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## When to refer to a pain clinic

Michael K. Nicholas PhD

Associate Professor

*Pain Management and Research Centre, University of Sydney and Royal North Shore Hospital, Sydney, NSW, Australia*

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This chapter addresses the questions of which patients might profitably be referred to pain clinics, as well as when this should happen for the optimum results. Since there are many different types of pain clinic, the question of to which pain clinic should a patient be referred is also examined. The development of multidisciplinary pain clinics and the types of services (assessment and treatments) they offer are reviewed as well as evidence for the effectiveness and cost-benefits of pain clinics. In order to make constructive use of pain clinics the potential misuse of pain clinics, by, for example, seeing them as 'last resorts' for hopeless cases or through inadequate preparation, is explored. Common criticisms of pain clinics, such as long-waiting lists and poor linkages to referrers and primary practitioners, and ways in which these are being addressed are also considered. A number of issues to be considered by the doctor when making a referral to a pain clinic are also identified.

**Key words:** chronic pain; assessment; self-management; evidence; cost-benefits; implantables; collaborative care.

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The development of modern multidisciplinary pain clinics has been attributed largely to Bonica, an anaesthetist working at an army hospital in the USA following World War II.<sup>1</sup> While Bonica reported that patients with specific conditions, such as causalgia, responded well to his nerve blocks, others with more complex chronic pain problems did not. As per standard practice, he referred these patients to colleagues from other specialties for their opinions. However, he found this mode of operating slow and inefficient, especially if he had further questions for his consulting colleagues. As a result Bonica started to arrange regular meetings with these colleagues to discuss the patients they had in common and to arrive at a degree of consensus on their diagnoses and a treatment plan. Bonica found this multidisciplinary mode of operating much more effective and efficient in the treatment of these complex cases than the previous 'serial referral' approach and he began to promote the concept more widely.

As might be expected, Bonica found a number of difficulties with his multidisciplinary approach. Loeser<sup>1</sup>, in his review of that period, reported that these included: reluctance by physicians to accept a team approach, partly due to unfamiliarity, which in turn

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*E-mail address:* [miken@med.usyd.edu.au](mailto:miken@med.usyd.edu.au) (M.K. Nicholas).

affected the referral rates; difficulties in arranging meetings at times that were convenient for all; difficulties in discussing failures or short-comings of colleagues; the costs. Nevertheless, Bonica and his group managed to maintain this mode of operating for some 13 years. In many respects, it could still be said that the difficulties faced by Bonica and his colleagues remain today. With the benefit of over 50 years of experience since Bonica's initial forays, this chapter will reconsider the role and value of multidisciplinary pain clinics. Particular attention will be paid to the optimal time to refer to such clinics, as well as the most appropriate patients for such referrals. The nature of the services provided by pain clinics will also be described and their outcomes will be examined.

Before exploring these questions it must also be recognised that there are many different types of pain clinic. Carron<sup>2</sup>, for example, described single modality clinics, such as 'nerve block' clinics, acupuncture clinics and electrical nerve stimulation clinics. These are usually run by a member of a single discipline, such as an anaesthetist, and basically perform technical or procedural tasks with little attention being paid to broader aspects of the patient. Other pain facilities described by Carron include syndrome-orientated clinics, dealing with entities such as low-back pain or headaches, as well as comprehensive pain centres which are typically multidisciplinary in nature and treat a variety of chronic pain syndromes. Carron described 'major comprehensive pain centres' which encompassed research and teaching roles as well as clinical services. Typically, since their interventions are more comprehensive, for a short period these multidisciplinary pain clinics (or centres) expect to play a more active management role with a patient than is the case with the procedure-based clinics. Ideally, this involvement should be integrated with the management provided by the referring doctor or general practitioner (GP), to whose care the patient would return for ongoing management. However, as will be outlined below, many pain clinics seem to retain ongoing involvement in patients referred to them and never effectively discharge them. Somewhat inevitably, this can create grounds for confusion on roles and approaches for both the patients and their specialist or GP.

A 1997 audit<sup>3</sup> of pain services in 27 health regions of the UK found that four provided no pain services, while others provided anaesthetist-only services (about a third), or partial multidisciplinary clinics with an anaesthetist and one or more medical and non-medical specialists (about three in five clinics), while full multidisciplinary clinics, staffed by anaesthetists, other medical specialists as well as other specialists such as psychologists and physiotherapists, were described as 'uncommon'. A more detailed (and recent) review<sup>4</sup> of UK public pain services on behalf of the Pain Society (of Great Britain), found that out of 270 large acute hospitals some 200 offered a chronic pain management service. The Pain Society's survey also found wide variability in the services offered, as well as in staffing levels, with corresponding differences in the numbers of patients seen (ranging from 180 per year to almost 9000). Staffing numbers ranged from a single consultant anaesthetist to multidisciplinary teams of almost 50 staff. Loeser<sup>1</sup> estimated that worldwide in 1988 there were 150–200 major comprehensive pain centres, 500–550 comprehensive pain centres, 800–850 modality-oriented pain services and 350–400 syndrome-oriented clinics. He extrapolated that by 2000 these figures would have doubled. Certainly, the recent UK figures would suggest that the numbers (and size) of pain clinics in that country had increased, even since 1997.

