1.2 The guideline itself with reference to the management algorithm**

### **1.2.1 Eligibility criteria**

These guidelines are intended to cover chronic benign musculoskeletal pain of any kind. This includes all types of arthritis, chronic widespread pain or fibromyalgia and chronic regional somatic pain. The latter includes any benign chronic somatic pain from the neck downwards.

Chronic pain is defined (IASP definition) as lasting for longer than three months. We have focussed on chronic pain because acute pain would encompass post-operative pain, which is outside our remit. However, we suggest that the division between acute and chronic pain should not be overemphasised as many patients with, for instance arthritic pain, suffer from recurrent acute pain particularly on exercise and at night. Currently, there is no evidence that any therapeutic intervention is specific for acute or chronic pain (Jones et al., 2003). So, until this situation is altered we suggest that in patients with musculoskeletal pain the guidelines can be used for management of both their acute and more chronic unremitting pains.

#### **1.2.2.1 Exclusion criteria**

- a) Malignant pain,
- b) Visceral pain,
- c) Referred visceral pain,
- d) Headache
- e) Sepsis
- f) Pain in children

### **1.2.3 Algorithm of the guideline**

We have initiated the development of six main components of the guideline:

- I. Self-Help
- II. Non-Surgical Physical interventions such as Physiotherapy, Podiatry, Occupational Therapy, Acupuncture and Chiropractic.
- III. Psychological Interventions.
- IV. Management of Depression associated with chronic pain.
- V. Pharmacological Management.
- VI. Injection Therapies and Surgery.

Osteoarthritis (OA) is the commonest cause of musculoskeletal pain. In the absence of a cure for OA, pain alleviation is likely to be the most effective intervention for improving the quality of life in this patient group (Fitzcharles et al., 2005). The same principles apply to fibromyalgia or chronic widespread pain, which may frequently co-exist with OA. Chronic regional pain is slightly more problematic in that it may be

caused by specific pathologies such as arthritis, which may or may not be evident or it may be part of a chronic regional / widespread pain syndrome. Epidemiologically chronic regional pain tends to flip into chronic widespread pain or resolve spontaneously (McBeth et al., 2001). This makes for difficulties in diagnosis. We would obviously recommend that pathologies such as shoulder impingement, tendon damage and nerve root damage have been excluded by a competent physician and if present, managed appropriately. The treatment of pain with combinations of appropriate analgesics, psychological interventions for psychological distress and physical interventions need to be initiated on their own individual merits.

These guidelines are purely for guidance and are based on a combination of evidence and clinical experience of the Local Working Group based in Salford and the National Steering Group and International Colleagues from the IASP Musculoskeletal Pain Taskforce. They are intended to be pragmatic and safe in addition to providing for patient choice. In order to preserve patient choice and compensate for the small range of therapeutic interventions we have included some therapies on which there have been no clinical trials but which are safe and relatively cheap. One example of this is one of the older analgesics, nefopam.

We have deliberately not recommended how the guidelines should be implemented as this will be up to the local health providers. However, we would encourage an initial thorough clinical review of the rheumatological problems and associated co-morbidities by a health-care professional who is competent to do so. In our view, the broader the training of the health-care professional who performs this initial assessment, the more likely the subsequent management is likely to result in health improvement with a minimum of unnecessary investigations and referrals. This initial assessment becomes particularly important in relation to the cardiovascular and GI risks of NSAIDs. Once such a holistic assessment has been made, the patient can be directed down the appropriate components of the guidelines (Jones, 2001). Some patients may need to go down more than one pathway in parallel or in series. We would recommend that there is a local Musculoskeletal Lead who could be a rheumatologist or a primary care health professional who ensures that there is adequate regular training to support these guidelines. It is intended that these guidelines will help to support more co-ordinated management of patients with musculoskeletal pain than occurs at present.

Finally the format is the result of extensive discussions with local GP's and GP's on our National Steering Committee. The result is that each component of the guideline has a simple management schema on a side of A4. Following that are some abbreviated notes and further guidance. In the full version of the guideline there are more extensive sections on each stage of the guideline and on some of the clinical decision-making processes in relation to potential risk and benefit with a review of the evidence-base. At present this is a paper/electronic guideline, but we intend it in the longer-term for it to be more interactive so that clicking on the appropriate place on the facing page can access all the information.

The guidelines are intended to provide a guide to the alternative therapeutic interventions with some guidance on decision-making. However, they are not intended to provide an exhaustive series of decision boxes as it would not be

possible to provide these on a single side of A4 and these do not allow for individual clinical judgement or patient choice.

#### **1.2.4 Rigour of development**

We have taken available evidence from a number of sources. Wherever possible, evidence is based on systematic reviews or meta analyses. However due to the lack of robust RCT evidence, some of these recommendations are based on Grade III or IV evidence. In common with other guidelines, a hierarchy of evidence as described below has been used. We have also liaised with colleagues working on the NICE guidelines for the Management of OA to ensure that they are as compatible with the NICE guidance as possible and that there are no major areas of disagreement.

Hierarchy of strength of evidence:

- Ia Evidence from systematic reviews or meta-analysis of randomised controlled trials
- Ib Evidence from at least one randomised controlled trial
- IIa Evidence from at least one controlled study without randomisation
- IIb Evidence from at least one other type of quasi-experimental study
- III Evidence from non-experimental descriptive studies, such as case controlled studies
- IV Evidence of committee reports or opinions or clinical experience of respected authorities

The other overriding principle of the guidelines is that the first priority is safety. This is why mild opiates such as meptazinol and tramadol are recommended before NSAIDs of any kind in spite of relatively poor evidence. It is also why codeine is included in spite of relatively poor NNT (numbers needed to treat) values.

