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Consider referral to specialist spinal surgical service

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1 Background information

Quick info:
Scope:
• assessment, treatment, and management of non-specific mechanical low back pain not attributed to a serious pathology in adults within primary care
• assessment, treatment, and management of sciatica – lumbar radicular pain
Out of scope:
• management of low back pain due to specific causes such as:
  • cauda equina syndrome
  • malignancy
  • infection
  • fracture
• low back pain in pregnancy – see 'Normal pregnancy' care map
• children under age 18 years
Definition:
• low back pain is defined as tension soreness and/or stiffness in the area between the bottom of the rib cage and the buttock creases [1]
• non-specific mechanical low back pain is defined as low back pain that is not attributable to a recognisable, known, specific pathology, eg:
  • infection
  • tumour
  • osteoporosis
  • fracture
  • structural deformity
  • inflammatory disorder, eg ankylosing spondylitis
  • radicular syndrome
  • cauda equina syndrome
• mechanical low back pain is not a homogenous condition, and there are likely to be subgroups of patients that respond to targeted therapies
• recognising mechanical back pain and therefore excluding inflammatory back pain is important
• in clinical practice, there are no sharp distinctions between acute, subacute, and persistent low back pain; however, for research purposes the following definitions have been described:
  • acute – pain present for less than 6 weeks (although some guidelines define this as pain present for less than 4 weeks, and others as less than 3 months)
  • persistent non-specific mechanical low back pain – pain present for more than 6 weeks and up to 12 months (although some guidelines define this as being more than 12 weeks)
  • subacute – has been used to describe pain that is of intermediate duration (typically 6-12 weeks), although many guidelines and literature sources do not refer to subacute chronicity at all
• radicular pain or nerve root pain tends to be in the distribution of a nerve root [119]:
  • a shooting, lancinating, or electric shock type of pain radiating to below the knee often in the foot and/or toes and approximating a dermatomal distribution
  • may be associated with muscle weakness, numbness, or tingling and change in reflexes
• neuropathic pain is pain that arises as a result of damage to, or dysfunction of, the system that normally signals pain - common features are [2]:
  • altered pain sensation
  • areas of numbness or burning
  • continuous or intermittent pain
• sciatica is unilateral, well-localised pain that approximates to the dermal distribution of the sciatic nerve and usually radiates to the foot or toes [4]:

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• sciatica pain goes below the knee to the ankle/dorsum or sole of the foot, usually down the back or outside of the leg [3]
• pain in the femoral distribution (L2,3,4) can go down the inner side of the leg below the knee [3]

Incidence and prevalence:
• non-specific low back pain accounts for 85-95% of acute low back pain [5,6] – more serious conditions are rare [6]
• 70-84% of adults experience non-specific mechanical low back pain during their lifetime [6] – prevalence is between 13% and 44% [6]

Prognosis:
• 70% of people who take sick leave due to low back pain return to work within 1 week, and 90% within 2 months [6]
• acute low back pain has a high recurrence rate of between 44-80% within a year [6]
• acute low back pain is usually self-limiting but 2-7% will develop persistent non-specific back pain [6]
• after 1 year, 33% may still experience moderate pain, and 15% may still have severe pain [6]

Risk factors for developing low back pain [6]:
• maintaining the same posture for long periods
• certain movements such as bending, twisting, and lifting
• lifting heavy objects
• vibration of the whole body, eg from driving heavy machinery
• obesity

Risk factors for disability or delayed return to work include [7]:
• psychological or behavioural factors (predictors)
• social and economic factors
• occupational factors

Complications include:
• persistent pain and depression
• disability and loss of employment
• inappropriate use of strong opioids, and problems with dependence

The British Pain Society state [3]:
This pathway represents a consensus opinion based on the best evidence available and practical common sense where evidence is not available. We are aware of several other pathways within the UK and have tried to ensure that these are reflected where possible. We accept that as the pathways are complex, there will always be the potential for pathways to be slightly different. However, the principles of supported self-management, cognitive behavioural therapy, and minimally invasive approaches are first-line and appear to be universal. More complex approaches, including opioids, require the input of specialists in the field (secondary and tertiary care).

References:
[1-10,119]
Please see the care map's Provenance for details.