Regardless of the accuracy of Loeser's figures, the key point is that there are many types of pain clinic. As a result, the question of the optimal time for referring a patient to a pain clinic must also include the caveat of 'to which pain clinic'. This chapter will take the position that since referral to a modality-specific clinic will most probably be

based on the desire for that procedure alone<sup>5</sup> the pain clinics under consideration here will be partially or fully multidisciplinary and may be either syndrome-specific or more comprehensive in terms of the conditions covered.

## SERVICES OFFERED

### Assessment

As originally outlined by Bonica, a key feature of a pain clinic is its ability to provide a comprehensive (i.e. multi-faceted) assessment of a patient with a persisting pain problem, particularly when no curative treatment is available. Typically, patients referred to pain clinics represent quite a diverse group.<sup>6</sup> Many patients attending pain clinics, especially those referred by other specialists, will already have an established medical diagnosis.<sup>4</sup> In their case, the referral request is likely to relate to advice on ongoing management options or symptom control measures. In other cases, the diagnosis may be unclear, or non-specific, but in these cases serious conditions, such as neoplasms or spinal cord injuries, should have been excluded by previous investigations.

In some cases, the assistance of diagnostic nerve blocks may be sought from a pain clinic in order to plan possible interventions. The use of facet joint blocks, for example, may be seen in this context, but it is recommended that these be conducted according to a suitable blinded multiple test protocol since a high rate of false positives is likely from single blocks.<sup>7</sup> This use of a controlled series of nerve blocks, followed by percutaneous radiofrequency neurotomy, is one of the few instances when pain clinics may provide specific pain relieving interventions that can last for periods of months, rather than hours.<sup>8</sup> In the vast majority of patients referred to pain clinics such specificity of intervention and extent of effect is rare.<sup>9</sup>

Since symptom control rather than curative treatment is the normal expectation of a pain clinic, the biopsychosocial model of illness and pain<sup>1,10–12</sup>, rather than a purely biomedical perspective, generally provides the guiding philosophy for assessment in a pain clinic. Accordingly, in addition to the standard medical history-taking, examination procedures and tests or scans, a pain clinic assessment will normally include close consideration of the psychological and environmental aspects of each case. The medical examination may be conducted by medical specialists from a number of disciplines, but typically it will be either an anaesthetist (most commonly), rheumatologist, or rehabilitation (physical medicine) physician. The psychological and environmental aspects of the case may be assessed by either a clinical psychologist or psychiatrist, who would be expected to have expertise in the pain field.<sup>13</sup> In many clinics physiotherapists will conduct a musculoskeletal examination. Ideally, all of these assessments should be conducted on the same day and the different clinicians involved should then meet to discuss their findings, to formulate a diagnosis or explanation of the presenting problems and to develop a treatment or management plan. In many pain clinics the findings and treatment recommendations are then discussed with the patient on the same day, prior to a written report being prepared for the referring doctor.

In some cases, further investigations or opinions may be required to clarify a case and these may be conducted outside the pain clinic, but the results should then be considered by the same pain clinic staff that assessed the patient originally so that they can complete their assessment.

It is beyond the purpose of this chapter to describe in full the types of specialised assessments that a pain clinic may undertake, but depending upon the resources of

the clinic they may include diagnostic nerve blocks, trials of implanted spinal cord electrical stimulators, placebo-controlled and blinded intrathecal opioids, and examination under anaesthesia (EUA). Psychological assessments typically include the use of a range of self-report questionnaires aimed at assessing pain perceptions, beliefs about pain, the use of different coping strategies, distress (e.g. depression, anxiety, anger) and disability.<sup>14</sup> Psychological assessments also include an interview of the patient and possibly their significant-other (e.g. spouse), investigating the history of the pain complaint, modulating factors, impact on the patient and those close to him/her, as well as their pain-related interactions with those around him/her at home, work and elsewhere.<sup>13</sup> In some cases, a structured observational assessment of designated pain behaviours displayed by patients may be conducted.<sup>15</sup>

Formal psychiatric diagnoses may be made where necessary, especially in cases of concern such as those with marked depression and suicidal ideation.<sup>16</sup> However, the diagnosis of Pain Disorder, which would describe most of those attending a pain clinic, is generally regarded as not particularly useful.<sup>17</sup> Instead, a formulation of the presenting problems, incorporating the known or assumed biological bases for the patient's symptoms as well as the contributing psychological and environmental modulating factors is generally more useful for planning interventions that may be directed at one or more of these different facets.<sup>13</sup>

## Interventions

Whilst most patients referred to a pain clinic are likely to have had previous trials of different treatments for their pain (especially pharmacological and physical modalities), the pain clinic may offer an opportunity to revisit the same agents or interventions, but this time within the context of a multi-pronged approach following a comprehensive multidisciplinary assessment. An investigation by Crombie et al<sup>6</sup>, for example, revealed that many patients referred to pain clinics in northern Britain with nerve damage pain had not received adequate trials of potentially useful therapies, such as antidepressants and anticonvulsants, agents that could have been prescribed by their GPs.

