

The Role of the Pain Psychologist in Managing Chronic Pain



A variety of factors influence chronic pain. Unlike acute pain, chronic pain is not simply a physiologic response to a noxious stimulus but a result of the integration of multiple inputs. A pain psychologist can assist in managing chronic pain by identifying and addressing these various factors. This resource discusses:

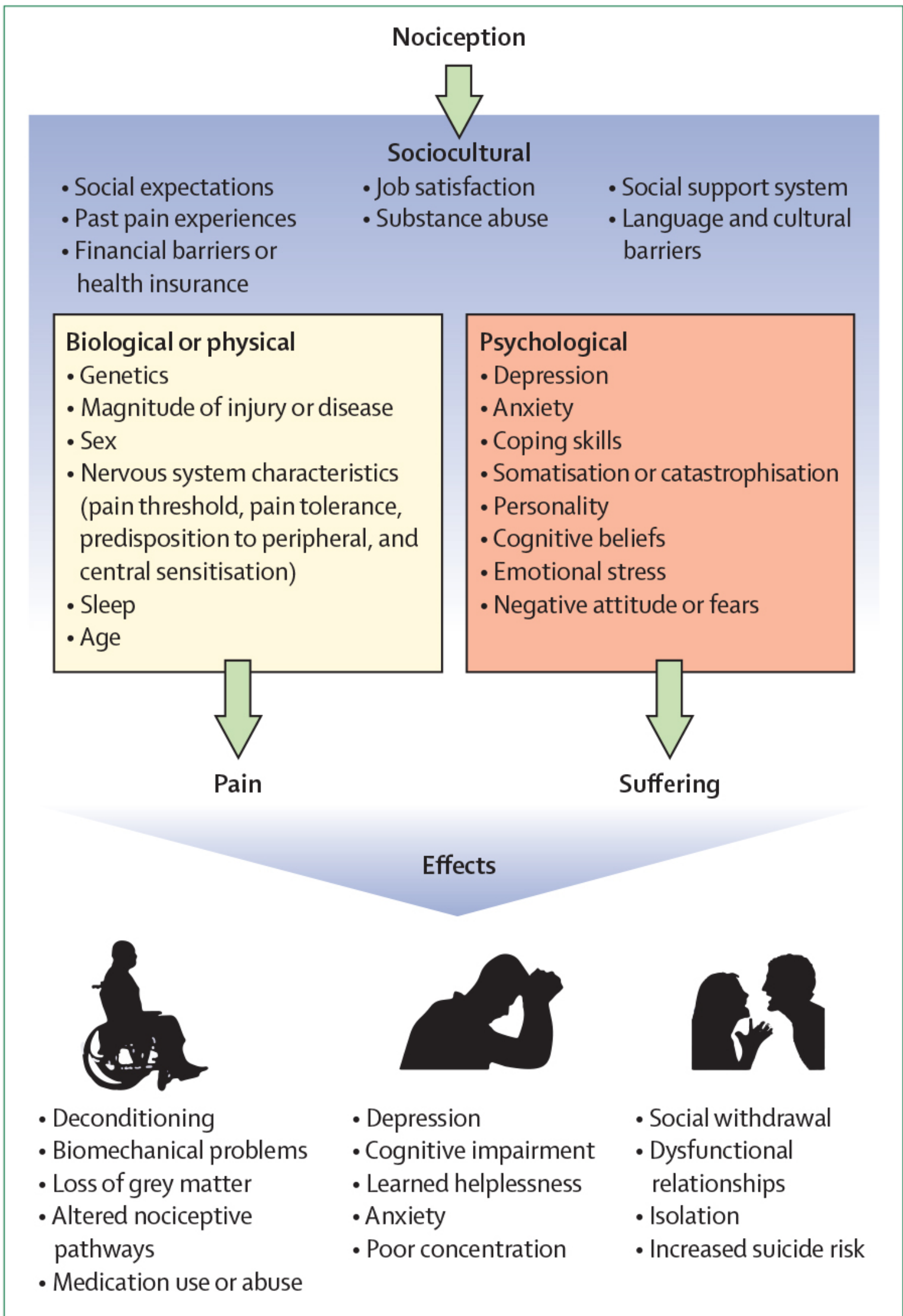
- ✓ The biopsychosocial model of pain
- ✓ Referring a patient to a pain psychologist
- ✓ The pain psychology assessment
- ✓ Common pain psychology interventions