2 Information resources for patients and carers

Quick info:
Recommended resources for patients and carers, produced by organisations certified by The Information Standard:
• 'Back and neck pain' (PDF) from the British Brain & Spine Foundation at http://brainandspine.org.uk
• 'Back pain' (URL) from Bupa at http://www.bupa.co.uk
• 'Back pain: patient perspective articles' (URL) from the British Brain & Spine Foundation at http://brainandspine.org.uk
• 'Injections for chronic back pain' (URL) from Bupa at http://www.bupa.co.uk
• 'Low back pain: understanding NICE guidance' (PDF) from the National Institute for Health and Clinical Excellence at http://www.nice.org.uk
• 'Non-rigid stabilisation techniques for the treatment of low back pain: understanding NICE guidance' (PDF) from the National Institute for Health and Clinical Excellence at http://www.nice.org.uk
• 'Non-specific Lower Back Pain in Adults' (PDF) from Patient UK at http://www.patient.co.uk
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- 'Percutaneous disc decompression using coblation for lower back pain - information for the public' (PDF) from the National Institute for Health and Clinical Excellence at http://www.nice.org.uk
- 'Percutaneous intradiscal electrothermal therapy for low back pain; understanding NICE guidance' (PDF) from the National Institute for Health and Clinical Excellence at http://www.nice.org.uk
- 'Prolapsed Disc (Slipped Disc)' (PDF) from Patient UK at http://www.patient.co.uk

For details on how these resources are identified, please see Map of Medicine’s document on Information Resources for Patients and Carers (URL).

The following resources are recommended by the British Pain Society:

- NHS Direct (URL) – 0845 4647
- written information from a variety of charities or locally from the pain service
- Healthy Working Wales
- National Exercise Referral Scheme (NERS)
- Health at Work advice line – this is for small and medium-sized businesses with easy access to professional occupational health telephone advice

Backcare (URL) provides information sheets and booklets on a whole range of back care related issues:
- helpline
- forums
- local groups
- information on local and regional resources

Arthritis Care (URL) provides information sheets on all aspects of arthritis:
- a helpline
- forums
- self-management groups/courses on a local and regional level

National Osteoporosis Society (URL) provides:
- information
- support groups
- a helpline

Action on Pain (URL) provides:
- information
- a helpline

Arthritis Research UK (URL) provides:
- patient information
- research information
- advice on medication may also be sought from local community pharmacists

Pain Concern (URL)
Understanding and Managing Pain: information for patients (URL) from the British Pain Society

Mental health foundation podcasts' (URL)

'Airing Pain' (URL) is a Radio Programme from Pain Concern (URL) covering all aspects of pain:
- all programmes can be accessed via the website
- access to leaflets on chronic pain and drug treatments
- a helpline
- forums

The pain toolkit (URL) for self-management tool for people in chronic pain, also available in Gujarati (URL)

'The Back Book' [30]
'Sheffield back pain' (URL)
'NHS Inform' (URL)
'Back care' (URL)
'Arthritis research' (URL)
3 Updates to this care map

Quick info:
Date of publication: 19-Nov-2012

This care map has been drafted using the Map of Medicine editorial methodology (URL) and represents best clinical practice according to the highest quality evidence available, including the following guidelines:

[1,2,5,10,12,13,48,50,53,95,100,110,114-117,120-124]

Further information was provided by the following references, including practice-based knowledge:


Please see the care map's Provenance for additional information on references, accreditations from national clinical bodies, contributors, and the editorial methodology.

4 Pharmacological information

Quick info:
Principles of initial pharmacological management for patients:

• pharmacology is one method of analgesia – other non-pharmacological methods (eg self management strategies, physiotherapy) should also be explored with patients, as an over-reliance upon medication can be misplaced and send the wrong message to patients

• strong opioids should not be recommended at all in the non-specialist setting, unless for acute pain of 2 weeks duration

• identify and treat, where possible, specific sources of pain, and base the initial choice of medication on the severity and type of pain

• agree goals of therapy before prescribing and adjust choice of medications to meet the needs of the individual

• discuss risks and benefits of potential medications, particularly potential side effects

• give medication an adequate therapeutic trial and agree this period with the patient before initiating further treatment – some medications may require dose titration and optimisation over several weeks before reaching maximum therapeutic effect

• consider rational polypharmacy – appropriate use of analgesic combinations may produce improved efficacy and fewer adverse effects, as lower doses of individual medication as are required

• provide specific guidance on opioid analgesia – see British Pain Society guidelines (URL)

Principles of managing ongoing analgesic therapy include the 4 ‘A’s:

• Analgesia – is the medication still providing useful pain relief?

