Clinical Pain Management

*Practice and Procedures*
Clinical Pain Management

*Practice and Procedures*

2nd edition

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Since the successful first edition of Clinical Pain Management was published in 2002, the evidence base in many areas of pain medicine has changed substantially, thus creating the need for this second edition. We have retained the central ethos of the first volume in that we have continued to provide comprehensive coverage of pain medicine, with the text geared predominantly to the requirements of those training and practicing in pain medicine and related specialties. The emphasis continues to be on delivering this coverage in a format that is easily accessed and digested by the busy clinician in practice.

As before, Clinical Pain Management comprises four volumes. The first three cover the main disciplines of acute, chronic, and cancer pain management, and the fourth volume covers the practical aspects of clinical practice and research. The four volumes can be used independently, while together they give readers all they need to know to deliver a successful pain management service.

Of the 161 chapters in the four volumes, almost a third are brand new to this edition while the chapters that have been retained have been completely revised, in many cases under new authorship. This degree of change reflects ongoing progress in this broad field, where research and development provide a rapidly evolving evidence base. The international flavor of Clinical Pain Management remains an important feature, and perusal of the contributor pages will reveal that authors and editors are drawn from a total of 16 countries.

A particularly popular aspect of the first edition was the practice of including a system of simple evidence scoring in most of the chapters. This enables the reader to understand quickly the strength of evidence which supports a particular therapeutic statement or recommendation. This has been retained for the first three volumes, where appropriate. We have, however, improved the system used for scoring evidence from a three point scale used in the first edition and adopted the five point Bandolier system which is in widespread use and will be instantly familiar to many readers (www.jr2.ox.ac.uk/bandolier/band6/b6-5.html).

We have also retained the practice of asking authors to highlight the key references in each chapter. Following feedback from our readers we have added two new features for this edition: first, there are key learning points at the head of each chapter summarizing the most salient points within the chapter; and second, the series is accompanied by a companion website with downloadable figures.

This project would not have been possible without the hard work and commitment of the chapter authors and we are deeply indebted to all of them for their contributions. The volume editors have done a sterling job in diligently editing a large number of chapters, and to them we are also most grateful. Any project of this magnitude would be impossible without substantial support from the publishers – in particular we would like to acknowledge our debt to Jo Koster and Zelah Pengilley at Hodder. They have delivered the project on a tight deadline and ensured that a large number of authors and editors were kept gently, but firmly, “on track.”

Andrew SC Rice, Douglas Justins, Toby Newton-John, Richard F Howard, Christine A Miaskowski
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I would also like to add my personal thanks to the Series Editors who have given their time generously and made invaluable contributions through the whole editorial process from the very outset of discussions regarding a second edition in deciding upon the content of each volume and in selecting Volume Editors. More recently, they have provided an important second view in the consideration of all submitted chapters, not to mention stepping in and assisting with first edits where needed. The timely completion of the second edition would not have been possible without this invaluable input.

Andrew SC Rice
Lead Editor
Introduction to Clinical Pain Management: Practice and Procedures

Despite extensive research into the origins and mechanisms of acute and chronic pain, its management remains a challenge to all involved in health care. This is partly due to our incomplete knowledge of the subject and the plasticity of the mechanisms involved. The need to educate patients and develop therapeutic means that are effective but are well tolerated, are additional problems encountered in daily practice. Each chapter in Practice and Procedures can stand alone or work to complement the chapters in preceding volumes – Acute Pain, Chronic Pain, and Cancer Pain. Authors have been chosen as having a special interest and expertise in the practical applications they describe. They have been invited to present their work in a style that is not only comprehensive but also easy to read, with summaries of key points and evidence-based references. The editors and authors have endeavored to provide the reader with a contemporary text that utilizes our latest knowledge on the management of pain to maximize a favorable outcome.

Practice and Procedures covers various forms of pain assessment in addition to a wide range of therapies that can be provided by a diverse range of healthcare disciplines, including practical procedures and applications in the management of acute, chronic, and cancer pain. The volume concludes with valuable chapters about clinical research methods and writing medicolegal reports.

We trust that this volume will be of value to all healthcare workers, regardless of their discipline, and that it will help them to keep abreast of developments and challenges in the maturing discipline of applied pain medicine.

Harald Breivik, William I Campbell, and Michael K Nicholas
Oslo, Belfast, and Sydney
How to use this book

SPECIAL FEATURES

The four volumes of Clinical Pain Management incorporate the following special features to aid the readers’ understanding and navigation of the text.

Key learning points

Each chapter opens with a set of key learning points which provide readers with an overview of the most salient points within the chapter.

Cross-references

Throughout the chapters in this volume you will find cross-references to chapters in other volumes in the Clinical Pain Management series. Each cross-reference will indicate the volume in which the chapter referred to is to be found.