While pain clinics should have staff with considerable experience in the use of available pharmacological agents, their comprehensive staffing can also facilitate the provision of simultaneous advice and support for the patient on his/her daily management strategies that may complement (or provide alternatives to) the use of medication. Thus, in addition to following a particular drug regimen, the patient may also receive help from the pain clinic's psychologist and physiotherapist in modifying their daily activity patterns and in planning a graduated increment in activities.<sup>18</sup>

In general, interventions provided by pain clinics may be divided into two broad categories—those concerned with relieving pain directly and those concerned with improving functional activities and quality of life independently of pain. At times both approaches may be undertaken. Thus, analgesic (or anticonvulsant or antidepressant) agents or various procedures may be used in an attempt to ease pain severity (and often sleep and distress) in the expectation that this might enable the patient to pursue more functional or lifestyle goals. This approach is highlighted in numerous guidelines for the use of opioid analgesics<sup>19,20</sup>, as well as for the use of sympathetic blocks followed by active physiotherapy (where exercises form a major element of the intervention).<sup>21</sup> Collett<sup>22</sup> described this common element in the various guidelines as an emphasis on 'capitalising on improved analgesia by an increase in physical and psychosocial functioning' (pp. 140).

Interventions aimed primarily at achieving functional goals rather than pain relief, even to the extent of withdrawing analgesics, are typically associated with

multi-disciplinary cognitive-behavioural pain management programmes.<sup>9,18</sup> Broadly, these programmes attempt to train a patient in effective self-management strategies to maximise self-reliance and reduced use of health care resources, including drugs. Versions of this approach have been reported with patients experiencing a wide range of conditions, including arthritis<sup>23</sup>, general chronic pain<sup>24</sup>, chronic headaches,<sup>25</sup> chronic cancer pain<sup>26</sup> and chronic illnesses generally.<sup>27</sup>

Typically, these self-management interventions work by establishing a collaborative relationship<sup>27</sup> between patients and staff aimed at identifying and working towards patient-relevant goals, such as a return to work, family or recreational activities. Patients are taught to pace their activities by taking regular breaks or changing the activity and/or posture, which can minimise aggravation of pain while enabling the patient to maintain their activities. Over time they are encouraged to increase their activity levels (in steps) at a rate they can manage. The stepped activities, such as walking, lifting or carrying, are selected on the basis that they will eventually enable the patient to perform their goal activity (e.g. return to productive work). Patients are also taught problem-solving strategies to enable them to deal with the inevitable set-backs and frustrations they will encounter. Typically, this involves learning to identify and change unhelpful thought or response patterns, such as alarmist thinking or activity avoidance. Attention to maintenance of gains (or relapse prevention) is also a critical aspect of these programmes and patients will usually be helped to develop strategies to deal with the inevitable challenges they will face. Such maintenance strategies will often involve utilising the support and encouragement of the patient's GP or rheumatologist, as well as their family or close friends, to maintain their self-management programme.<sup>23,27,28</sup>

Frequently, pain clinics offer combinations of these two broad approaches. Muir and Molloy<sup>29</sup>, for example, strongly advised that the use of implantable devices such as intrathecal opioid pumps and spinal cord stimulation should incorporate training in pain self-management strategies. Similarly, Gybels and Nuttin<sup>30</sup> recommended that the use of implantable devices should only be contemplated within the context of a multidisciplinary pain team with 'extensive experience in managing difficult pain cases' (pp. 1873). Turk<sup>31</sup> outlined a case for coordinated, combined modality therapies as a potential means of achieving better outcomes. Essentially, he argued that greater potentiation effects might be achieved with combinations, relative to when the constituent treatments are used alone. However, others<sup>13</sup> have argued that while attractive as an option, the simultaneous application of two treatments with quite different goals and patient role demands could conflict and care needs to be taken in their implementation. For example, if a patient is seeking pain relief through a drug or procedure, the responsibility for any effects lies with the treatment alone. In the case of self-management strategies, the outcomes depend much more on the patient's own efforts (and willingness to take responsibility for their use of the strategies).<sup>23</sup> As a result, the risk of simultaneous application of (potentially) pain relieving treatments and encouragement/training in self-management strategies is that instead of attempting to increase their activities despite pain (self-management), such patients will remain pain-focussed and reluctant to take on the responsibility for their illness that self-management requires. The outcomes for both modalities could then be compromised. Rather than providing a synergistic effect, a simultaneous intervention could even lead to a worse outcome—a more demoralised and dependent patient.

## POTENTIAL MISUSES OF PAIN CLINICS

While pain clinics can claim to provide a specialised service for patients with more complex and intractable pain problems<sup>6</sup>, this role can leave them open to misuse or inappropriate use, which can result in wastage of scarce resources and sub-optimal outcomes.

Patients with intractable, persisting pain have often attracted a number of pejorative labels, such as 'heart-sink' cases, especially when no specific or organic cause may have been identified to explain their pain.<sup>32,33</sup> Some writers<sup>33</sup> have noted evidence of such patients being identified as having 'psychogenic' pain and being 'banished from the medical domain' (pp. 199). Interestingly, as Sullivan<sup>33</sup> points out, while a proportion of people with chronic pain will be depressed, explanations of hitherto unexplained pain in terms of constructs such as somatisation are not necessarily helpful and may amount to allowing us to account for symptoms by alluding to 'defects within the individual' (pp. 200) when we cannot find tissue pathology. Referral of such patients to pain clinics or psychiatry may be appropriate, but if the patient perceives this as banishment or abandonment, there is a risk of promoting a sense of hopelessness in these patients who might be expected to be particularly vulnerable to such feelings.

