



# Psychological Interventions for Persistent Orofacial Pain

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## Learning Objectives

- To understand the psychological interventions that can be applied to persistent orofacial pain.
- To consider how these approaches can be applied using a stepped-care model.

Persistent orofacial pain (POFP) is relatively common and affects approximately 10% of adults and up to 50% of the elderly [1]. POFP includes a range of conditions including temporomandibular disorders, burning mouth syndrome, persistent dentoalveolar pain, trigeminal neuralgia, and atypical facial pain [2, 3]. Iatrogenic trigeminal nerve injury can also lead to persistent orofacial pain [4].

Due to the complex anatomy of the region and the difficulties in diagnosis and treatment of chronic pain conditions, the pain is often experienced as recurrent, persistent and disabling [5]. It often presents alongside pain in other body areas [6], suggesting a common pathway with other persistent pain conditions, although there is also some evidence of unique pain pathways in the orofacial region [7].

POFP symptoms have a significant impact on individuals, families and communities. They are often associated with social isolation, psychological distress, sleep disorders, impairment of daily activities, occupational disability, higher frequency of health care use and reduced quality of life [5, 8, 9]. Many patients attending a dental consultation also have co-morbid psychological health issues,

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some in the context of other long-term physical health conditions [10]. Identifying and treating these issues can improve dental care, and in the longer term be more financially prudent. Pain is multifactorial, and psychological factors need to be addressed alongside pathology in the dental clinic. The bidirectional relationship between mental and physical health has been hailed as a “new frontier” in healthcare [11] and integrating mental and physical healthcare is now a key priority for clinical commissioning groups (CCGs). Clinical psychologists are increasingly developing a specialised role within dental services, usually working within a multidisciplinary team and carrying out assessments and bespoke interventions for patients with more complex presentations. Interventions led by a clinical psychologist will be shaped and guided by formulation, a key unique skill of clinical psychologists.

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## 5.1 Formulation

Regardless of therapeutic orientation, clinical psychologists are trained to plan and evaluate each intervention based upon an individual formulation for each patient. A formulation is a hypothesis about why a person is experiencing particular problems at a particular time. Thus a formulation is specific to each patient and links theory with practice. It will aim to explain, on the basis of psychological theory, why the particular difficulties experienced by a patient have developed and how they are maintained. In the case of persistent pain, this may refer more to the way in which a patient responds to their pain rather than to the pain itself. It is constructed collaboratively with patients and teams, and guides subsequent interventions, which are based on the psychological processes and principles previously identified. These can subsequently be revised and reformulated.

The roots of the formulation can be traced back to the 1950s when the scientist-practitioner model emerged. The British Psychological Society, in their guidelines on formulation [12] advocates formulating from a broad-based, integrated and multi-model perspective. Recognising wider systemic, organisational and societal influences is key. The process involves reflection and is “a balanced synthesis of the intuitive and rational cognitive systems” [13].

Formulations are seen in terms of their usefulness rather than being a truth [14]. Co-creating a plausible narrative is an ongoing process, and revisions are integral to their application. Corrie and Lane [15] suggested that formulation can also serve other purposes, such as noticing gaps in information, minimising decision-making biases, thinking about lack of progress, helping the person feel understood and contained, and normalising problems.

Formulating is a core competency for clinical psychologists and integral to the way they work. However, this approach can create tensions for research since treatment based on individual formulations by definition cannot be standardised in manuals or fully evaluated by randomised controlled trials.

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## 5.2 Psychological Interventions for Pain

Psychological approaches to persistent pain, described below, include cognitive behaviour therapy (CBT), acceptance and commitment therapy (ACT) and mindfulness-based interventions (MBIs).

Given the increasing demand for psychological care, a stepped care approach is recommended by The National Institute for Health and Care Excellence (NICE). This advocates assessing complexity and tailoring treatment according to need and the resources available. Stepped care for anxiety and depression often involves guided self-help at the lowest intensity, computerised packages of standardised care, group work and individual work of varying duration. We discuss three common psychological approaches below, then outline how these can be implemented within services using a stepped care approach.