Evidence scoring

In chapters where recommendations for surgical, medical, psychological, and complementary treatment and diagnostic tests are presented, the quality of evidence supporting authors’ statements relating to clinical interventions, or the papers themselves, are graded following the Oxford Bandolier system by insertion of the following symbols into the text:

[I] Strong evidence from at least one published systematic review of multiple well-designed randomized controlled trials

[II] Strong evidence from at least one published properly designed randomized controlled trial of appropriate size and in an appropriate clinical setting

[III] Evidence from published well-designed trials without randomization, single group pre-post, cohort, time series, or matched case-controlled studies

[IV] Evidence from well-designed non-experimental studies from more than one center or research group

[V] Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert consensus committees.

Oxford Bandolier system used by kind permission of Bandolier: www.jr2.ox.ac.uk/Bandolier

Where no grade is inserted, the quality of supporting evidence, if any exists, is of low grade only (e.g. case reports, clinical experience, etc).

Other textbooks devoted to the subject of pain include a tremendous amount of anecdotal and personal recommendations, and it is often difficult to distinguish these from those with an established evidence base. This text is thus unique in allowing the reader the opportunity to do this with confidence.
Reference annotation

The reference lists are annotated with asterisks, where appropriate, to guide readers to key primary papers, major review articles (which contain extensive reference lists), and clinical guidelines. We hope that this feature will render extensive lists of references more useful to the reader and will help to encourage self-directed learning among both trainees and practicing physicians.

A NOTE ON DRUG NAMES

The authors have used the international nonproprietary name (INN) for drugs where possible. If the INN name differs from the US or UK name, authors have used the INN name followed by the US and/or UK name in brackets on first use within a chapter.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>5-HT</td>
<td>5-hydroxytryptamine</td>
</tr>
<tr>
<td>AC</td>
<td>acromioclavicular</td>
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<tr>
<td>ACC</td>
<td>anterior cingulate cortex</td>
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<td>ACMP</td>
<td>Access to Controlled Medicines Program</td>
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<td>ACR</td>
<td>American College of Rheumatology</td>
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<td>ACT</td>
<td>acceptance and commitment therapy</td>
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<td>Alzheimer’s disease</td>
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<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<td>aINS</td>
<td>anterior insula</td>
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| 1 | History-taking and examination of the patient with chronic pain  
*Paul R Nandi and Toby Newton-John* |
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*Johannes Van Der Merwe and Amanda C de C Williams* |
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*Hilde Berner Hammer* |
| 7 | Diagnostic algorithms for painful peripheral neuropathy  
*David Bennett* |
| 8 | Novel imaging techniques  
*Michael Lee and Irene Tracey* |
History-taking and examination of the patient with chronic pain

PAUL R NANDI AND TOBY NEWTON-JOHN

KEY LEARNING POINTS

- The initial medical interview should aim to establish rapport as well as obtain information.
- Case note paper with printed headings may assist in the structured recording of information.
- Behaviors are valuable physical signs in the chronic pain patient, but over-reaction does not mean that pain is psychogenic.
- The pain psychology interview should ideally gather data, as well as begin to introduce treatment concepts.
- Explaining the purpose of the assessment at the outset can allay fears or correct misunderstandings.
- The use of self-report assessment tools is a vital part of the assessment process, but not a substitute for careful clinical evaluation.

MEDICAL ASSESSMENT

Chronic pain patients are often seen as “difficult.” This perception should be considered in context. Chronic pain sufferers may feel that their symptoms are trivialized or frankly disbelieved by doctors, and present to a pain specialist for the first time holding this view. By definition, these patients will have had their pain for at least three months, and in practice often considerably longer. The factors contributing to this include delays between referral from primary care to diagnostic specialists, waiting for investigations and the results of these, and in some situations a long wait for the pain clinic consultation itself.

During this period, patients often experience a variety of frustrations. They may see a number of clinicians and undergo tests which they expect to reveal the nature of their problem, but ultimately give no clear answers and they may even be given differing diagnoses by different doctors, furthering a sense of mistrust in clinicians. They may receive numerous unsuccessful treatments. Over the same period, their employment may come under threat or be lost, their recreations may be curtailed, their relationships suffer. Their clinicians may imply, or even directly state, that there is nothing wrong with them. In a recent study of patients with chronic back pain consulting specialists, it was found that patients valued explanation, information, reassurance, discussion of psychosocial issues, and management options, and (perhaps above all) being taken seriously.¹

This chapter is not intended to provide a comprehensive guide to history-taking and examination in the chronic pain patient, several aspects of which may be found in the relevant chapters on clinical situations.
(see Chapter 9, Chronic pain, impairment, and disability; Chapter 10, The psychological assessment of pain in patients with chronic pain; Chapter 14, Outcome measurement in chronic pain in the *Chronic Pain* volume of this series; and Chapter 3, Selecting and applying pain measures); nor is it intended to substitute for useful current texts on general clinical history-taking and examination to which the interested reader is referred.2, 3, 4 We will initially consider aspects of history-taking and examination generally applicable in the chronic pain patient, proposing a structure for the initial clinical interview and physical examination. We will focus on specific aspects of the clinical assessment in two important groups – nonspecific musculoskeletal pain and pain in disorders of the nervous system. Finally, we will explore the pain management psychologist’s approach to the clinical interview.