There is some evidence that a proportion of patients referred to psychiatrists or psychologists do experience a sense of not being believed by their physicians.<sup>34,35</sup> Clearly, such an atmosphere may be well-short of the sense of 'therapeutic optimism' normally expected of a clinical service hoping to effect positive outcomes.<sup>36</sup> Not surprisingly, pain clinics have long sought to see patients well-before they have reached the point of 'therapeutic nihilism'.<sup>37</sup> Such an approach makes sense for both psychological and somatic reasons. This may be seen quite graphically in the case of those with early Complex Regional Pain Syndrome, where delays in instituting active treatment can risk progression of the problem to the point where good outcomes are increasingly difficult to achieve.<sup>38</sup>

In addition to inappropriate referral practices, there is also evidence that pain clinics themselves contribute to their own misuse. A common difficulty in accessing a pain clinic has been attributed to their long waiting lists.<sup>3</sup> However, part of the reason for the long waiting lists is that many appointment times are taken up by patients who have been seen at the clinic a number of times. In their audit of 10 outpatient pain clinics in Scotland and northern England, Crombie and Davies<sup>39</sup>, for example, found that the proportion of repeat consultations with a pain specialist varied from 15 to 34% of cases across different clinics. The Audit Commission's report<sup>3</sup> questioned whether this was the best way of using such a specialised service and pointed to the advantages of using the clinic for assessment and management advice rather than ongoing care. Ongoing care could be performed by more local services acting on the advice of the pain clinic. However, this proposal does assume that local primary care services will also have the capacity to provide the recommended interventions.

In some countries (e.g. Australia) pain clinics may be used to legitimise medication regimens, especially those involving opiates, in patients with apparently little interest in changing.<sup>19</sup> Such practices usually derive from legislated policies for patients to be able to continue with such treatment prescribed by their primary care physician. While the policy reflects a desire to ensure the appropriateness of such treatment, its effectiveness is questionable since the treatment has been commenced before a full assessment has been conducted. It may be unrealistic to expect a patient to be willing to change course at that stage, especially if the existing management plan suits them in some way, even though it may not be in their overall best interests.<sup>40</sup>

There is widespread concern about the potential for iatrogenic effects in patients with chronic pain conditions. Specifically, ongoing investigations and treatment trials may effectively, albeit unintentionally, reinforce an unhelpful somatic focus, passivity and disability at the risk of overlooking opportunities for such patients to accept their conditions and develop more of a self-management approach.<sup>35,41</sup> Some evidence consistent with these concerns has been reported<sup>34,35</sup> and there is growing evidence that the early recognition of (and intervention in) psychological and environmental contributors to pain may prevent subsequent 'secondary disability'.<sup>42</sup> The evidence accumulated by Linton<sup>43</sup> and others<sup>44,45</sup>, would suggest that delays in referral to a multidisciplinary pain clinic where a comprehensive biopsychosocial assessment can be undertaken may risk the development of preventable pain-related disability in such cases. Referrals that are made several years after the onset of pain and long after the psychological, behavioural and environmental sequelae have become thoroughly entrenched, would seem to compound the problem of using pain clinics as a 'last resort'.

A review of opinions amongst different professional groups in one USA study<sup>46</sup> on the optimum time to refer patients to a pain clinic indicated an average of around 8 months after pain onset. In contrast, the actual average interval from onset to referral in that USA state was closer to 38 months. That study noted that since a number of studies have indicated that treatment success in chronic pain patients is more likely if the interval from onset to referral is relatively short, the actual referral interval would seem to be far too long for good outcomes to be realisable. Recently, Mayer et al<sup>47</sup> described a referral guide prepared by the Contemporary Concepts Review Committee of the North American Spine Society Committee. This outline was derived from previous guidelines developed by the Commission for Accreditation of Rehabilitation Facilities (CARF) and suggested that multidisciplinary services typical of those available in major pain clinics, as well as some rehabilitation facilities, might be considered as tertiary care facilities and would usually be appropriate between 4 and 6 months after onset in the case of those with severe symptoms, with evidence of physical and psychosocial deterioration.

Overall, the types of misuse of pain clinics outlined here place the achievement of good outcomes at significant risk. There is a sound case for referring patients with persisting pain complaints to a pain clinic well-before the pain might be considered to be 'chronic' or intractable, especially for comprehensive assessment. It is also clear that patients that are being considered for referral to a pain clinic should be adequately prepared for it by the referring physician. There is also a need for pain clinics to devise efficient discharge policies to ensure that they move patients on as soon as possible to make appointment space available for new cases. These conclusions point to the need for pain clinics to have interacting, collaborative relationships with primary care practitioners as well as with other specialties.<sup>27</sup> Images of pain clinics as remote and inaccessible 'last resorts' are counter-productive for all.