• Adverse effects - what side effects is the patient experiencing and can these be managed more effectively?

• Activity – does the patient maintain suitable physical and psychosocial functioning?

• Adherence – is the patient taking medication as agreed in the management plan?

Useful websites:

• UK Medicines Information (URL)

• Royal Pharmaceutical Society of Great Britain (URL)

• UK Clinical Pharmacy Association (URL)

• Primary Care Pharmacists Association (URL)

• PRODIGY (URL)

• British Pain Society (URL)

• Pain Community Centre (URL)

References:

[3,12-23]

Please see the care map's Provenance for details.

5 Biopsychosocial assessment performed in the context of a multidisciplinary team (MDT)
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Quick info:
Conduct a biopsychosocial assessment and develop an individualised management plan in the context of multidisciplinary care [50,116].

Review yellow flags [115-117,121]:
• belief that pain and activity are harmful
• ‘sickness behaviours’ (like extended rest)
• low or negative moods, social withdrawal
• problems with claim and compensation
• history of back pain, time-off, other claims
• problems at work, poor job satisfaction
• heavy work, unsociable hours
• overprotective family or lack of support

References:
[50,115-117,121]
Please see the care map's Provenance for details.

6 Self care/management and patient education

Quick info:
Patient education should commence early in the process and certainly at the first assessment [3,11]:
• it should not just be considered as giving patients information in the form of leaflets – the healthcare professionals (HCPs) also need to ask the patient how they best learn in order to improve their experience and involvement in care
• self-care and management underpins all activities within this care map and should be considered alongside each care point
• commissioners should commission structured education and appropriate resources and all HCPs should be able to refer patients to the peer support offered by Third Sector Organisations
• self-management information should be available even before the patient has accessed the service and can then be used as an adjunct to treatment after initial assessment – this is especially important for patients waiting to see specialist HCPs

Other methods of accessing information are available via [3]:
• telephone advice through NHS Direct
• written information from a variety of charities or locally from the pain service
• other organisations and websites – see the 'Information resources for patients and carers' information point for details

Self-care can include heat or cold treatments [115,117].

References:
[3,11,115,117]
Please see the care map's Provenance for details.

7 Follow individualised stepped management approach as part of an MDT approach

Quick info:
General principles of treatment at specialist level should include [3]:
• clear explanations of why pain persists
• support to maximise function, usually through the use of activity management techniques such as pacing, including graded activity increase
• optimisation of pain relief both pharmacological and non-pharmacological
• care should be delivered as part of an overall management plan in conjunction with the patient

All treatments require that patients are selected carefully using the recommended criteria [3]:
• multidisciplinary biopsychosocial rehabilitation [3]
• cognitive behavioural therapy (CBT) -based programmes
• a vocational rehabilitation approach can be successful in returning people to employment or to other productive activity [46-49]:

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• treatment programmes that do not address return to work issues are much less effective where re-employment is the desired outcome
• these treatment programmes require practitioners with appropriate occupational rehabilitation skills
• physical therapy, which can be [3]:
  • group therapy
  • individual therapy

Principles of managing ongoing analgesic therapy include the 4 'A's [3]:
• Analgesia – is the medication still providing useful pain relief?
• Adverse effects – what side effects is the patient experiencing and can these be managed more effectively?
• Activity – does the patient maintain suitable physical and psychosocial functioning?
• Adherence – is the patient taking medication as agreed in the management plan?

References:
[3,46-49]

Please see the care map's Provenance for details.

8 Interventional pain therapies

Quick info:
The British Pain Society (BPS) state that therapeutic facet joint intra-articular injections are only to be done in the context of either special arrangements for clinical governance and clinical audit or research [3]. The National Institute for Health and Clinical Excellence (NICE) do not currently recommend injections of therapeutic substances into the back for non-specific low back pain [1].