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### 5.3 Cognitive Behavioural Therapy

Cognitive behavioural therapy (CBT) for pain management aims to reduce psychological distress and improve physical and role function by helping individuals decrease unhelpful behaviours, increase helpful behaviours, identify and change unhelpful thought patterns and increase self-efficacy for managing pain [16]. For instance, negative thoughts about pain can contribute to the avoidance of pleasant activities and therefore add to emotional distress. The goal of the treatment is to achieve functional recovery outcomes involving improved physical, social and work activity, mood stability, anxiety and sleep disorders [17–19].

It is a present-focused, action-oriented and time-limited intervention. Whilst there are no standard CBT protocols, some of the techniques include relaxation training, setting and working towards behavioural goals, e.g. systematic increases in exercise; behavioural activation, guidance in activity pacing, problem-solving training and cognitive restructuring [20, 21]. Patients are often encouraged to complete activities in between sessions in order to practise new skills, e.g. complete thought records, practise relaxation or work towards behavioural goals [16].

A vast body of research has shown that CBT is effective for a range of chronic pain conditions, including arthritis, sickle cell disease and fibromyalgia. There is also some evidence suggesting benefits for patients with orofacial pain, including temporomandibular dysfunction [22–24]. Turner and colleagues [25] found greater improvements in pain-related beliefs, catastrophising and coping in patients receiving CBT in comparison to a control group. Research has also shown that patients with burning mouth syndrome experience improvements in relation to the severity of pain and discomfort after 12–16 sessions of CBT, and these effects are maintained 6–12 months after therapy [26, 27]. While initial results are promising, further research is required to establish the efficacy of CBT for the orofacial pain conditions.

## 5.4 Acceptance and Commitment Therapy (ACT)

Acceptance and commitment therapy (ACT) is one of the recent third-wave mindfulness-based behaviour therapies. It was developed in 1982 by Steven C. Hayes who has extensively researched the model and the active processes [28]. It challenges the ground rules of traditional therapeutic approaches, in that it starts from the premise that the psychological processes of a normal human mind are often destructive and can create suffering [29].

ACT is a non-linear model aiming to increase psychological flexibility to effect change [30]. At the centre of an ACT intervention is the “hexaflex”, which proposes six processes to achieve psychological flexibility: contact with the present moment, acceptance, values, committed action, self-as-context and defusion. Key questions in this therapy are “what valued direction does the client want to go in” and “what is getting in the way?” in the therapy we continually return to the explicit values the client has and the specific behavioural change they are trying to achieve, whilst building commitment and ensuring the client feels safe. Mindfulness exercises in session can help to build safety. It differs markedly from therapies such as CBT, in that the client is encouraged to defuse thoughts rather than engage with them through evaluation. Metaphors such as “a passing storm” are used to illustrate the impermanence of thoughts and feelings. The ACT model is a shift in focus away from coping methods that emphasise the control or change of psychological experiences, towards acceptance of difficult thoughts and feelings.

ACT is based on functional contextualism, which means we are primarily interested in the function of a particular behaviour. This contrasts with elemental realism on which therapies such as CBT are based, which looks at the form of the behaviour, e.g. whether a particular thought is positive or negative.

Different behaviours can serve the same function, for example, they help the client to avoid painful thoughts and feelings. An ABC approach (antecedents, behaviours and consequences) is a structured way to help bring a mindful approach towards the internal and external antecedents that precede behaviours. Some clients have little self-awareness of their thoughts and feelings before a particular behaviour, and an important part of therapy is to help clients to develop this self-awareness. Helping clients to make links between how they feel, what they do and what is happening physiologically and cognitively can be a key part of therapy. There can be payoffs to destructive behaviours, and these may have provided benefits in the past, but can interfere now and prevent the client from building a rich and meaningful life. Cognitive defusion is used to help clients to gain distance from thoughts and to put painful memories into a historical narrative. There is a range of cognitive defusion techniques, which all aim to create some distance from thoughts. Clients are also encouraged to make “towards” moves to head in the direction of their key values, rather than “away moves”. A key aim is to help clients to build their capacity to be in the present moment with openness, curiosity, and flexibility.

An increasing body of literature is demonstrating the effectiveness of this approach in mental health [31] and chronic pain [32]. There is also some evidence that ACT is efficient from a societal or a third-party payer perspective [33]. A recent

meta-analysis however noted the low quality of many studies, and the need for high-quality randomised controlled trials (RCTs) [34].