The biopsychosocial model of pain

The biopsychosocial model of pain conceives of the pain experience as stemming from various biological, psychological, and social inputs.

There is a complex relationship between nociceptive input — how potentially noxious stimuli stimulate pain receptors and the nervous system more broadly — and a patient’s subjective experience of pain. In fact, pain may arise even in the absence of a clear nociceptive input — the mechanisms for such pain are unclear. Perhaps the peripheral pain receptors incorrectly signal pain even in the absence of non-noxious stimuli. Or perhaps the central nervous system misinterprets normal signals from receptors as pain.

The figure below attempts to capture the complex array of inputs that can modulate a patient’s perception of pain and the related effects on the patient’s overall experience.



Source: Cohen SP et al. Chronic pain: An update on burden, best practices, and new advances. Lancet 2021; 397:2082. Republished with permission.

Referring a patient to a pain psychologist

The role of a pain psychologist is to address the many factors that influence pain. Appropriate patients to refer to a pain psychologist are those with chronic pain who:

- ✓ Have a substantial degree of pain-related distress or significant pain-related disability
- ✓ Are interested in nonpharmacologic treatment options
- ✓ Might benefit from additional multimodal interventions

Clinicians who refer patients to pain psychologists should create a list of local providers after:

- ✓ Obtaining recommendations from colleagues
- ✓ Obtaining recommendations from patients
- ✓ Reviewing pain psychology services at nearby academic medical centers or pain clinics
- ✓ Consulting online provider lists, such as (but not limited to) the list maintained by *Psychology Today*

Some pain psychologists provide remote or virtual assessments and treatment.

Online and virtual resources for patients

Patients may wish to consult and use apps and other online resources, whether or not they accept a referral to a pain psychologist. These resources provide assistance in understanding and lessening pain; improving sleep quality and quantity, including instruction in sleep hygiene; and managing stress and mood. The following list presents a sampling, not an exhaustive catalog, of possible resources.

Pain resources:

- ✓ American Chronic Pain Association: <https://www.acpanow.com/>
- ✓ Branch Health (app)
- ✓ Pathways Pain Relief (app)
- ✓ SOMA (app)

Sleep resources:

- ✓ Insomnia Coach (app)
- ✓ CBT-i Coach (app)
- ✓ Ten Percent Happier (app)

Other resources:

- ✓ Noom (app focused on weight loss)
- ✓ Moodfit (app)

*“The assessment of pain has historically focused almost exclusively upon location and intensity (e.g., 0–10 rating scales). While such measures provide insights into how strong the sensory experience might feel for acute pain, little is revealed about the affective or cognitive processes influencing chronic pain over time. For example, if you are listening to music, knowing only the **volume setting** tells you little about **instrumentation, quality, key or tempo** of the piece that is being played.”*
— David A. Williams, PhD⁶



Discussing a referral to a pain psychologist with patients

Some patients may resist referral to a pain psychologist because of stigma or misconceptions about psychological interventions. Common statements from patients include:

- ✔ “Why would you send me to see a psychologist when the pain is in my back/knee/etc.?”
- ✔ “Do you think I’m crazy, or that I’m making the pain up?”
- ✔ “Why would I want to see a psychologist?”
- ✔ “I already see a therapist. Are you suggesting I see someone else?”