Obtaining a clear medical history and performing a physical examination are traditional clinical skills with the primary purpose of establishing diagnosis with a view to a rational basis for treatment. Advances in medical technology have challenged the importance of these traditional skills,5 but in recent years there has been a growing appreciation that the clinician’s first encounter with a patient should seek more than diagnosis. It can lay the foundations of a good doctor–patient relationship and impart, as well as receive, information. This has been referred to as the three-function model6 and might be seen as particularly appropriate in the context of chronic pain assessment; frequently, by the time a patient is referred to a pain clinic, the primary diagnosis, or diagnoses, will be clear. However, psychosocial issues are almost invariably important, and this is reflected in the coauthorship of a medical doctor and a clinical psychologist in the writing of this chapter.

Numerous questionnaires have been devised as tools to evaluate a wide range of sensory and affective elements of pain, as well as associated factors, such as physical disability and erroneous beliefs about pain causation. Some of these will be referred to later in this chapter; the subject is considered in greater depth in Chapter 10, The psychological assessment of pain in patients with chronic pain; Chapter 13, Psychological effects of chronic pain: an overview; and Chapter 14, Outcome measurement in chronic pain in the *Chronic Pain* volume in this series.

**PHYSICIAN–PATIENT INTERVIEW**

The patient attending a pain clinic consultation for the first time may have little idea what to expect from the service (by contrast, for example, with an appointment with a general physician). The clinician should be aware of this and it is often helpful at some point to ask the patient what his or her expectations are, concerning the assessment process as well as treatment, as this varies widely between individuals. Some expect a diagnosis (or a test that will lead to diagnosis); some just want their pain relieved. Some may have unrealistic expectations of what is achievable and it is as well for the clinician to be alerted to this early on.

Patients vary greatly in their ability to give a fluent, relevant, and thorough account of their symptoms. Some are quiet and unforthcoming, others garrulous, some distressed or angry. The clinician’s interviewing style needs to be adaptable and it is important for the clinician to be concerned, engaged, and calm. Simple courtesies should not be overlooked. The clinician should greet the patient formally; unless invited to do so, calling the patient by their first name is often regarded as inappropriately familiar by some patients.7

When starting to take a history, allow the patient to tell their story in their own words as far as possible, rather than continually interrupting with specific or leading questions. Later in the interview, garrulous patients may need to be “brought back on track” with some direct questioning, and unforthcoming patients may need gentle leading questions, but any guiding questions should be brief, clear, and initially as open as possible rather than suggesting a desired answer. This approach (the patient-centered interviewing technique)8, 9 allows the patient to place emphasis on those aspects of the problem that (s)he considers most important, and to feel “listened to.” This helps to build a rapport between patient and clinician and to empower the patient; it may also elicit more information than is obtained by enforcing a structure on the patient’s account of events.10

In contrast to the patient’s unstructured narrative, the clinician’s recording of the history needs to be logically structured. There is some evidence that the use of structured questionnaires may improve the quality of data collection and reduce the omission of important information.11 It may be helpful to use a printed form with headings for the recording of the history (and examination).

When the patient has completed telling their story of the main complaint, it is necessary to fill in the gaps and explore relevant symptoms in more detail by applying a more traditional “doctor-centered” interviewing technique, which can be structured as outlined below.

**Pain history**

The following aspects of the presenting painful condition should be noted largely in the context of establishing diagnosis.

- **Location.** This should be as precise as possible. It may be helpful to ask the patient to indicate the site and extent of the pain on a body line-drawing. In some conditions, the diagnosis may be made with near-certainty on the basis of this alone, for example, meralgia paresthetica. In other circumstances,
identifying the exact location of the pain may call into question a preconceived pain diagnosis – for example, a patient with multiple sclerosis and unilateral leg pain attributed to demyelinating myelopathy, but whose pain is restricted to a single dermatome, is more in keeping with a lumbar root lesion.