Diagnostic medial branch blocks may be a useful screening tool to improve specificity if radiofrequency lesioning is being considered [3].

Due to studies performed in different populations with different entry criteria the evidence based on interventional therapies is mixed [3].

The following is a consensus statement from the British Pain Society Pathways Group [3]:
• all spinal interventions should be performed under appropriate imaging
• where available, the British Pain Society/Faculty of Pain Medicine of the RCOA Good Practice Guidelines regarding interventions should be followed
• interventional pain therapies should be part of comprehensive treatment by a multidisciplinary team (MDT) [50]

There should be ongoing assessment following a trial of treatment to show evidence of response [3].

Many patients in younger age groups could have discogenic pain, which may be persistent. Specialist opinion should be considered in patients with persistent discogenic pain [53,54,57].

Facet joint injections, medial branch block and sacroiliac joint injections should be part of comprehensive treatment by an MDT [50].

General indications [3]:
• failed conservative treatments
• moderate to severe pain greater than 4/10 on visual analogue scale (VAS)
• localised pain
• unable to tolerate step 2 analgesia on World Health Organization (WHO) ladder

Relative contraindications [3]:
• post traumatic stress disorder (PTSD) – liaise with psychological services
• moderate to severe depression – liaise with psychological services [87]
• coagulopathies [122]

Diagnosis of facet joint pathology [3]:
• the role of imaging is limited in that all studies are small and have not been replicated
• one trial suggested that SPECT scanning may be helpful [71]
• facet joint effusion may be seen on MRI [73]

Facet joint injections should only be performed as part of a clinical trial or detailed audit [3].

Medial branch block (MBB) [52,43,72,74]:

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• a diagnostic procedure to test if pain is mediated by branches or the lumbar dorsal rami
• target nerves are anaesthetised with a tiny volume of local anaesthetic
• lumbar medial branch blocks test if pain stems from a given lumbar facet joint
• MBBs are easy to perform and safe
• useful in predicting response to radiofrequency denervation/neurotomy
• may have some therapeutic effect [52,75,77]
Sacroiliac joint pain (SIJ):
• maximum pain below L5 coupled with pointing to the posterior superior iliac spine (PSIS) or tenderness just medial to the PSIS has the highest positive predictive value (60%) of all the alleged signs of SIJ pain [79,80]
• patients with spondylitis should be referred to a rheumatologist and may respond to systemic medication [3]
• most experts maintain that low-volume intra-articular local anaesthetic injections are the only reliable way to diagnose SIJ pain [81] – in clinical practice, most physicians inject a mixture of local anaesthetic and corticosteroid to facilitate immediate diagnosis and short-to-intermediate term pain relief [3]
• there is evidence that fluoroscopy/CT-guided SIJ injection of corticosteroid provides good short-to-medium term pain relief [82-84], confirmed by recent reviews [85,86]
• the British Pain Society Pathway Development Group felt that injection of local anaesthetic and corticosteroid into the SIJ [3]:
  • should be performed after confirming that the needle tip is in the joint by injecting contrast dye into the SIJ under fluoroscopy
  • could facilitate diagnosis of SIJ pain
  • could provide short-to-intermediate term pain relief in carefully selected patients as indicated above
• pain relief obtained should be used as an opportunity to rehabilitate the patient, which will require close co-operation with other specialties [3]

References:
[1,3,43,50,52-54,57,71-86,87,122]
Please see the care map's Provenance for details.

9 Complex medication including opioids and neuropathic pain medications

Quick info:
Complex medication management should be prescribed by specialists appropriately trained and skilled in [3]:
• prescribing
• monitoring
• follow-up

Principles of initial pharmacological management for patients [3]:
• pharmacology is one method of analgesia – other non-pharmacological methods (eg self management strategies, physiotherapy) should also be explored with patients, as an over-reliance upon medication can be misplaced and send the wrong message to patients
• consider rational polypharmacy – appropriate use of analgesic combinations may produce improved efficacy and fewer adverse effects, as lower doses of individual medication are required