Greater detail of the strategies for literature searches are contained in the individual sections of the guideline

It is also hoped that in the longer-term these guidelines will serve to stimulate the rheumatology community to perform more well-designed clinical trials so that we will be in a better position to reassure our patients of the quality of evidence for our everyday decisions.

These guidelines will be fully reviewed bi-annually and updated annually.

#### **1.2.5 Assessment of symptoms and response to treatment.**

Guidance to this has been written into the individual guidance notes in the full version of the guideline.

#### **1.2.6 Monitoring Treatment**

Guidance to this has been written into the individual guidance notes.

#### **1.2.7 Criteria for withdrawal of therapy**

We will have individual criteria for withdrawal of therapy written into the individual intervention guidance note. The assessment of response is more complicated and will need to be based on a combination of health-care professional and patient perceptions.

**1.3 Practical aspects of help to physicians and patients.**

There will be a short guide to clinical assessment of patients with musculoskeletal pain. We also intend to develop a patient-held guideline including access to information on the internet and by post.

**1.4 Audit**

We intend to develop and road test a simple audit tool that will probably be based on a simple global pain score and a Hospital Anxiety and Depression Score (HAD). At present, as far as we are aware, there is no pain, mood and disability audit tool that has been validated for use in primary and secondary care.

**1.5 Stakeholder involvement**

Guidelines sponsored by the BSR and the International Association for the Study of Pain (Musculoskeletal Pain Task Force)

## References:

Fishbain DA, Cutler R, Rosomoff HL, Rosomoff RS (1997). Chronic pain-associated depression: antecedent or consequence of chronic pain? A review. *Clin J Pain* 13:116-137.

Fitzcharles MA, Almahrezi A, Shir Y (2005). Pain: understanding and challenges for the rheumatologist. *Arthritis Rheum* 52:3685-3692.

Hawley DJ, Wolfe F (1991). Pain, disability, and pain/disability relationships in seven rheumatic disorders: a study of 1,522 patients. *J Rheumatol* 18:1552-1557.

Jones AKP (1999). The contribution of functional imaging techniques to our understanding of rheumatic pain. *Rheum Dis Clin North Am* 25:123-152.

Jones AKP (2001). The Future of Imaging in Assessment of chronic musculoskeletal pain. In: *Handbook of Pain Assessment Second Edition* (Turk DC, Melzack R, eds), pp 693-704. New York: Guildford Press.

Jones AKP, Kulkarni B, Derbyshire SWG (2003). Pain mechanisms and their disorders. In: *British Medical Bulletin* (Frackowiak R, Jones T, eds), pp 83-93. Oxford University Press.

Kulkarni B, Boger E, Watson A, Julyjan P, Elliott R, Hastings D, El Deredy W, Jones AKP (2005). Comparison of the brain areas involved in processing chronic arthritic versus acute experimental pain using FDG PET.

McBeth J, Macfarlane GJ, Hunt IM, Silman AJ (2001). Risk factors for persistent chronic widespread pain: a community-based study. *Rheumatology* 40:95-101.

Woolf AD, Pfleger B (2003). Burden of major musculoskeletal conditions. *Bull World Health Organ* 81:646-656.

## **Algorithm of guideline**

The following section contains the summary schemas for the different aspects of the guideline. Some of these have further guidance notes. The detailed description of the evidence and guidance on using that evidence for each section is provided in the full length guideline within our website:

<http://www.hope-academic.org.uk/Academic/researchdevelopment/Themes/Neurosciences/Pain/IMMsPS.htm>

- 1) Summary of all the schemas**
- 2) Brief individual guidance notes for each schema**

## **2. Summary of all schemas**

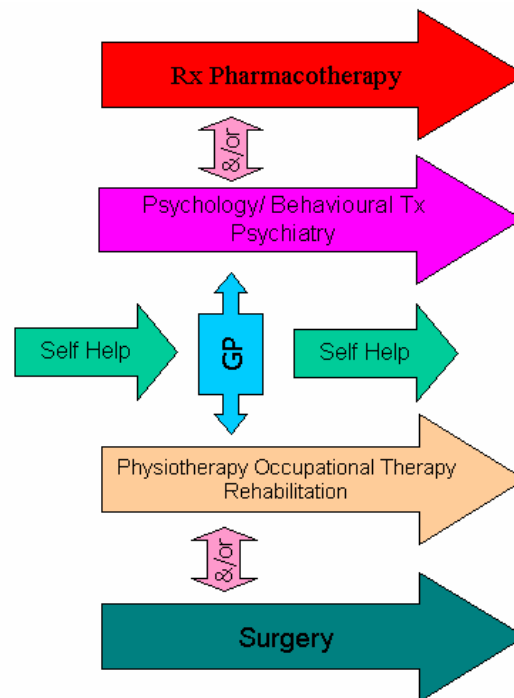
### **2.1 Aims of clinical assessment.**

- To provide a diagnosis and to exclude serious pathology early.
- Assess and plan management of co-morbidities.
- Assess a person's understanding of their condition and its likely outcome.
- Assess psychosocial risk factors including mood and emotions.
- Establish what activities their pain and distress is interfering with.
- Establish with the patient what their therapeutic goals are.
- If there is uncertainty about the diagnosis plan referral to a specialist centre but do not delay effective pain management.
- Referral for specialist advice if there is evidence of inflammatory arthritis, if symptoms are deteriorating rapidly or causing severe disability.
- Urgent specialist advice should be sought if there is clinical evidence of joint infection, malignancy, progressive neurological deficit or evidence of cord compression including a cauda equine lesion.