- **Onset.** Was this sudden, rapid, or insidious? Was there any identifiable precipitant?
- **Intensity.** Most patients attending a pain clinic will have pain that is of at least moderate intensity some of the time. Variations in intensity are important and duration and frequency of severe exacerbations should be noted.
- **Temporal pattern.** Is the pain constant/fluctuating/intermittent? Pain that is totally unremitting is often neuropathic, and if it additionally varies little, and is little influenced by anything the patient does, this may suggest a central origin.
- **Quality.** For example, is the pain sharp, aching, burning, or shooting. The patient should be encouraged to describe what he feels rather than applying a medical term that he may have heard (e.g. sciatica). Shooting, electrical, or burning sensations are characteristic of neuropathic pains, while nociceptive pains are more likely to be described as aching, dull, cramping, or throbbing. Some patients have considerable difficulty describing the quality of their pain and this is perhaps especially the case with some neuropathic pains; in this situation, the difficulty in finding appropriate words to describe the pain can itself be informative.
- **Current trend.** Is the pain evolving in its location or quality? Is it improving or deteriorating in intensity, or static?
- **Exacerbating/alleviating factors.** This refers to pain modifiers noticed by the patient, and not to treatments (which are considered separately below under Treatment history). Examples are exacerbation of back pain by spinal movement or loading, or of a painful extremity by light touch; or alleviation of back pain by lying flat or placing the painful extremity in cold water.
- **One pain or more?** Many patients have pain of more than one phenotype, and/or in more than one location, in which case all the features listed above should be obtained for each pain. This is of practical relevance; the patient with central poststroke pain may also have a painful frozen shoulder on the affected side which may be far more amenable to successful treatment than the neurogenic component of the pain.

The past pain history (if any) may conveniently be taken following the history of the presenting complaint. A previous history of pain with a similar character or location to the current symptoms may be particularly relevant if attributed to a serious cause.

### Medical history

The medical history is important for several reasons in the patient with chronic pain. Enquiry should initially be made into the patient's general health. Apart from the value of this as a screening question to exclude serious morbidity, patients who consider themselves generally healthy may respond differently to a chronic pain condition than those with a history of chronic ill health.

Serious comorbidity may complicate or even contraindicate some pain treatment options. Particular hazards of systemic drug treatments may be posed by seriously impaired liver or kidney function. Some invasive treatments carry greater risk in patients with an increased bleeding tendency, either from a hemorrhagic disorder (e.g. thrombocytopenia, hemophilia) or anticoagulant treatment. Neuraxial nerve blocks, and some sympathetic blocks producing large regional vasodilatation, may be dangerous in patients with impaired cardiac reserve. Potent opioids should be used with caution in patients with severe chronic respiratory disease.

Many patients with diseases related or unrelated to their painful condition will be taking drugs long term which may potentially give rise to adverse interactions with pain medication.

Nonpain-contingent causes of disability, e.g. some neurological diseases, may limit attainable objectives of physical rehabilitation.

### Treatment history

This can conveniently be divided into pharmacological treatments and other forms of treatment.

### PHARMACOLOGICAL

All drug treatments for pain, present and past, should be documented. For each drug, information about the dosage given and duration of treatment should be sought, as well as the effect on the pain, side effects, and (in the case of past treatments) the reason why the drug was discontinued. Often patients with chronic pain will be taking drugs likely to produce dependence, especially opioids. The specific issue of substance abuse in the chronic pain patient is addressed in Chapter 46, Pain management and substance misuse in the *Chronic Pain* volume in this series.

Topical treatments should specifically be inquired about, as they may be overlooked by the patient; likewise, the patient should specifically be asked about complementary and alternative treatments, such as homeopathic medicines, vitamin and mineral supplements, and also herbal remedies which the patient may erroneously assume to be irrelevant. Many herbal medicines have pronounced pharmacological effects and interact with other drugs; St John’s Wort, in particular, is involved in
numerous drug interactions among which are the reduction in plasma levels of amitriptyline and carbamazepine. Some herbal medicines can also cause serious side effects in their own right, including allergic reactions, interference with coagulation, and hepatotoxicity.

Drugs used for reasons other than pain treatment should be recorded. Some are of particular relevance to the pain clinician, for example anticoagulant therapy in patients scheduled for injection treatment. The risk of adverse drug interactions should always be considered. It is impossible to remember them all; the British National Formulary (BNF) currently lists in the order of 2500 interactions, and the clinician should have ready access to a comprehensive and regularly updated reference source such as this. Some interactions are the result of enzyme induction or inhibition; for example, corticosteroids inhibit the metabolism of tricyclic antidepressants, and carbamazepine is an enzyme inducer that reduces the effect of coumarin anticoagulants and oral contraceptives.

The patient should be asked about allergies to drugs; the nature of any reported adverse reaction should be sought (many patients report allergy when in fact they have experienced a nonimmune-mediated adverse reaction, for example diarrhea following antibiotic therapy).