Pharmacological management may consist of:
• paracetamol [3,115,117]
• tricyclic antidepressants (TCAs) [1]:
  • evidence is mixed
  • recommended by the National Institute for Health and Clinical Excellence (NICE) due to low risk and low cost
  • selective serotonin re-uptake inhibitors (SSRI) antidepressants are not recommended
  • NB: the use of TCAs for this indication is outside of their marketing authorisations (product licences) in the UK [123]
• opioids [115,117]:
  • provide specific guidance on opioid analgesia – see British Pain Society guidelines (URL)
  • opioids should not be recommended routinely, due to the potential for harm [59-62]
  • screening for addiction potential is recommended, using [63]:
• revised screener and opioids assessment measure for patients with pain (R-SOAPP)
• current opioid misuse measure
• opioids can be used in acute episodes of low back pain, provided [59-63]:
  • the lowest dose possible is used
  • they are used for the shortest time possible
  • effectiveness and side effects are monitored
  • a plan for use is provided, including actions in the event of possible deviations from schedule, or failure to meet outcomes

See ‘Neuropathic pain’ care map for details of medication for treating neuropathic pain.

See ‘Pharmacological information’ information point for a list of useful websites.

References:
[1,3,12,13,15,20-22,59-64,115,117]

Please see the care map's Provenance for details.

10 High intensity cognitive behavioural therapy-based programmes

Quick info:
High intensity cognitive behavioural therapy (CBT)-based programmes (also known as pain management programmes or combined physiotherapy/psychology programmes) to a maximum of 12 sessions [3,65-70,123]:
• are psychologically-based rehabilitative treatments for people with chronic pain
• are delivered in a group setting (up to 12 people, depending on staffing levels and patient need) by an interdisciplinary team working closely with patients
• reduce the disability and distress caused by chronic pain by teaching physical, psychological, and practical techniques to improve quality of life
• pain relief is not the primary goal, although improvements in pain have been demonstrated

High intensity programmes may contain [3,65-70,123]:
• education and information
• graded increases in exercise and stretching towards patient-defined goals
• behavioural methods:
  • reduction in fear of activity and related avoidance
  • increase in pleasurable activities
  • attention manipulation
  • relaxation techniques
• cognitive work to address unhelpful beliefs and ways of processing information, particularly catastrophising

Common inclusion criteria [3,65-70]:
• presence of persistent pain causing significant disability and/or distress
• the patient is able to communicate in the language in which treatment is conducted
• a trained independent interpreter may facilitate successful participation
• the patient is willing to participate

Common exclusion criteria [3,65-70]:
• the patient has a limited life expectancy or rapidly deteriorating disease or condition
• psychosis and severe cognitive impairment are contraindications

There are some obstacles which mean that the person is not usually suitable for high intensity CBT-based programmes until they have been resolved [109]:
• primary drug or alcohol problems
• psychological or psychiatric problems which require urgent attention, or which preclude the use of cognitive and behavioural methods
• severe disability such that the basic requirements of attending treatment exceed the patient’s current capacity – this depends in part on the physical characteristics of the treatment setting and access to it.
Very high intensity CBT-based programmes provide several weeks intensive treatment for very disabled patients and may be effective [3]. There is no evidence on minimum intensity, but more intensive programmes provide greater gains [70].

References:
[65-70,109,123]
Please see the care map's Provenance for details.

11 Consider referral to specialist spinal surgical service

Quick info:
Conservative management and minimally invasive interventions should be considered before major surgery and therefore a multidisciplinary approach is encouraged [3,58].
Spinal surgery should only be included as an option where other options have been tried and/or ruled out, complex psychosocial factors have been addressed, and the decision is made in collaboration with a multidisciplinary team (MDT) [3].
Surgery should be considered when a patient has undertaken a high intensity cognitive behavioural therapy (CBT) -based programmes but has failed to obtain sufficient benefit [3].
Surgical management is by appropriately skilled and trained surgeons.

References:
[3,58]
Please see the care map's Provenance for details.

12 Consider radiofrequency denervation

Quick info:
All spinal interventions should be performed under appropriate imaging. Where available, the British Pain Society/Faculty of Pain Medicine of the RCOA Good Practice Guidelines regarding interventions should be followed [50].
Radiofrequency denervation should be part of comprehensive treatment by a multidisciplinary team [50].
There should be ongoing assessment following a trial of treatment to show evidence of response [3].