Useful responses to resistance include:

- ✔ “I certainly don’t think you’re crazy, or making your pain up, or exaggerating your pain, or that the pain is all in your head. But we know that many factors influence chronic pain and, specifically, that there’s a strong connection between the body and the mind.”
- ✔ “Perhaps you’ve noticed that your pain varies over time. Some patients find that the pain is worse when they’re under a lot of stress, or didn’t sleep well the night before, or are hungry or tired. Or they may notice that the pain is less bothersome when they’re in a good mood, watching a fun movie, or after a good night’s sleep.”
- ✔ “Pain psychologists are trained in helping people to manage their chronic pain by maximizing the things that alleviate their pain and minimizing exposure to things that worsen their pain.”
- ✔ “In addition, living with chronic pain is highly stressful, and a pain psychologist can help you learn how to reduce those pain-related stressors in order to prevent the ‘vicious cycle’ whereby stress amplifies pain, which increases stress, which further amplifies pain, and so on.”
- ✔ “Help from a pain psychologist can supplement the use of medications, procedures, and other interventions that reduce pain.”
- ✔ “Even if you already see a therapist to help with stress, relationships, or other problems that challenge most of us at various times, many people also benefit from seeing a pain psychologist. That’s because a pain psychologist can have very specific expertise in managing chronic pain and reducing its negative consequences.”
- ✔ “Most people don’t see a pain psychologist for long stretches of time but, more typically, for 4 to 12 visits. That’s often plenty of time to get quite a bit of benefit from pain psychology treatments.”
- ✔ “Studies have shown that pain psychology treatments are helpful. Not only do they reduce pain intensity, but they also can reduce symptoms of depression and anxiety, improve physical function and activity levels, improve sleep quality, and generally bolster people’s quality of life. In fact, multiple studies show that pain psychology treatments produce similar or greater benefits, compared with medications. And unlike medication-related improvements (which tend to diminish once people stop taking the medication), the benefits of pain psychology tend to increase over time, even after people stop seeing a pain psychologist. This seems to be because people learn helpful skills and pain self-management approaches that they get better and better at with practice.”

Interventions that pain psychologists use are described in a later section. You may also wish to discuss those interventions with the patients you refer to a pain psychologist.

The pain psychology assessment

A pain psychologist's initial assessment aims to identify the array of factors that influence the patient's pain, pain-related disability, and diminished quality of life.

After the assessment, the pain psychologist and patient usually identify several key factors to work on and approaches to take. They mutually choose an approximate number of sessions, often ranging from 4 to 12.

DOMAIN	COMPONENTS
PAIN SYMPTOMS	Intensity
	Location
	Frequency
	Distribution
	Impact
	Quality
COMORBID SYMPTOMS can add to the suffering and discomfort and increase the risk for transition from acute to chronic pain status. These symptoms are associated with a worsening clinical course across many pain conditions.	Fatigue
	Sleep problems
	Perceived cognitive problems
	Sensory hypersensitivity
	Functional interference (i.e., interference with occupational and recreational activities)
AFFECTIVE VULNERABILITIES are more common in patients with chronic pain and should be assessed and intervened upon if present.	Anxiety
	Anger
	Dysphoria
	Depression
	Posttraumatic stress disorder
	Personality disorders
BELIEFS AND ATTITUDES influence pain perception, treatment adherence, and responsiveness to treatments.	Self-efficacy to manage pain
	Locus of pain control ("internal": The patient believes they have the ability to influence pain by what they do or think; an internal locus of control is generally associated with better treatment outcomes than an "external" locus of control.)
	Resilience and coping strategies
	Catastrophizing, defined as an excessive negative evaluation of pain and its impact, is associated with worse pain and reduced functional status.

ENVIRONMENTAL AND SOCIAL FACTORS are the patient's interpersonal relationships (including how well others acknowledge the patient's pain), social supports, work environment, and job satisfaction. These variables can strongly influence pain behaviors and the likelihood of resolution of the pain.