## EVIDENCE

### Outcome studies

Rather than considering the evidence for individual treatments that can be provided outside a pain clinic, an examination of the utility and effectiveness of pain clinic services needs to consider their multi-faceted nature, where multiple interventions may be

employed simultaneously or sequentially. In addition, as with any treatment outcome evaluation, it is also important to consider the nature of the patients being treated. People with persisting pain problems are clearly not a homogeneous group. Recent epidemiological work in Australia<sup>48</sup>, for example, has revealed that while close to one in five adults report having chronic pain (pain every day for at least 3 months in the last 6 months), less than half reported significant interference with normal daily activities. In other words, a large proportion of people with persisting pain are not disabled by it. Not surprisingly, given the selection processes involved, those who attend pain clinics tend to be those with the most intractable pain problems.<sup>49</sup> Thus, a given treatment tested in one setting with mainly active patients may not be nearly as effective with more disabled patients, even though both groups share similar pain characteristics. Marhold et al<sup>50</sup>, for example, demonstrated that a brief cognitive-behavioural pain management programme that was very effective for workers with sub-acute low back pain (less than 8 months) was significantly less effective with patients whose pain was long-term.

While this section will not examine the evidence for individual treatments, such as analgesics or nerve blocks, it could be argued that the pain clinic's multidisciplinary assessment process may afford the pain clinic a useful platform from which to provide a particular treatment. To date, there is no specific evidence that the source of such treatments per se alters their outcomes, but there is some evidence that the assessment process that is integral to a pain clinic's service can lead to more appropriately targeted or weighted treatments.<sup>6</sup>

Evidence for the effectiveness of pain clinic services with chronic pain patients may be derived from a number of sources. A meta-analysis by Flor et al<sup>51</sup> of 65 studies of pain clinic treatments, which included both controlled and uncontrolled trials, revealed that overall there were significant advantages for multidisciplinary, multimodal treatment packages over unidisciplinary, unimodal treatments. The mean age of patients treated was 45 years, mean pain duration was 85 months and genders were roughly equal. More than half had had at least one surgical operation for pain. Greatest improvements were noted in pain severity and behavioural measures. Drug reduction and return to work both changed by over 60%, whereas control groups changed by less than 30% in these domains. Less difference was evident in reduced use of health care. The authors concluded that their findings indicated that multidisciplinary pain clinics were efficacious and that 'even at long-term follow-up, patients who are treated in such a setting are functioning better than 75% of a sample that is either untreated or that has been treated by conventional, unimodal treatment approaches' (pp. 226). While this analysis has notable shortcomings, including its inclusion of uncontrolled trials and trials using as controls patients whose treatment was declined by an insurance company, as well as the use of studies with poor quality measures, it did at least provide a guide on a range of outcomes with this population with the limited evidence available.

Some evidence that combined modality treatments may offer advantages over the same treatments trialled separately has been reported by Holroyd et al<sup>52</sup> who compared pharmacotherapy and cognitive-behavioural therapy (CBT) modalities alone and in combination with patients suffering from migraine headaches. Holroyd et al<sup>53</sup> found that the combinations of propranolol hydrochloride with relaxation plus biofeedback and tricyclic antidepressants plus stress management training were more effective for reducing headache activity than either alone. In a similar vein, Kishino et al<sup>54</sup> reported that a combination of a psychological intervention that targeted patient motivation and exercise was superior to a graded exercise programme in patients with chronic back pain seen following spinal surgery. Nicholas et al<sup>55</sup> also showed that

a combination of CBT and exercises was superior to exercises (with an attention-control component) alone in terms of functional gains and reduced use of medication in a sample of patients with chronic low back pain. Similarly, a recent systematic review has revealed that activity-based functional restoration or work conditioning programmes (for musculoskeletal injuries) that incorporate cognitive-behavioural principles achieve better outcomes than exercises or activities presented without that structured support.<sup>56</sup>

In studies of patients with arthritis, combinations of cognitive-behavioural interventions and medication have also been shown to be effective. For example, in a prospective randomised trial of a combination of pharmacological and cognitive behavioural treatment versus standard rheumatological (pharmacological) treatment in a sample of patients with rheumatoid arthritis, Leibing et al<sup>57</sup> reported that the combined treatment achieved greater improvements on measures of depression, helplessness, affective pain scores and improved coping or adjustment. There were no differences in disease activity or medication use. As a result the authors recommended the use of CBT as an effective adjunct to standard (rheumatological) treatment of rheumatoid arthritis outpatients. Similar findings were reported by Sharpe et al<sup>58</sup> following a randomised controlled trial with recent onset (less than 2 years) seropositive rheumatoid arthritis patients. All participants received routine medical management during the study, but half were randomly allocated to receive an adjunctive psychological (CBT) intervention. Significant differences were found between the groups at both post-treatment and 6-month follow-up in terms of depressive symptoms. At the end of the treatment, but not follow-up, the CBT group also showed reduction in C-reactive protein levels. Significant improvements in joint involvement at 6-month follow-up were found for the CBT group, but not the Standard group. The authors concluded that the cognitive-behavioural intervention offered as an adjunct to standard clinical management early in the course of rheumatoid arthritis is efficacious in producing reductions in both psychological and physical morbidity.

Two recent systematic reviews<sup>24,59</sup> have provided evidence in support of the efficacy of multidisciplinary pain management programmes, especially those based on behavioural or cognitive-behavioural principles. Unlike the earlier meta-analysis reported by Flor et al<sup>49</sup> these more recent contributions have limited their analyses to studies that employed randomised controlled designs. Morley et al<sup>24</sup> examined 25 trials of programmes dealing with chronic non-cancer pain problems, excluding headaches, and found that in comparison to waiting-list controls (many of whom were receiving some form of treatment), cognitive-behavioural pain management programmes revealed significant advantages on dimensions of pain, mood, cognitive coping and social role functioning. When compared with other active treatments in controlled trials, Morley et al found that cognitive-behavioural treatments were superior on dimensions of pain, use of positive coping strategies and reduced behavioural expression of pain. No significant differences were found for the dimensions of mood, negative coping responses and social role functioning.