**NONPHARMACOLOGICAL**

This should include all physical therapies, with some description of the types of treatment given including forms of noninvasive stimulation, such as transcutaneous electrical nerve stimulation (TENS). The question, “Have you ever been to a pain clinic before?” may provide a useful starting point for discussing these treatments. Specific enquiry should be made as to whether the patient has seen a physiotherapist with particular experience in chronic pain management. Injection treatments should be documented, with details of exactly what was done if this is known to the patient.

Surgical procedures will probably be volunteered by the patient but should be asked about nevertheless, and nonpharmacological complementary and alternative treatments, such as acupuncture, should also be noted. In every case, the patient should be asked whether the treatment had any beneficial effect on the pain, and whether there were any ill effects.

The patient should also be asked whether they have seen a psychologist regarding their pain. This inquiry sometimes provokes a hostile response for which the clinician should be prepared; some tact is often required in the timing of this line of questioning, and it may be prudent to wait until later in the interview in case the patient raises the issue first.

**Psychosocial history**

This is invariably important in patients with chronic pain of any severity and the proportion of time allocated to it in the history-taking should reflect this. An appropriate starting point is the patient’s personal circumstances (Who is at home? Are you working? What is your job?). The clinician should ask specifically about the effect of the pain on activity and behavior – occupational, domestic, social, recreational, and sexual – as appropriate. (S)he should ask about effect and emotions (anxiety, depression, anger, frustration). These issues are addressed in more depth below under Psychological pain interview, but should at least be touched upon during the initial interview.

**PHYSICAL EXAMINATION**

**During the interview**

The physical examination should start as soon as the patient enters the consulting room, and continue throughout interview. Behaviors can be considered as valuable physical signs in the context of the chronic pain sufferer. Is the patient calm or agitated? Animated or “flat”? Does (s)he appear cheerful or sad? (If tearful at any point, note should be made of what appears to trigger this in the interview). Does the patient’s behavior seem appropriate? Does the patient appear comfortable in the interview chair, or restless? Is the patient well presented or unkempt? Does the patient present a lucid account of events or seem distracted, confused, drowsy, or intoxicated?

What terms does the patient use to describe symptoms? Are they largely descriptive without undue emotive dramatization (e.g. “It’s like having a bad toothache in your back”) or catastrophic (e.g. “It’s like a million wasps stinging me”) or attributional/medicalized (e.g. “It’s because the surgeon operated in the wrong place”)? I’ve got sciatica because the L4/5 disk is prolapsing and compressing the nerve root”?

It is often informative to observe the patient’s behavior while preparing to be examined (rising from the interview chair, walking to and getting onto the examination couch, etc.). Note whether there is elaborated behavior of disability or distress.

**Formal physical examination**

The majority of chronic pain problems presenting to pain clinics have their origin in the musculoskeletal system and the nervous system, and due emphasis is accordingly given to the examination of these two systems. The scope of the examination deemed necessary is determined partly by the nature of the presenting problem, and partly by the source of referral. A patient with typical postherpetic neuralgia who is otherwise entirely well probably does not need complete systematic examination. A patient referred from a medical generalist in primary care should probably undergo a comprehensive examination at first attendance;
a more focused examination is appropriate if the patient has been assessed by a specialist in the field of the patient’s disorder.

**CHRONIC PAIN IN DISORDERS OF THE MUSCULOSKELETAL SYSTEM: ADDITIONAL NOTES**

This group of conditions includes diseases such as rheumatoid arthritis and ankylosing spondylitis, which have clear diagnostic criteria, a relatively well-understood pathology and well-established treatments, some of which are fairly disease-specific (e.g. gold injections for rheumatoid disease). These diseases are usually readily recognized by medical generalists, reflecting their high profile in teaching at medical school, and if referral to a specialist is deemed necessary, this will usually be a rheumatologist in the first instance. In contrast, conditions such as nonspecific back pain and myofascial pain, which are undoubtedly more common, receive little attention in undergraduate medical teaching and general medical practitioners may be less confident in the assessment and treatment of these cases than they are with the primary inflammatory arthropathies.

The following key questions/features apply to chronic back/spinal pain, as follows.

**Key questions in the history**

- Elicit risk factors for serious spinal pathology (red flags) (see Chapter 37, Chronic back pain in the *Chronic Pain* volume in this series).
- Is the pain midline or to one side?
- Was there an initiating event?
- What factors influence the pain?
- Does the pain radiate into one or both lower limbs?
- Are there deficits of sensation/power of the lower limbs?
- What activities does the pain restrict/prevent?

**Key features of the examination**

The patient needs to be examined adequately undressed and in good lighting. Remember to ask the patients’ permission to touch them before doing so, and tell them what you intend to do before you do it.