Family and marital factors

Financial

Friends

Social

Culture

Medical

Trauma history

Work/school

Source: Williams DA. The importance of psychological assessment in chronic pain. *Curr Opin Urol* 2013; 23:554. Adapted with permission.

Common pain psychology interventions

A pain psychologist seeks to promote an adaptive self-management approach to chronic pain.

Many of the possible interventions aim to optimize the modulation of pain in the central nervous system, by increasing inputs that reduce transmission of pain signals and limiting inputs that increase transmission of pain. In addition to reducing patients' pain, many of these treatments also help to reduce the comorbid conditions described above — including insomnia, fatigue, depression, and activity limitations.

A variety of interventional techniques are used:

- I. Cognitive-behavioral therapy:** CBT teaches patients cognitive and behavioral skills to diminish pain, limit its harmful impact, and better self-manage pain. Elements include:
 - a. Pain-coping-skills training:** learning and applying specific skills to reduce pain and prevent flare-ups or exacerbations. Examples include muscle relaxation skills (e.g., progressive relaxation) and cognitive skills (e.g., distraction, mental imagery).
 - b. Pacing:** the planning and managing cycles of activity and rest to optimize the timing and amount of physical activity, without triggering flares of pain.
 - c. Identifying and modifying negative thoughts about pain** (e.g., pain-related catastrophizing): These thoughts can lead to fear of pain (with subsequent avoidance of daily activities) and body hypervigilance (with overestimation of future pain from these activities). The avoidance response can, in turn, lead to physical deconditioning, depression, and disability, further increasing the patient's suffering. This fear-avoidance model of pain focuses on teaching the patient thought-monitoring and thought-stopping techniques to reduce pain catastrophizing, fear, anxiety, hopelessness, and so on.

II. Acceptance and commitment therapy: ACT's basic premise is that by accepting and learning to live with pain, patients can limit its control over their lives. This therapy helps people change their expectations from eliminating pain to living as well as possible with it. Unlike some treatments for chronic pain, ACT does not primarily focus on curing or controlling pain and other symptoms. Instead, it teaches patients to acquire behavior patterns guided by their goals and values; and to change how thoughts, feelings, and sensations are experienced — not change the thoughts, feelings, and sensations themselves.



1. Cognitive defusion: the process of learning to treat thoughts as just thoughts. For example, the thought “this pain in my leg is so bad that sometimes I feel like cutting it off” doesn’t mean I’m planning to cut my leg off, that I really want to cut it off, that I will cut it off. It’s just a passing thought. “Defusion” is the process of learning to de-emphasize the importance and reality of thoughts and other cognitive processes.

2. Acceptance: the process of learning to react less strongly to unwanted private experiences such as negative emotions and sensations, without struggling so much with them. For example, if I’m anxious just before a work party where I’ll have to be on my feet a lot (which I fear could cause my back pain to flare) and I get so anxious that I think my heart is racing, acceptance might involve noting those symptoms, deciding they’re normal responses to getting ready for a potentially stressful and painful event, and continuing to notice the symptoms with the general attitude that the party will probably go fine — I’m just having normal anxiety symptoms, and any heart-racing or back-pain flare-ups will be temporary. I can rest and relax after the party.

3. Contact with the present moment: awareness of the here and now, experienced with openness, interest, and receptiveness (e.g., mindfulness). The aim is to deliberately pay attention to the present, de-emphasizing any focus on the past or future.