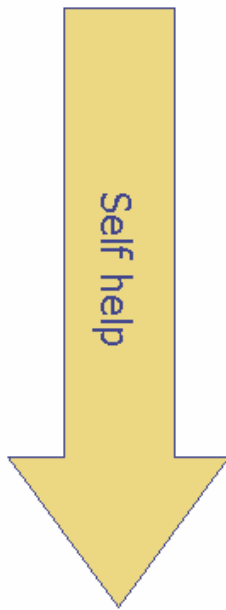
### **2.2 Aims of interventions.**

- To reduce pain and stiffness.
- To reduce disability and / or distress.
- To improve quality of life with minimal adverse effects.
- To educate.

### **Management matrix for musculoskeletal pain.**



## Self management strategies



- ◆ Health professional assesses patients understanding of their condition.
- ◆ Health professional provides reassurance, educational advice on exercise, posture & cognitive strategies to include relaxation, distraction & stress management.
- ◆ Advise patient to remain as active as possible.
- ◆ Recommend return to usual activities ASAP.
- ◆ If some symptoms require rest, maintain as much mobility as possible.
- ◆ Simple, safe analgesia e.g. paracetamol, before NSAIDs.
- ◆ Topical preparations may be of some short-term help.
- ◆ Aids and appliances recommended, if appropriate.
- ◆ Self help strategies should be used concurrently with other components of treatment.
- ◆ Health care professional should direct patient to self-help resources.

Elicit beliefs about the condition causing pain and the pain itself. Resolve any misunderstandings or misconceptions e.g the difference between "hurt" and "harm".

How confident is the patient in their ability to manage their condition or pain (self-efficacious)?

Elicit any fears of activities /situations; is the patient managing them by avoidance? Consider early referral to pain management programmes (or for cognitive behavioural therapy if available) if low self-efficacy and high pain-related fear and avoidance.

Assess motivation and barriers to change.

Provide reliable, evidence-based information or direct on how to access information.

Consider web based education for patients with internet access. The Directory of Individual Patient Experiences (DIPEX) resource provides reliable evidence-based information about chronic pain ([www.dipex.org.uk](http://www.dipex.org.uk)); The Arthritis Research Campaign provides useful information about arthritic related pain ([www.arc.org.uk](http://www.arc.org.uk)).

Suggest local self-help services, workshops or organisations. The Directory of Individual Patient Experiences (DIPEX) resource and The British Pain Society gives information on organisations, support groups and suggested self help reading material.

[www.dipex.org/EXEC](http://www.dipex.org/EXEC)

[www.britishpainsociety.org/patient\\_home.htm](http://www.britishpainsociety.org/patient_home.htm)

Enquire into what self-management strategies are being used. Encourage the greater use of active strategies over passive strategies.

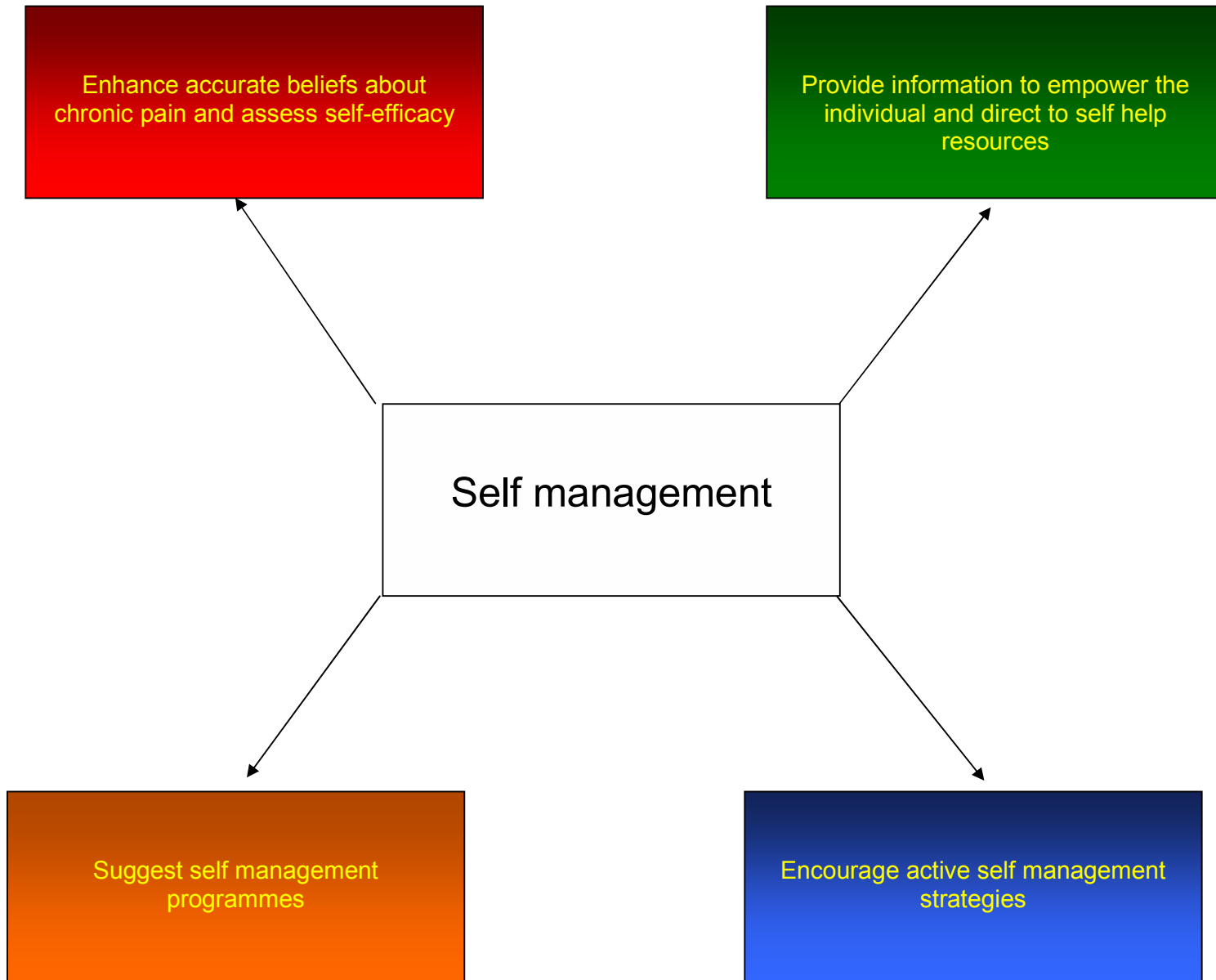
Active strategies can be defined as those that involve action by the individual to manage their pain through their own efforts, (usual tasks, correct posture, exercise, work, relaxation, stress management). In contrast, passive coping strategies are defined as when an individual is more reliant on the efforts of others, or depend on other agents such as medications, alcohol and tobacco.