Lumbar facet joint denervation [3]:
- the British Pain Society Pathway Group recommend that lumbar joint radiofrequency denervation can be offered to a carefully selected group of patients
- at least one diagnostic medial branch block should be performed prior denervation techniques
- proceeding directly to denervation may be more cost effective [87], however this will be associated with a lower success rate
- two diagnostic medial branch blocks are likely to be better, but less cost effective [87]

Whilst the National Institute for Health and Clinical Excellence (NICE) do not currently recommend radiofrequency facet joint denervation [1], recent outcomes of radiofrequency denervation have improved with better understanding of the neuroanatomy of the spine, improved patient selection criteria, and improved radiofrequency ablation techniques. Older studies which have not used appropriate selection criteria and/or radiofrequency technique therefore do not stand up to scrutiny with current standards [56,93,94].
The British Pain Society Pathway Group recommend that sacroiliac joint radiofrequency denervation (SIJ RF) can be offered to a carefully selected group of patients, based on recent evidence that uses appropriate selection of patients and the correct surgical technique [88-91]:
- consider SIJ RF for patients who respond with at least 80% pain relief after fluoroscopy guided diagnostic sacroiliac joint injections
- use the period of pain relief to rehabilitate the patient in close co-operation with other specialties

Two randomised controlled trials and two prospective observational studies have shown significant pain relief and improved function following SIJ radiofrequency denervation in carefully selected patients with diagnostic injection [89-92].

References:
[1,3,50,56,77,87-94]
Please see the care map's Provenance for details.
Provenance certificate

Overview

This care map has been developed by the British Pain Society based upon quality-assessed evidence and practice-based knowledge from expert clinicians. Please see the Editorial Methodology section of this document for further information.

This care map was last updated on 19 November 2012.

To cite this care map, use the following format:


Accreditations

There are two levels of accreditation available to a care map:

- Accreditation of the clinical content by a relevant professional group
- Accreditation of the editorial methodology used

The clinical content of this care map is accredited by:

The British Pain Society

The editorial methodology used to create this care map is accredited by:

The Chief Knowledge Officer of the NHS

Editorial methodology

This care map has been developed based upon well-reputed secondary evidence: meta-analyses, systematic reviews, and guidelines. Inclusion and exclusion criteria have been applied to systematic reviews and meta-analyses retrieved from the searches to ensure that only high-quality information is selected, with the AGREE instrument deployed to assess the quality of guidelines.
The drafted care map has been developed by individuals with front-line clinical experience (see Contributors section of this document) who have been nominated by the British Pain Society, together with the editorial team at the Map of Medicine. The British Pain Society’s working party members include, amongst others, representatives from patients, primary care, interventionist and non-interventionist pain medicine, psychology, physiotherapy and chiropractic. Academics and those with experience of developing guidelines also support the working groups.

The care map has been reviewed by individuals with front-line clinical experience. Such individuals can nominate further references to be added to a care map; see the evidence summary at the start of the ‘References’ section for details.

Map of Medicine pathways are constantly updated in response to new evidence. Continuous evidence searching means that pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the pathways through the quarterly publication cycle.

References

The content of this care map is based on:

- high-quality guidelines and policy information [1,2,5,10,12,13,48,50,53,95,100,110,114-117,120-124]
- critically appraised meta-analyses, systematic reviews, and primary literature [6,7,14,15,17-20,22-24,26-29,31-37,39,41-45,49,51,52,55,57,59,60,62,64-76,78-80,82-84,86-92,96-99,101-109,112,118,125,126,128,130]
- safety and prescribing information [123]
- practice-based recommendations [3,4,8,9,11,16,21,25,30,38,40,46,47,54,56,58,61,63,77,81,85,93,94,111,113,119,127,129]

The evidence-based, practice-informed care map has been peer-reviewed by central committees within stakeholder groups.