Look for:

- stigmata of specific rheumatological disease, e.g. osteoarthritis;
- abnormalities of posture/gait, and fixed deformity (inspect from the back to detect scoliosis, from the side to detect abnormality of the cervical and lumbar lordoses and thoracic kyphosis);
- general level of fitness (muscular development, obesity);
- scars of previous surgery;
- abnormalities of skin and subcutaneous soft tissue – e.g. erythema *ab igne* from prolonged application of local heat, loss of lumbar paraspinal muscle bulk from disuse.

- range of movement (flexion, extension, lateral bending, rotation). Test with patient’s hips and feet in alignment.
- antalgic movements and distress behavior.

Feel for:

- local tenderness/swelling/heat;
- myofascial tender points.

Test additionally for:

- straight leg raise. Dorsiflexion of the foot characteristically increases the pain of radicular compression, as does flexing the hip with the knee bent and then extending the knee (Lasegue’s test). Reduced straight leg raise is generally regarded as having high sensitivity for lumbar disk herniation but poor specificity, although a recent publication suggests that both sensitivity and specificity are lower than previously believed, and that these maneuvers add little to the information gained from the history.
- sacroiliac joint stressing tests for buttock pain;

It is suggested that discogenic pain is significantly correlated with pain centralization on repetitive movement testing, lumbar facet joint pain with absence of provocation when rising from sitting, and sacroiliac pain with specific mechanical stressing. However, high degrees of disability and distress may be associated with reduced specificity of provocative tests of spinal pain and complicate their interpretation (see below under Over-reaction and related issues).

**CHRONIC PAIN IN DISORDERS OF THE NERVOUS SYSTEM: ADDITIONAL NOTES**

Chronic pain associated with disorders of the nervous system may be nocigenic (usually musculoskeletal) or neuropathic. The reader is referred to Chapter 24, Pain in neurological disease in the *Chronic Pain* volume in this series, for a fuller discussion of this. In addition to the general aspects of history-taking and examination, the clinical assessment of this group of patients should aim to establish:

- the primary neurological diagnosis;
- whether there is a single pain phenotype or more than one;
- for each pain phenotype, whether the pain is nocigenic or neuropathic;
- for each neuropathic pain phenotype, whether the lesion(s) is peripheral or central.

In some cases, the primary diagnosis will be clearly established by the time the patient presents to the pain clinic. In other cases it may be suspected but unproven, or...
frankly obscure. However, in every case the clinician should seek to establish the likely cause of the pain, not only in terms of primary diagnosis, but in terms of broad pathophysiological mechanisms of pain generation. Some neurological conditions, such as trigeminal neuralgia, produce a highly stereotyped pain syndrome. Others, such as multiple sclerosis, may give rise to a broad range of phenotypically diverse clinical pains with a variety of putative pain-generating mechanisms.

In the patient with an established neurological disease, it is likely that he will have been seen by a neurologist and undergone a thorough general neurological examination. However, the examination may not have been closely focused on abnormalities of sensation, which are important in neuropathic pain.

**Key questions in the history**

- Is the pain in an area of sensory deficit?
- Are there elements of burning or shooting/electrical sensations?
- Is there accompanying paresthesia or dysesthesia? This includes Lhermitte's phenomenon, a widely spreading paresthesia provoked by neck flexion and characteristic of multiple sclerosis (see Chapter 24, *Pain in neurological disease in the Chronic Pain volume in this series*).
- Are there associated abnormalities, past or present, of altered color, temperature, or sweating, edema or dystrophic changes?
- Is there allodynia (pain evoked by stimulation that is normally innocuous, like light touch)?
- Is there hyperalgesia (supranormally intense perception of stimulation that is normally painful, like pinprick)?
- Is there hyperpathia (increased somatosensory detection threshold, with development of pain of increasing intensity with repetitive or sustained stimulation – this is pathognomonic of neuropathic pain)?
- Is there an associated movement disorder?

**Key features of physical examination**

Look for:

- abnormalities of posture or gait;
- abnormal involuntary movement;
- focal wasting;
- local changes of color or swelling.

Feel for:

- locally altered temperature/sweating;

Test (sensory) for:

- light touch – deficit/allodynia;
- warm/cool – deficit/allodynia;
- pinprick – deficit/hyperalgesia;
- proprioception/vibration;
- movement- or pressure-evoked sensation (if appropriate to presentation) – e.g. Tinel’s test (paresthesia in the hand/fingers provoked by percussion over the median nerve at the wrist in carpal tunnel syndrome).

Full quantitative sensory testing utilizes specialized techniques and is not part of routine physical examination. However, some basic equipment for semi-quantitative sensory testing (von Frey filaments, constant temperature rollers for non-noxious warm and cold) can be considered routine clinical tools in this group of patients and are valuable assets in assessing both sensory deficits and hypersensitivity phenomena.