Self management education programmes are normally lay-led courses designed to train people with long term conditions to more effectively self manage. The Expert Patient Programme is an NHS funded primary care initiative that aims to help empower and encourage people with chronic diseases to take a greater role in the management and monitoring of their condition in partnership with health professionals.

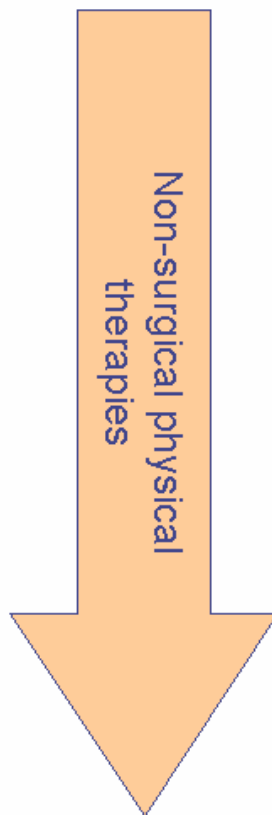
([www.expertpatients.nhs.uk/](http://www.expertpatients.nhs.uk/))

Other programmes may be available that teach self management and have been shown to be efficacious e.g The Mindfulness-Based Pain Management Programme (MBPM) by Breathworks, a Community Interest Company.

Interdisciplinary pain management programmes should be reserved for patients' that have complex presentations and are unlikely to see an improvement in pain function and disability by the above self-management strategies.