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## 5.5 Mindfulness

Mindfulness-based interventions aim to help people to change their relationship to internal events such as thoughts, feelings and sensations by noticing and accepting present moment experiences without judging or attempting to control them [35]. Mindfulness is considered to be a third-wave approach because the focus for change is not on internal experiences such as thoughts themselves, but on how we relate to these experiences. Mindfulness is a form of meditation that does not aim to promote change or to solve a problem but to develop the capacity to notice present moment experience including thoughts and feelings. This capacity is developed through the regular daily practice of mindfulness meditation. It can help us to develop an awareness of our habitual responses which otherwise tend to be automatic and unseen. As awareness develops, habitual, automatically-driven responses to triggers such as pain or distress reduce and the possibility of actively choosing how to respond helpfully is opened up.

Mindfulness has been extensively used in pain management settings since the pioneering work of Jon Kabat-Zinn who developed mindfulness-based stress reduction (MBSR) [36]. A recent review [37] reported that mindfulness-based interventions showed slight improvements over active or passive control groups in reducing pain intensity and were superior to control groups in reducing depression. No evidence was reported of any difference in efficacy in improving pain or depression between MBIs and other well-established treatments such as CBT. Compassion-focused interventions have been less well studied but also show early promise in pain management settings [38, 39].

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## 5.6 A Stepped Care Approach

Formal psychological measures routinely administered in the clinical setting can offer an indication of levels of anxiety, depression and risk. These measures complement the clinical judgment of therapists involved in patients' care and need to be interpreted in the context of how individuals present in assessment and/or treatment but can be a useful way of stratifying patients for psychological treatment.

Often, people with milder or less entrenched symptoms are considered to be appropriate for structured or manualised therapies using the approaches described, while those with more complex presentations are likely to be referred to clinical psychologists who may be able to address individual blocks to improve with their ability to formulate from a range of therapeutic backgrounds.

Currently, there is seldom a distinction made between higher and lower levels of complexity in research on psychosocial approaches to pain management in POFR it would be useful for this to be reported explicitly in future research since initial

complexity is an important variable that affects the outcome. In clinical practice, patients are presenting with increasingly complex presentations, which necessitates close liaison between multidisciplinary colleagues where possible.

Multidisciplinary pain management programmes (PMPs) include psychological input alongside a more physical rehabilitative approach delivered by staff from other disciplines such as physiotherapy, doctors, specialist nurses and occupational therapists. They aim to help patients with more complex presentations of pain which may not have responded to previous treatment.

The psychological components of a PMP are based on CBT or ACT and are delivered alongside other topics including exercise, understanding pain and medication management. A recent Cochrane review [40] reported evidence that PMPs are more effective than usual care (moderate-quality evidence) and physical therapy (low-quality evidence) in terms of pain and disability outcomes that are maintained for at least 12 months post-treatment. There is no evidence to suggest that PMPs are more or less effective than psychological therapies. As discussed, the typically higher level of complexity of patients referred to multidisciplinary treatment would make direct comparisons between the different approaches difficult.

Multidisciplinary programmes developed alongside a recognition that, since pain is multifactorial, no one professional group has the skills to provide successful treatment. Therefore professionals trained in their own discipline have worked together to jointly understand the unique presentations of patients with persistent pain, often adapting methods developed for different contexts for application within a pain management setting. There are exciting developments including neuroscience education (NE) and cognitive functional therapy (CFT), which focus more explicitly on linking an understanding of psychological, biological and contextual factors within a unique formulation for each patient. Claims that the successful application of these biopsychosocial approaches can indeed lead to at least a degree of pain reduction are supported by a review of pain neuroscience education [41] and a randomised controlled trial of CFT [42]. These initially impressive results suggest that both approaches warrant further study and application within POFR.

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## 5.7 Summary

Psychological and multidisciplinary approaches to the management of pain are widely accepted and based on an established scientific rationale. Current evidence consistently describes significant but small improvements in a range of clinical outcomes including pain, disability and depression. Within a stepped care model, the routine administration of psychological measures can aid decisions about which level of treatment is the best fit for a particular patient. This can help to differentiate between people who are suitable for more straightforward, manualised treatment packages and those who require more bespoke interventions due to a higher level of complexity. Within the clinical setting, good quality information and education about the multifactorial nature of pain is essential to ensure that patients appreciate how biological, psychological and social factors impact on each other.

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