**OVER-REACTION AND RELATED ISSUES**

Much emphasis has been placed on some aspects of behavior in chronic pain patients which are commonly cited as evidence of either a psychogenic basis of the pain, conscious symptom exaggeration, or even frank malinger. As a general rule, these conclusions are not justified. However, they may usefully draw attention to the probability of prominent psychosocial issues.

Examples of the types of presentation and behavior liable to make this sort of impression on the attending clinician are:

- “accoutrements of disability” without an obvious objective need – crutches, dark glasses, wheelchair, etc;
- florid displays of distress during the history-taking and (especially) examination – wincing, groaning, and slow, antalgic movement;
- “nonorganic signs,” such as those cited by Waddell and colleagues. These are grouped into the following categories:
  - tenderness – e.g. widespread superficial tenderness to light palpation over the lumbar spine;
  - simulation, e.g. “rotating” the spine with the shoulders and pelvis remaining in the same plane;
  - distraction, e.g. wide disparity between sitting and supine straight leg raise;
  - regional disturbance, e.g. “give way” weakness or nondermatomal sensory loss.
- over-reaction, e.g. slow movement, grimacing, and sighing.

It should be emphasized that Waddell’s signs are indicators of distress, not evidence of malingering or absence of a genuine cause for the pain.
PSYCHOLOGICAL PAIN INTERVIEW

As with the taking of the medical history, there are multiple objectives involved in the psychological pain interview. Obviously one is attempting to obtain clear, factual information relating to the patient’s pain history – what was done, when, by whom, and to what outcome. However, it is more than that. As was noted above, patients have a need to “tell their story” and allowing them to do that tends to lead to better outcomes.\(^\text{19}\) The psychological pain interview should also gain an understanding of how the patient understands his or her pain – to find out how they think about the problem which has brought them to your office. This may involve the verbalization of thoughts and understandings which have hitherto been only implicit, never been made public before, even to the speaker. Finally, unlike the medical assessment, the psychological pain interview is also often the first step in a process of engagement in a treatment model which is unfamiliar at best. The challenge is to achieve all of these objectives in the time limitation that all clinicians observe – no easy task.

How one goes about the psychological pain interview also depends to some extent upon the basis on which it is conducted. It might be the second or third in a series of assessments that the patient has been through in the one visit, having been seen by the pain specialist and perhaps a physiotherapist or nurse, prior to a team case conference. It might be an assessment that has followed from a referral from the pain specialist who has been treating the patient from within the same service, in the same building, with ready access to shared notes and “corridor case discussions.” Or the assessment might be a stand-alone affair, the result of a referral from one practitioner to another working in physically and organizationally disparate services. Generally speaking, the more remote one is from the interdisciplinary team assessment format, the more reliant one is upon information obtained from the psychological assessment in order to generate a treatment formulation.

The interview is also shaped to some extent by the amount of information obtained from psychometric assessment as part of the assessment process. The more extensive the questionnaire battery, the more latitude there is in the interview to explore areas in greater detail. See Chapter 9, Chronic pain, impairment, and disability; Chapter 10, The psychological assessment of pain in patients with chronic pain; Chapter 14, Outcome measurement in chronic pain in the *Chronic Pain* volume in this series; and Chapter 3, Selecting and applying pain measures for a full discussion of self-report assessment instruments in chronic pain. Inclusion of the partner is an invaluable aid to the assessment process, as this offers the opportunity of obtaining a different perspective on the patient’s coping ability, a second interpretation of the impact of pain on family life, and a chance to observe directly some of the behavioral interactions known to maintain pain-related disability.\(^\text{20}\)

Content

There is often cause for concern when clinicians are carrying out sequential interdisciplinary assessments that patients are being asked the same questions by each team member. While there is obviously the potential for redundancy and a loss of rapport with the patient (“I already told the last guy all of this!”), judicious use of common questioning can be valuable. Occasionally a second prompt helps a patient to recall information that they had forgotten or neglected to give the first time. It may also be that with greater trust or rapport with one clinician, the patient feels more comfortable to divulge information. Inconsistent responses to the same kinds of questions can also alert the clinical team to a patient who is not giving honest answers to unambiguous questions. Finally, most patients with chronic pain will expect to be asked questions about pain modulators, treatments undertaken, and so on. Covering this familiar territory early on can help to build rapport, particularly with patients who may be skeptical if not overtly hostile about the role of a clinical psychologist in the pain treatment team.

There is no definitive set of questions that should comprise the psychological interview. However, the following topic areas represent a broad set of categories for exploration in conjunction with the medical history. The clinical psychologist may also need to begin the interview with a brief explanation of the nature of pain psychology. It can be worthwhile to state openly that the purpose of the assessment is not to expose the underlying psychological causes of pain, but to explore how the persistent pain problem has impacted upon various life areas (as it so often does), so that optimum treatment plans can be developed. It can also be useful at the outset to invite the patient to change position during the interview (stand, lean against the wall, pace the room), rather than continue sitting in discomfort. Not only does this invitation help to build rapport, it is a tacit acceptance of the reality of the patient’s pain.