Guzman et al<sup>59</sup> examined 10 randomised trials of multidisciplinary biopsychosocial treatment (primarily cognitive-behavioural in nature) that met their quality criteria. This systematic review of programmes of differing length and structure concluded that for disabled chronic pain patients, more intensive (in structure and time) multidisciplinary pain management programmes had better functional outcomes than less intensive versions of the same approaches.

These findings were recently corroborated by a large randomised, controlled study from Norway<sup>60</sup>, which examined the outcomes of chronic low back pain patients with

different assigned prognostic levels when treated in one of three levels of treatment: GP only; a few sessions of advice to gradually resume activities despite pain; an intensive, structured 4-week, multidisciplinary cognitive-behavioural pain management programme. Follow-up at 1 year revealed that the good prognosis group did well in all treatments, suggesting that the GP intervention would have been quite sufficient. In contrast, the moderate prognosis group did equally well in the resume-activity condition and the intensive pain management programme, but less well in the GP condition, suggesting that for this group the encouragement to resume normal activities would have been an adequate approach. However, the poor prognosis group did significantly better in the intensive pain management programme than in either of the other treatment conditions, suggesting that for this group the intensive, structured programme was superior to the alternatives.

When these findings are considered with a number of other studies in this area<sup>48,53,59</sup> it appears that the more distressed and disabled patients with chronic pain require more intensive and structured multidisciplinary programmes to benefit. Equally, with less disabled and less medication-dependent cases, relatively brief programmes will usually suffice. The critical issue then becomes the accurate and comprehensive assessment of patients in order to determine the most appropriate treatment to provide.

Overall, there is growing evidence that the cognitive-behavioural, activity-based treatments commonly provided in pain clinics are of general benefit to patients with chronic pain conditions. The more disabled cases are likely to require more intensive and structured programmes. While withdrawal from unhelpful medication is a common feature of these programmes, it also appears that in selected cases combinations of activity-based programmes and medication or other pain reducing interventions can provide useful functional and pain outcomes.

### Cost-benefits

Although reliable evidence in this area is difficult to come by, a number of authors have reported estimates that provide a guide on the cost-benefits of referring patients to a pain clinic.

As noted earlier, Crombie et al<sup>6</sup> examined the treatment of patients with chronic neuropathic pain conditions in northern Britain and reported that referral to pain clinics resulted in more appropriate trials of pharmacotherapies for these conditions than these patients had previously received. To the extent that these visits resulted in more effective treatment and fewer visits to GPs and specialists, this finding could be seen as supporting pain clinic referral on a cost-benefit basis. An alternative form of benefit analysis was provided by Williams et al<sup>61</sup> who employed a numbers needed to treat (NNT) approach to compare the relative utility of an intensive multidisciplinary pain management programme (4 weeks of hostel-style, inpatient setting) with a less intensive (8 weeks of one afternoon a week) version of the same approach, and a waiting-list (3 months) standard care (GP) control group. This analysis revealed significant advantages, in terms of reduced drug use, improved mood and functional activities, for the pain management programmes over standard care (after 3 months) and for the more intensive over the less intensive pain management programme (after 12 months) in a sample of chronic (average 10 years) and disabled pain patients. This finding is consistent with the recent study by Haldorsen et al<sup>60</sup> mentioned earlier.

The Audit Commission report<sup>3</sup> on Anaesthesia Services in the UK included a case study of one pain clinic. A randomly selected sample of 21 patients were interviewed by

phone 6 months after attending the clinic. The main findings indicated that the number of consultations with other specialists, particularly surgeons, did drop significantly in the 6 months following attendance at the pain clinic, relative to the 6-month period before the pain clinic. However, the extra costs of attending the pain clinic offset the savings of not attending appointments with the other specialists. There was also a reduction, but it was not statistically significant, in NHS treatments. There was no overall change in drug consumption. Overall, the findings indicated that the pain clinic covered its costs by reducing consumption elsewhere within the local health system and there were cost savings achieved through fewer GP consultations. Patients also sought fewer private treatments following attendance at the pain clinic.

McQuay et al<sup>9</sup>, in their review of the Oxford Regional Pain Relief Unit, approached this question by considering the disease burden represented by the conditions typically seen in pain clinics, estimating the probable levels of change achieved and assessing whether pain clinics added to costs (to the health system) or reduced them. Extrapolating from some Canadian data, McQuay et al concluded that in 1 year 'the use of pain clinics results in direct health service savings equal to twice their cost' (pp. 113).

More recently, Turk<sup>62</sup> examined a number of published studies that had evaluated the clinical effectiveness of common pain treatments and calculated their cost-effectiveness in relation to the costs incurred in returning a patient to work. While acknowledging the inherent methodological difficulties in his investigation, including differences in pain syndromes, inclusion criteria, drug dosages, treatment comparability and outcome criteria employed, Turk concluded that multidisciplinary pain rehabilitation programmes achieved significantly better outcomes on a range of dimensions than other pain treatment modalities. The outcomes for which these programmes were superior to other modalities studied included medication use, health care utilisation, functional activities, return to work, closure of disability claims and substantially fewer iatrogenic consequences and adverse events. He also found that surgery, spinal cord stimulators and implanted drug delivery systems (IDDS) achieved substantial benefits for selected patients, but they were also the most expensive options. Overall, Turk concluded that multidisciplinary pain rehabilitation programmes are significantly more cost-effective than spinal cord stimulators, IDDS, conservative care and surgery, even for selected cases.