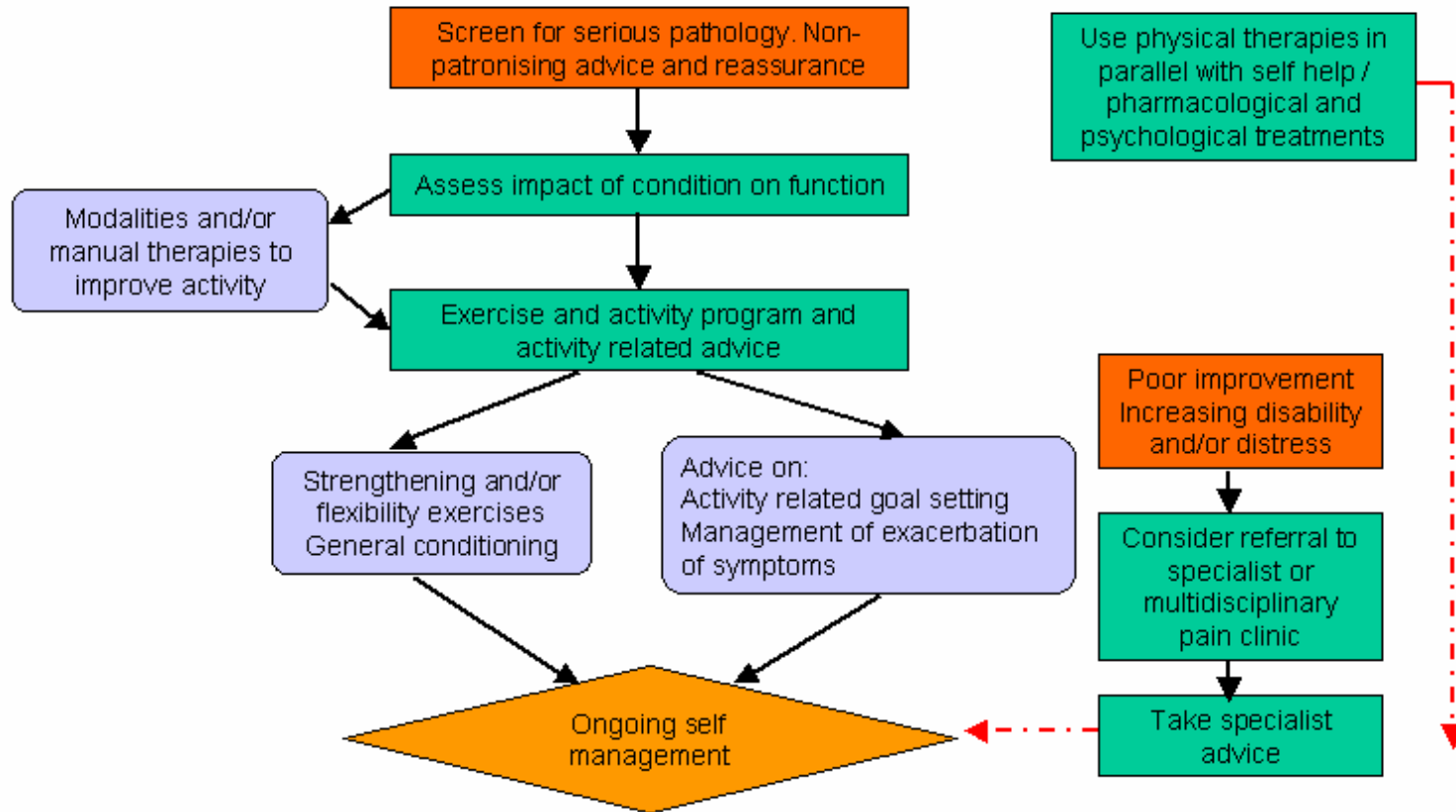


## Non-surgical Physical interventions

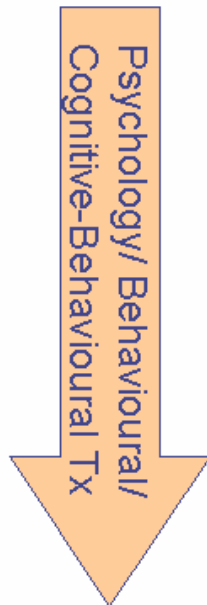


- ◆ Assess patient's understanding of condition and prognosis
- ◆ Assess impact on function using standardized self-report and performance measures
- ◆ Provide education on musculoskeletal pain, and the benefits of activity, exercise and self-management
- ◆ Modalities e.g. ice or heat can be used for symptom relief and to facilitate activity (e.g. heat wrap)
- ◆ Exercise and activity:
  - General graded conditioning activity and advice;
  - Encourage an active lifestyle;
  - Specific strengthening exercises (e.g. OA, LBP);
  - Specific flexibility exercises and stretching exercises (e.g. OA and fibromyalgia);
- ◆ Passive modalities
  - Manual therapies, TENS, and acupuncture can provide symptomatic relief;
  - Should be time limited;
  - Should be used to facilitate an increase in activity;
- ◆ Provide advice for dealing during exacerbation of symptoms
- ◆ For persistent distress or increasing disability refer (physician, psychologist, multidisciplinary pain clinic)

**Non-surgical Physical interventions.**

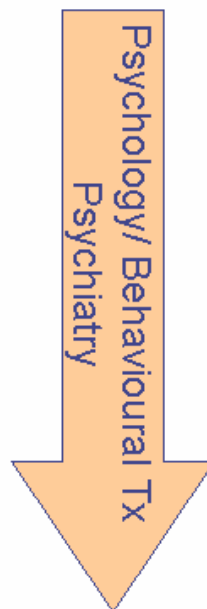


## Psychological, Behavioural, and Cognitive-Behavioural Methods.



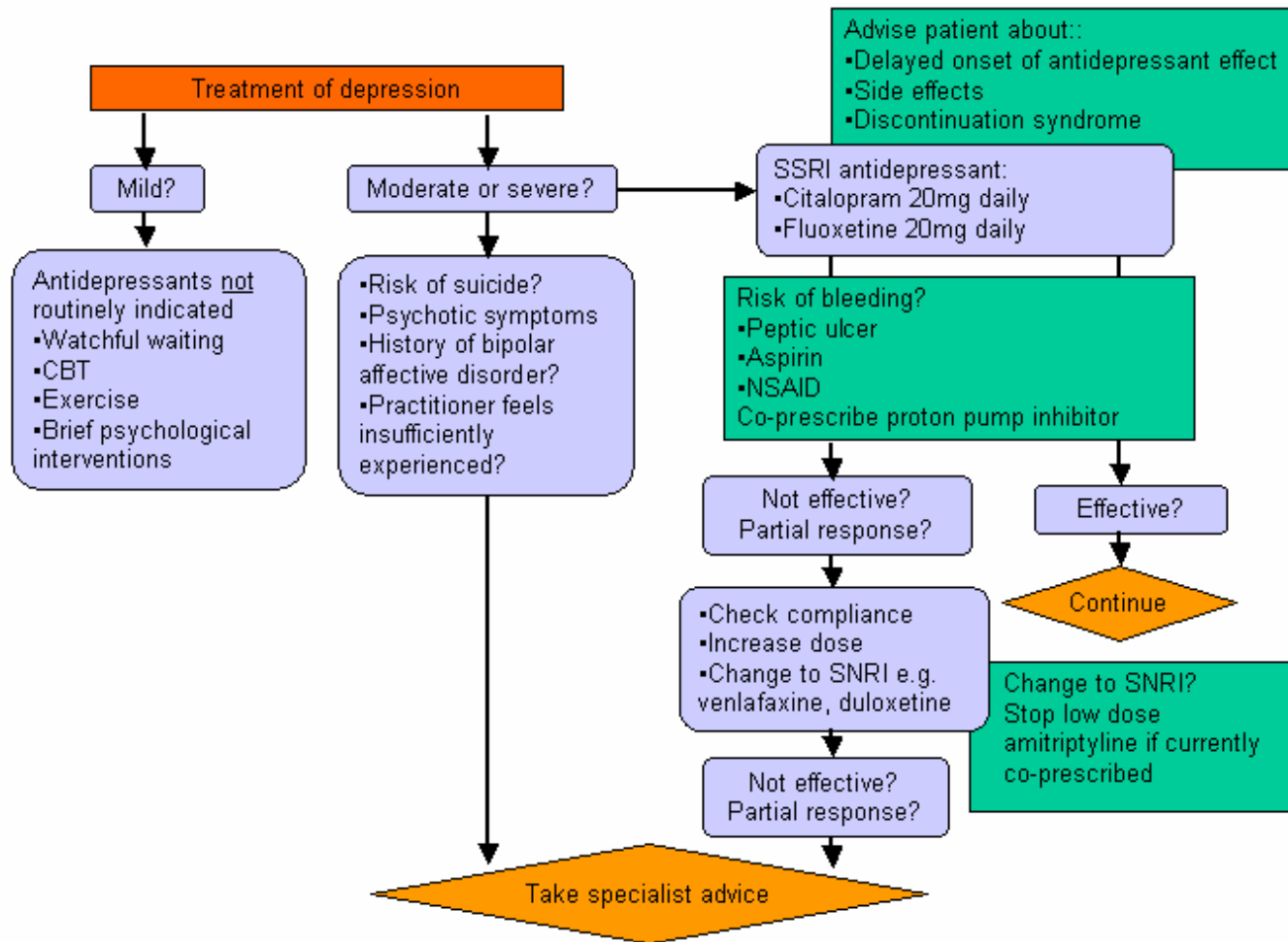
- ◆ Symptom management methods alone are often not completely effective for addressing patients' emotional, physical, social, and health-care-related functioning.
- ◆ Treatment providers will want to assess patient functioning and influences on functioning broadly.
- ◆ Treatments based on general cognitive-behavioural principles (CBT) are moderately effective for decreasing pain, improving mood and daily functioning and decreasing unneeded healthcare use in chronic pain.
- ◆ Uni-disciplinary or outpatient based services are likely to be effective for most cases of chronic pain and significant disability.
- ◆ Intensive, multi-disciplinary, typically residentially-based courses, are recommended for highly disabled or psychologically complex cases.