The classification employed by Map of Medicine is as follows:

[G] guideline
[M] meta-analysis
[S] systematic review
[A] randomised controlled trial
[B] nonrandomised prospective study
[C] retrospective study
[Q] cost- or decision-analysis
[P] performance measure or policy document
[E] practice-based information (expert opinion)

Contributors

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- Chairman of the Pain Patient Pathway Working Executive Group, BPS
- Chairman NHS Clinical Reference Group - Specialised Pain Services
- UCLH NHS Foundation Trust Pain Management Centre Department Lead
- Chairman Taxonomy Committee, Pain of Urogenital Origin (PUGO), Special Interest Group of IASP
- Committee member, Pelvic Pain Guidelines Committee, The European Association for Urology. Costs for the EAU covered by The European Association for Urology
- Member of Specialist in Pain Medicine (SPIN), charity for international pain medicine network and education exchange
- Invited to give lectures with expenses covered. Multiple book chapters and publications.
- Partnership – Baranowski and Hearn, private practice

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- Funds paid to department as research grants and contract research income from: Astra-Zaneca, Cephalon, Datex Ohmeda, GlaxoSmithKline, Grunenthal GmbH, GW Pharmaceuticals, Janssen-Cilag, Menarini, Napp/Purdue, Newron, Novartis, Novo-Nordisk, Johnson & Johnson/Ortho-McNeil USA, Pain Therapeutics Inc., Pfizer (Searle/Pharmacia), Sanofi-Synthelabo, Skye Pharma, CSL (Australia & NZ), Javelin Pharmaceuticals, Mundipharma
- Advisory board/consultancy activities: Astra-Zaneca, GlaxoSmithKline Grunenthal GmbH, GW Pharmaceuticals, Janssen-Cilag, Novartis, Ortho-McNeil USA, Pfizer (Searle/Parke-Davis/Pharmacia), Skye Pharma, Javelin Pharmaceuticals, Boots
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Executive member chronic pain policy coalition
National Pain Audit Lead British Pain society
Advisory Board Member Janssen 2004 on fentanyl patches in chronic non malignant pain
Advisory capacity to Grunenthal on pain education programme 2009
Advisor National Pain Strategy Australia 2010

British Pain Society Spinal Pain Working Group:

Dr Sanjeeva Gupta: Consultant in Pain Medicine, Bradford Teaching Hospital NHS Foundation Trust, Bradford.

Conflicts of interest:
Chairman of the Spinal Pain Patient Pathway Group, BPS
Educational Meetings Advisor to the Faculty of Pain Medicine of the RCA, London
Past Chair of the IPM SIG of the BPS (till April 2012)
Founder and Past Chair, North England Pain Medicine Group (till May 2012)
Sponsored lecture tour: ASIPP Conference 2011
Sponsored to attend meetings in Europe regarding training in pain medicine procedures
Director – Pain Relief Solutions
Delivered lectures sponsored by drug companies
Editor of Pain Medicine books: Oxford Specialist Hand Book in Pain Medicine; Spinal Interventions in Pain Management;
Interventional Pain Management – A practical approach; Symptom Oriented Pain Management.
Co-director: Leeds Cadaver Course
Faculty for interventional pain medicine cadaver courses conducted by European Chapter of International Spinal Intervention Society, USA

Dr Stephen Ward: Consultant in Pain Medicine, Royal Sussex County Hospital, Brighton.

Conflicts of interest:
Board member – Faculty of Pain Medicine of the Royal College of Anaesthetists
Director – Back@work Ltd.
Shareholdings in Back@work Ltd.
Sponsored lecture tour: ASIPP Conference 2011
Dr Oliver Hart: General Practitioner, Sheffield.

Conflicts of interest:
- GP commissioning lead for MSK, Sheffield
- Speaker fees from Pfizer, Napp, Grunethal and Lilly pharmaceutical companies
- Director of Central Care Sheffield Ltd - primary care provider company
- Elected Council member to BPS

Dr Jonathan Hill: Research Physiotherapist, Keele University, Staffordshire.

Conflicts of interest:
- Council member of the Chartered Society of Physiotherapy
- Advisor to the Arthritis Research UK Patient Publications Committee

Dr Amanda C de C Williams: Reader in Clinical Health Psychology, University College London Hospitals Foundation Trust, London.