In sum, there is evidence that for the types of patients concerned (i.e. the more disabled, medication-dependent and higher consumers of health care services), pain clinics can offer cost-benefit advantages over other forms of care.

## PREPARATION FOR REFERRAL

This review has suggested that the decision of when to refer to a multidisciplinary pain clinic should be based on the identification of a need for comprehensive, multidisciplinary assessment, especially when progress is stalled or not proceeding as expected (see [Figure 1](#)). Referral may also be considered when additional help in coordinated management by a multidisciplinary team is sought. Individual specialists may well be able to manage the medical aspects of a case, but if they lack the ready access to other providers, such as clinical psychologists and physiotherapists, then a multidisciplinary pain clinic would be an appropriate option. This may occur early in the development of a condition such as Complex Regional Pain Syndrome, or later when initial efforts to encourage rehabilitation and return to normal activities have proved unsuccessful. Waddell and Burton<sup>45</sup>, for example, recommended that in cases where

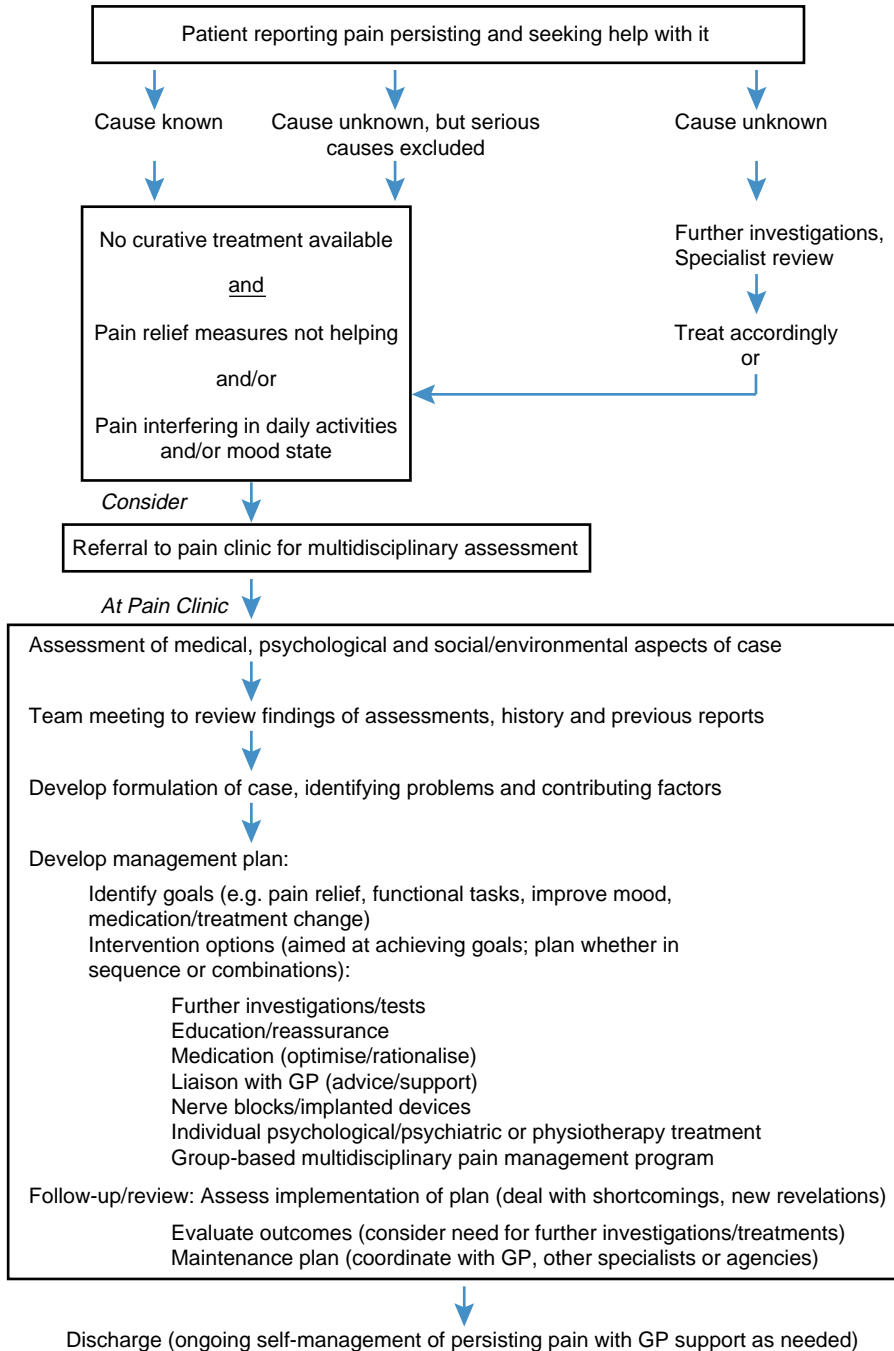


Figure 1. Algorithm for referral to a pain clinic.

a worker (with non-specific back pain) is having difficulty returning to work at 4–12 weeks after onset, ‘intervention packages’ incorporating education, reassurance/advice, exercises and behavioural pain management were to be recommended over symptom-relief measures (e.g. analgesics, nerve blocks, massage), which may support but not interfere with rehabilitation. Such ‘packages’ do not necessarily require a pain clinic, but pain clinics may offer these options.