## Management of depression associated with chronic pain.



- ◆ Symptoms of depression are common in chronic musculoskeletal pain syndromes.
- ◆ Antidepressants are widely used to treat non-affective symptoms of musculoskeletal pain.
- ◆ For treatment of non-affective symptoms such as pain or sleep disturbance, tricyclic antidepressants appear to be effective.
- ◆ For treatment of mild depression, watchful waiting, CBT, exercise and brief psychological interventions should be considered.
- ◆ For treatment of moderate to severe symptoms SSRI antidepressants e.g. Fluoxetine or citalopram should be first line treatment options.

## Management of depression associated with chronic pain



## Intra-articular injections and surgery.

Agree local guideline with defined criteria for referral for interventions.

For persistent hip / knee pain that is unresponsive to other interventions consider joint injections using steroids (and aspiration where appropriate).

For persistent hip / knee pain that is unresponsive to other interventions consider referral for joint replacement.

For persistent back pain, consider referral for surgery only in the context of well defined and focal neurological deficit.



### **General consideration relating to surgery**

In all interventions discussed for management of joint pain there is consensus opinion that a key step is to identify locally agreed criteria for referral between non-surgical medical teams and orthopaedic units. This would allow objective decision making about need for interventions with potential for serious adverse events. This is particularly important for determining explicit criteria for stage of musculoskeletal problem requiring referral for surgical opinion.

**Referral advice: a guide to appropriate referral from general to specialist services. December 2001. Ref: N0041. ISBN: 1-84257-144-3.**

### **Intra-articular injection**

Evidence exists for injection of steroids into joints for short-term management of exacerbations of symptoms including pain. This evidence is from randomised controlled trials for knee, hip and shoulder. There is no systematic review evidence. Intra-articular needle insertion makes aspiration feasible at intervention if effusion in joint present. There is no evidence to guide practice on frequency and joint damage; consensus states 3-4 injections per annum maximum for steroids. Clearly risk of procedure exists. Systematic review of hyaluronan injection has been negative

**Managing joint pain in primary care. Palmer T and Toombs JD. Journal of the American Board of Family Practice. 2004;17:S32-42.**

**Surgery**

Insufficient evidence exists for joint surgery other than knee and hip to allow guidance to be given.

**Surgery hip**

Surgical intervention for musculoskeletal pain of the hip has evidence for reduction of pain following surgery. No methods for systematic identification of suitable candidates for surgery exist. There are additional benefits to patients including evidence of quality of life improvements. There is no conclusive evidence for choice of potential responders or type of prosthesis. Clearly the risks of procedure must be weighed against potential benefits. Data exists to allow estimation of potential risks according to patient age, gender and procedure.