PAIN HISTORY

Information about the onset of the pain, diurnal variations, modulators of pain, and in particular what the patient does (and does not do) in response to pain flare-ups, are important and expected components of the assessment. In particular, the pain psychologist should be looking for behavioral contingencies that may be influencing disability, such as positive or negative reinforcement for pain behavior.\(^\text{21}\)

Past treatment, current treatments, and expectations of future treatment should be assessed. Use of pain medications, their perceived benefits and any identified side effects should be noted. Alcohol and other drug use (especially marijuana) are important to assess, as this information may not be freely offered, but may impact upon treatment significantly.
UNDERSTANDING OF PAIN MECHANISMS

Both the patient and the partner should be asked questions such as “Why do you think that this pain has persisted X months/years after it originally started?” Concerns about undetected but sinister disease processes are particularly important.

Beliefs about the risk of further damage through normal movement and gentle exercise should also be elicited, as any physical therapy that is proposed will need to be accommodated in this.

DAILY ROUTINE

Time to bed, time out of bed, the elements of a typical day and evening, and how the current routine compares to premorbid activity levels are important. For the non-working patient who describes his or her day as “just pottering about at home,” several key follow-up questions include: How many household chores are still your responsibility? Other than to attend medical appointments, how often do you leave the house? How much time during the typical day do you spend lying down?

WORK

A brief vocational history provides useful information not only about the impact of pain on psychosocial functioning, but also about the patient’s expectations and beliefs. Determining the educational level obtained, the type of work being done at the time of injury, whether work was sustained or discontinued because of pain, attempts to return to work and their outcome, and future expectations for work are important assessment questions.22 In particular, for patients in receipt of financial support for not working, a careful exploration of the incentives for returning to work should be made.

IMPACT OF PAIN ON FAMILY LIFE

Following on from the above, specific inquiry should be made as to how roles within the family have changed since the onset of the pain and how the family has adjusted to those changes.23 What does the spouse do more of now, as well as less of now, because of pain? How has communication changed within the relationship? What about intimacy – not just sexual activity, but physical and emotional closeness? Clearly, the responses given to these questions must be interpreted in the context of the premorbid relationship quality.

PSYCHOLOGICAL DISORDERS

By leaving direct questioning about depression, anxiety, and other psychological disorders until relatively late in the interview, the clinician has had a chance to build enough trust and rapport with the patient to obtain unguarded responses. Screening for current mood disorders, as well as obtaining a history of mental health, is important for treatment planning. It is often useful to find out about previous exposure to psychological or psychiatric treatment, as negative personal experiences of such treatment can create significant barriers to engaging in any future intervention. Further discussion of the issues concerning the assessment of psychopathology in the context of chronic pain is given in Chapter 13, Psychological effects of chronic pain: an overview in the Chronic Pain volume in this series, as well as Chapter 3, Selecting and applying pain measures.

SOCIAL HISTORY

A brief childhood and family history can shed light on developmental issues which may be relevant for future treatment – for example, a family history of depression, childhood abuse or neglect, attention deficit disorder, or other early psychobehavioral disorders, even family responses to illness during childhood, may all be fruitful areas for evaluation.

INTERPERSONAL SKILLS

The pain psychology assessment is not concerned solely with analyzing information given by the patient, but with how that information is given. Displays of pain behavior should of course be noted, but the careful clinician will try to observe when those behaviors occur to determine whether patterns can be detected. They may happen during discussion of more emotionally challenging topics, or after a prolonged period of immobility, or at the beginning of the interview, but not towards the end. Attention should also be paid to the patient’s communication skills as these might shed light on any relationship difficulties discussed, or need to be taken into account when considering a group-based treatment program.

As a final point, by definition, taking a history is an exercise in retrospection – what happened, when, and why. However, the first contact with a pain psychologist is often the starting point to a new treatment direction. The assessment often marks the ending of medical efforts to find sustainable pain relief, and the beginning of a self-management model of pain – which might be an entirely foreign concept to the patient. For this reason, the emphasis in the assessment should err on the future rather than retelling the past. The clinician really wants to know what the patient thinks about where to go next, rather than where he or she has been before.

CONCLUSIONS

Skilled history-taking and physical examination are important in the assessment of the chronic pain patient;
however, there are some differences of emphasis between the main objectives of history-taking and examination in these patients compared with most primary medical specialties. Patient-, as well as doctor-centered interviewing is desirable for optimum gathering of information and for establishing a productive clinician–patient relationship.
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