Loeser<sup>63</sup> has written eloquently of the dangers of iatrogenic complications in physicians continuing to pursue investigations and treatments that are unlikely to yield desired results. As Loeser pointed out, when the resources of a physician have been given adequate trials with a given patient, but to no lasting effect, the sooner that patient is referred for a comprehensive biopsychosocial assessment the better. This is exactly what pain clinics can offer in an efficient manner. This assessment should provide a clarification of the problems being experienced by the patient, the contributing factors and a range of possible treatment/management options. The treatment may or may not be undertaken at the pain clinic, but if it is then ideally follow-up should be provided by the referring doctor or GP. This may necessitate some further collaboration with the pain clinic, but the message from most reviews of pain clinics has clearly emphasised the importance of pain clinics returning patients to the care of the GP as soon as possible.<sup>3</sup>

Since attending a pain clinic will usually entail the patient being assessed by a number of different health care providers, the patient should be adequately prepared for the assessment lest s/he is daunted by the event. This might particularly apply to an assessment by the clinic’s psychologist or psychiatrist—disciplines the patient may not have previously encountered and of whom s/he may hold inaccurate and unhelpful perceptions. This is especially likely if the patient fears s/he is being accused of having, or will be told that they have, pain that ‘is all in the mind’.<sup>34</sup>

Adequate preparation for the referral should include an explanation, as far as can be determined, of the basis for the patient’s pain and a review of treatment options. In this context the pain clinic can be introduced as a logical and considered approach rather than a sign of desperation or hopelessness. Since curative treatments would normally have been excluded, the pain clinic may be introduced as an opportunity to obtain a comprehensive review of the patient’s condition, to ensure that no sensible option has been overlooked and to provide advice on better ways of managing pain for the longer term. Expectations of treatment options should include both pharmacological and behavioural (self-management) avenues<sup>23</sup>, much like the options for other chronic conditions, such as diabetes or asthma. The patient should be advised that the pain clinic will assess the ‘whole’ person and the problems caused by the pain, rather than just the cause of the pain (since that has already been thoroughly investigated). This will entail an assessment by a clinical psychologist or psychiatrist who has particular expertise in this area. If the patient raises any concerns about the referral these should be addressed by the treating doctor as openly and directly as possible.

## WHO SHOULD BE REFERRED AND WHEN?

### Summary and conclusions

Referral to a multidisciplinary pain clinic should be considered once trials of appropriate treatment modalities in the first few weeks or months after onset of pain have been deemed unsuccessful. The most appropriate time may vary according to the patient’s condition. Patients should be adequately informed of the purpose of the referral before

they attend and appropriate expectations should be encouraged. It is critical that the patient does not gain the unhelpful (and inaccurate) perception that the referral represents disbelief or abandonment by the referring doctor. Indeed, it should be emphasised that the pain service involvement will be time-limited and the patient's ongoing care will be provided by his/her primary practitioner. While there is evidence that the services offered by pain clinics are generally useful in terms of effectiveness and cost-savings, there is a need for pain clinics to reduce the numbers of patients returning for repeat appointments in order to increase the availability of such services for new patients.

Considering the types of services offered by a multidisciplinary pain clinic, the patients suitable for referral would typically require assessment and management of their pain and related symptoms, as well as rehabilitative interventions. They may have a well-founded diagnosis but no curative treatment options may be available. Alternatively, they may have no diagnosis, but serious pathology has been excluded. As Mayer et al<sup>47</sup> have argued, the rationale for referral to such tertiary rehabilitation 'is that accurate assessment of the many interrelated factors of chronic disability and pain, linked to skilful implementation of multifaceted treatment programs, can usually enable recovery or at least reduce the degree of permanent disability' (pp. 31S).

#### Practice points

- pain clinics offer an opportunity for a fresh, comprehensive review of a patient when persisting pain is thought to be contributing to slower than expected progress
- delays in referral to a multidisciplinary pain service risk poorer outcomes
- to avoid misapprehensions about being abandoned, adequate preparation of the patient being referred should also emphasise the potential value of the referral
- the patient should be informed that their primary care will remain with their general practitioner (GP) and the pain clinic service is expected to be time limited

#### Research agenda

- measurement of outcomes across a range of dimensions needs to be routine in order to establish the costs and benefits of pain clinic services
- ways of reducing the number of repeat appointments at pain clinics need to be developed to increase the clinics' availability for new referrals
- it is not known if the behaviour of the primary care practitioner, or specialist, influences pain clinic outcomes, but this could be investigated
- pain clinics could assist in reducing the number of repeat appointments by offering training for other (local) practitioners in the principles of chronic pain management, but this needs to be tested
- the development of evidence-based guidelines on which patient for which treatment would assist both referrers and pain clinics in developing services to meet the needs of both referrers and patients

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