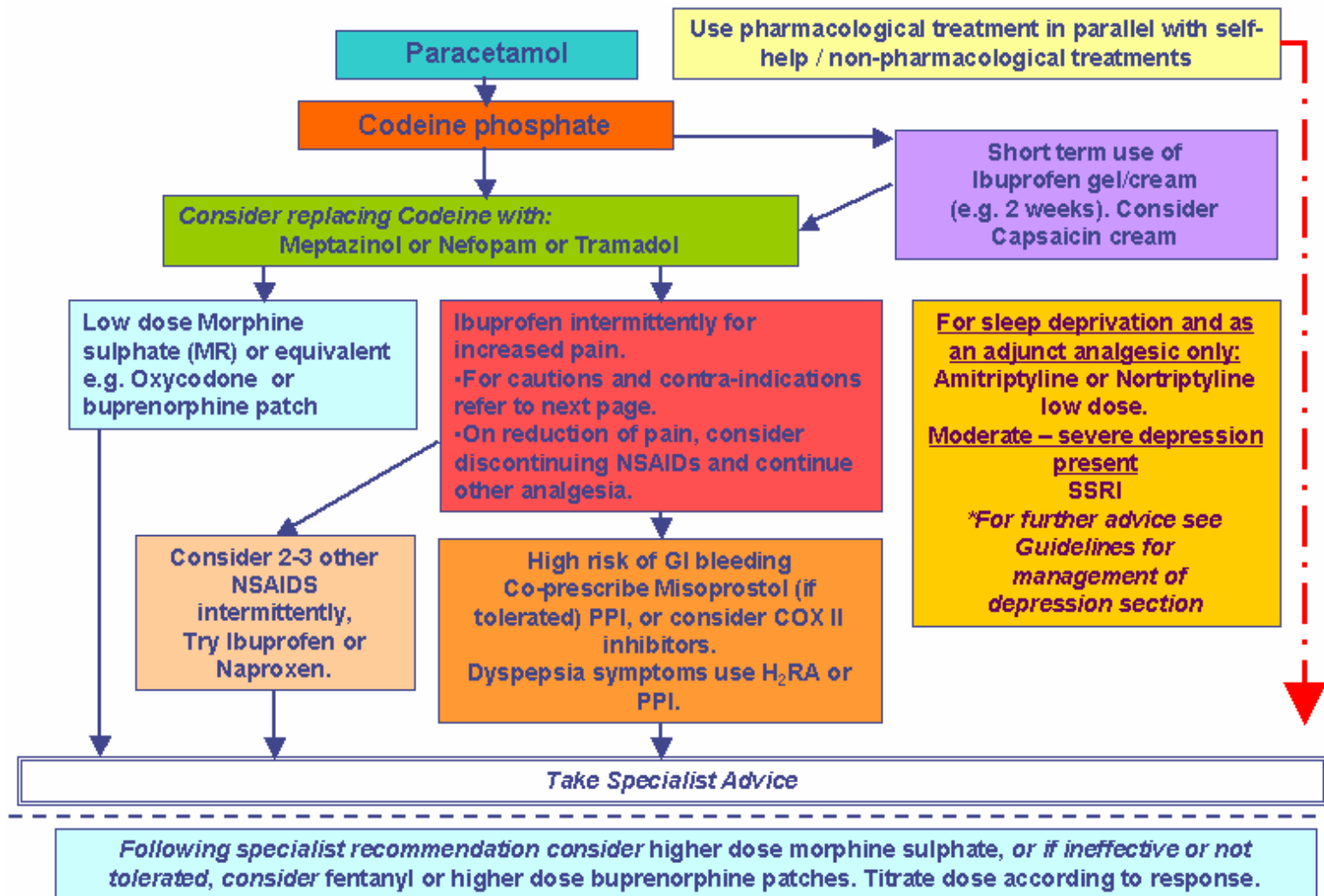
**Surgery for OA of the hip: ISSN 1752-8526© BMJ Publishing Group Limited 2007**

**Surgery knee**

In the context of surgical intervention for pain of the knee there is evidence for reduction of pain following surgery. No method for systematic identification of suitable candidates for surgery exists. There is no evidence to allow choice of responders versus non-responders. Limited evidence exists for better outcome of uni-compartmental versus tri-compartmental procedures, but not specifically for pain. Risks of the procedure are present that must be weighed against benefits.

**Total knee replacement: ISSN 1752-8526© BMJ Publishing Group Limited 2007.**

## Pharmacological treatment of chronic pain



Paracetamol is widely advocated for chronic pain associated with rheumatic disease and has proven to be beneficial for a significant minority of patients. Regular dosing has been found to be of greater benefit than intermittent or irregular use.

In patients where the diagnosis is unclear, e.g. lower back pain, Paracetamol alone or used in combination with other agents listed in the guidelines has been proven to be effective.

Paracetamol plus codeine is generally more effective than Paracetamol when given alone. The number of patients who benefit from higher doses of the combination is greater than when lower doses are used. Co-drugs are useful in those who prefer to minimise the number of tablets taken, but may also limit flexibility of dosing. To minimise the risk of adverse events associated with combination analgesia, gradual titration of doses is recommended, laxative use may be required if longer term use of codeine is needed.

The clinical evidence for the benefits of **Tramadol** in the management of chronic pain is unclear, however limited trial evidence and anecdotal evidence from clinicians suggests that it may be useful when other treatments have failed. Adverse Drug Reactions associated with Tramadol use include confusion, convulsions and withdrawal reactions and its use in patients with epilepsy or susceptibility to seizures should be avoided.

The mode of action of **Nefopam** has not been fully elucidated but it appears to have no affinity for opioid receptors and is not antagonised by Naloxone. Evidence for its effectiveness is limited. Nefopam has no anti-inflammatory or anti-pyretic effects and does not inhibit prostaglandin synthesis at therapeutic doses. Nefopam should be used with caution in the elderly, patients with hepatic or renal disease and is contraindicated in patients with convulsive disorders.

The use of **Meptazinol** for management of chronic musculoskeletal pain has not been studied extensively and its place in therapy alongside Tramadol or Nefopam is unclear. It is a mu-opioid agonist and well absorbed orally. It is indicated for the management of moderate to severe pain.

Higher doses of opioids may be beneficial for some patients and may be considered following specialist advice. Their place in the management of fibromyalgia is uncertain, although there is evidence for a response to Tramadol. Where such therapies have been prescribed, patients should be assessed at regular intervals determined by clinical need, initially monthly. Assessment should include pain relief, physical, psychological and social function.