Conflicts of interest:
- On several committees of International Association for the Study of Pain, and editorial boards of several pain journals
- Paid lecture/workshops for Janssen, Astellas, Pfizer, and consultancy to Reckitt Benckiser


Conflicts of interest:
- NICE specialist advisor
- UK representative for the European Association of Neurosurgeons training committee
- Member of the Society of British Neurosurgeons
- Member of the AO Spine UK committee
- Vice Chair of the Metastatic Spinal Cord Compression regional group
- Consultancy with numerous spinal surgical devices, Medronic, Depuy, Synthes, Nuvasive, Stryker Medical
- Advisory committee for Pioneer Surgical
- 2,500 shares in Alliance Surgical as founder member, since resigned

Dr Patrick Hill: Consultant Clinical Psychologist, The Dove Primary Care Centre, Birmingham.

Conflicts of interest:
- None declared

Mrs Ruth Sephton: Consultant MSK Physiotherapist, Knowsley Primary Care Trust, Merseyside.

Conflicts of interest:
- Chartered Society of Physiotherapy – Education Committee Member

Ms Elizabeth Killick: Patient Advocacy.

Conflicts of interest:
- None declared

Ms Christine Hughes: Patient Advocacy.

Conflicts of interest:
- None declared
Dr Tony Hammond: Consultant Physician, Kings Hill Medical Centre, Kent.

Conflicts of interest:
Numerous sponsored lectured by pharmaceutical companies including Pfizer, MSD, Roche, BMS, HCB

Dr Manohar Sharma: Consultant in Pain Medicine, The Walton Centre NHS Foundation Trust, Liverpool.

Conflicts of interest:
Treasurer, IPM SIG of BPS
Pain service lead at the Walton Centre, Liverpool
Has delivered lectures often sponsored by drug companies
Has been sponsored to attend meetings in Europe regarding training in pain medicine procedures and advances

Dr Ganesan Baranidharan: Consultant in Pain Medicine, Leeds Teaching Hospitals NHS Trust, Leeds.

Conflicts of interest:
NSUKI council member
Consultancy/advisory position: Astellas, St Jude
Sponsored lecture tours: Pfizer, NAPP, St Jude, Medtronic Arthrocare
Sponsored to attend meetings: St Jude

Dr Joan Hester: Consultant in Pain Medicine, King’s College Hospital NHS Foundation Trust, London.

Conflicts of interest:
Past board member of Faculty of Pain Medicine, Royal College of Anaesthetists
Past president of British Pain Society
Trustee of Specialists in Pain International Network
Trustee, King’s College Hospital Limb Reconstruction Trust
Member of Spinal Taskforce, Department of Health
Honorary President, St Wilfrid’s Hospice, Eastbourne
Honorary President Action-on-Pain
Member of City Chamber Choir, Head of Music, Ripe with Chalvington churches, East Sussex
Sponsored by Grunenthal to attend American Pain Society 2009, World congress on Pain 2010


Conflicts of interest:
NICE specialist advisor
UK representative for the European Association of Neurosurgeons training committee
Member of the Society of British Neurosurgeons
Member of the AO Spine UK committee
Vice Chair of Metastatic Spinal Cord Compression regional group
Consultancy with numerous spinal surgical devices, Medtronic, Depuy, Synthes, Nuvasive, Stryker
Medical Advisory Committee for Pioneer Surgical
2,500 shares in Alliance Surgical as founder member, since resigned
Mr John Carvell: Emeritus Consultant Orthopaedic and Spinal Surgeon, Salisbury District Hospital, Wiltshire.

Conflicts of interest:
Chair Spinal task force at the DH
Chair Salisbury Independent Hospital Trust (Charitable)
Member FTGA
Chair of CRG for complex spinal surgery
Public governor Salisbury NHS Foundation Trust

Dr Simon Dolin: Consultant in Pain Medicine, Western Sussex Hospitals NHS Trust, Sussex.

Conflicts of interest:
Director of Fairy Tree Medical Ltd.

Dr Tim Williams: General Practitioner, Sheffield.

Conflicts of interest:
Honorary lecturer, Cardiff University

Dr Karen Eastman: General Practitioner, The Vale Primary Care Centre, West Sussex.

Conflicts of interest:
Member of Mid Sussex Clinical Commissioning Group’s Executive Board

Ms Keren Smallwood: Spinal nurse specialist, The Walton Centre NHS Foundation Trust, Liverpool.

Conflicts of interest:
Conflicts of interest requested

Disclaimer

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It is not the function of the British Pain Society to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness or completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.

The Chief Knowledge Officer of the NHS

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