The evidence of benefit of topical NSAIDs is based on short-term studies and has been shown to be limited to approximately two weeks in duration. A recent publication suggested that an NNT of 4 in treatment of acute injuries and chronic musculoskeletal conditions. The place in therapy of topical NSAIDs in combination with oral analgesics is unclear.

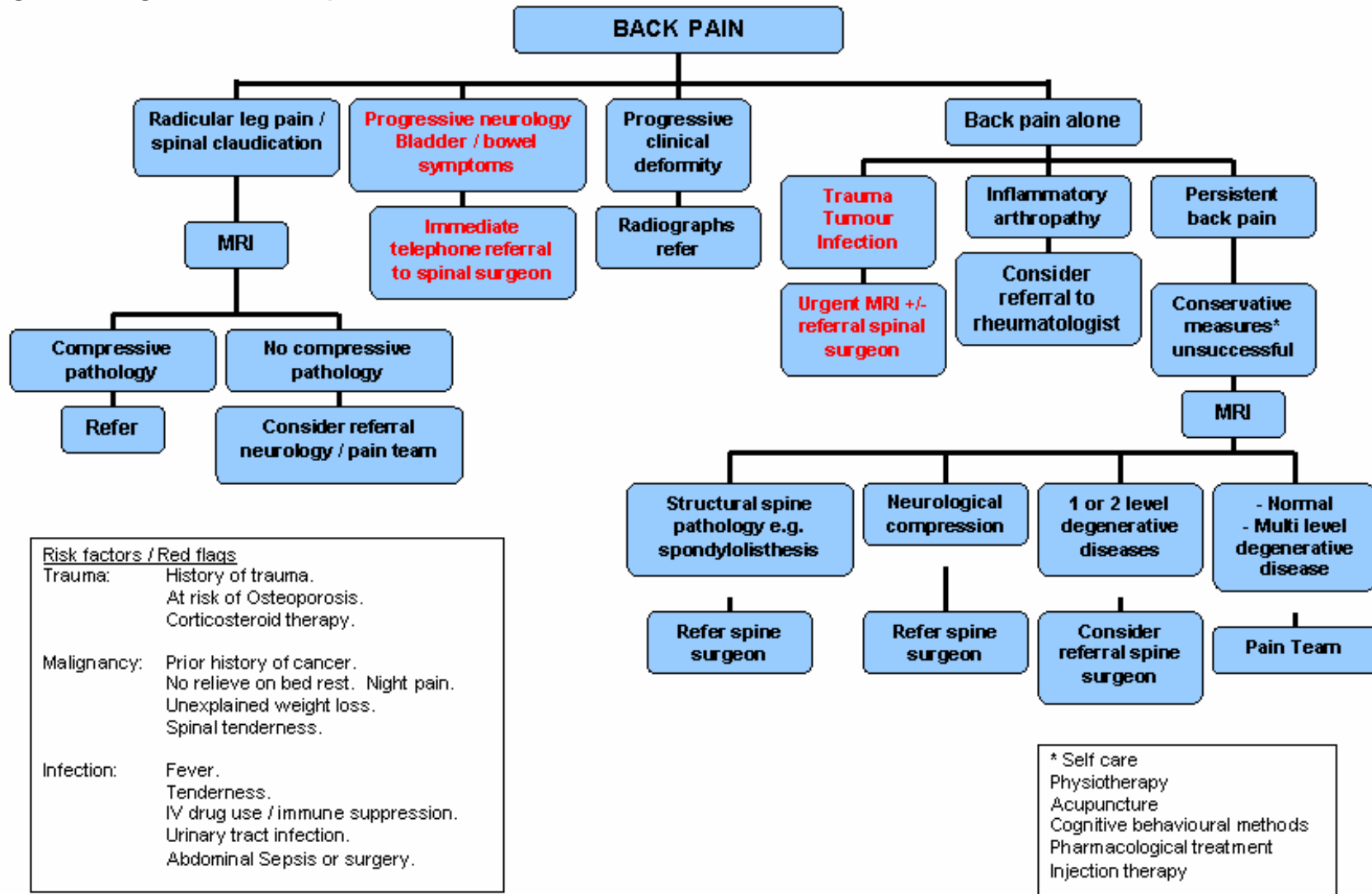
#### **Non-steroidal Anti Inflammatory Drugs (NSAIDs)**

If pain cannot be controlled by other means, oral NSAIDs should be considered, preferably using the lowest dose of Ibuprofen or Naproxen at the lowest effective dose for the shortest possible time. **NSAIDs should be avoided in patients over 65 and patients with: asthma, CVD (esp. heart failure / taking ACE inhibitors); impaired renal function; and in those concurrently using therapies that increase risk of GI bleeds e.g. steroids, Warfarin, SSRIs; and specific interaction drugs e.g. methotrexate.**

#### **NSAIDs + gastroprotection**

Misoprostol is proven to reduce the incidence of serious GI complications of NSAIDs and symptomatic ulcers, however some patients may be unable to tolerate side effects. The evidence of gastroprotective effects of PPIs in prevention of serious upper GI events is inconclusive but are widely prescribed in primary and secondary care. There is good evidence of benefit in reducing the incidence of endoscopically diagnosed ulcers, but the clinical relevance of this finding is uncertain. **COX II. No additional analgesic benefit from these over traditional NSAIDs. Limited evidence of reduced GI morbidity, but as for PPI's worth using in individual patients at high risk.**

**Surgical Management of back pain.**



## Musculoskeletal Foot Problems