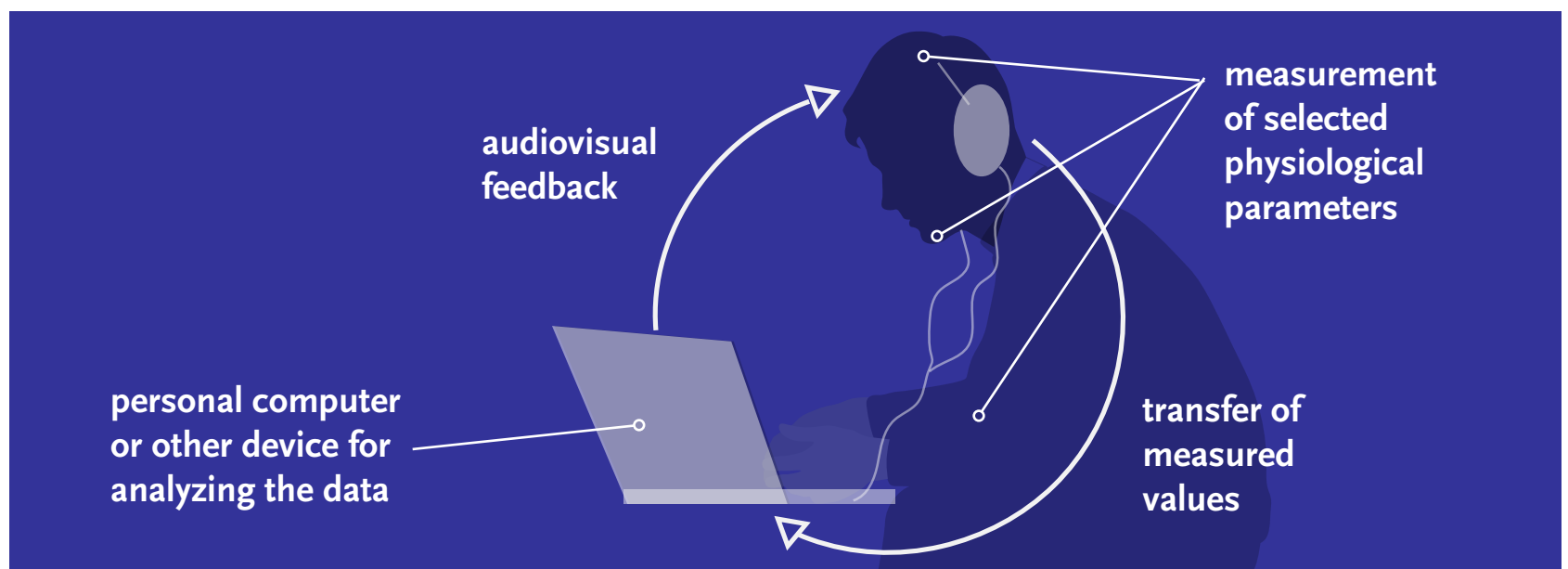
4. The observing self: awareness of oneself as a constant background presence, regardless of changing states and situations. For example, you are still you whether you’re asleep or awake; in church, at work, or at a party; or happy or sad on a given day. The aim is to deepen one’s sense of the continuity of self despite lots of temporary changes.

5. Values: discovering what is most important to oneself

6. Committed action: the setting of goals consistent with values that the patient has identified as most important to them. For example, your highest value might be serving people in need, which would help you decide whether to volunteer at a food bank even though you sometimes get a migraine after a shift there.

III. Meditation-based treatments (e.g., mindfulness): Mindfulness facilitates an attentional stance of detached observation. It is characterized by paying attention to the present moment with openness, curiosity, and acceptance. Mindfulness meditation is thought to offer benefit by refocusing the mind on the present, increasing awareness of one's external surroundings and inner sensations, and stepping back and reframing experiences. Training in mindfulness meditation and similar practices has been shown to reduce pain intensity, pain-related disability, and symptoms of depression and anxiety — and to enhance functional capacity and general quality of life.

IV. Biofeedback: This treatment involves using physiological monitoring devices to enhance awareness of one's physiological functions, with the goal of increasing voluntary control over those functions. Some of the processes that can be controlled include brain activity, muscle tension, skin conductance, and heart rate. For example, a pain psychologist might use surface EMG electrodes to measure lower-back tension in a patient with chronic low-back pain, while those tension levels are displayed on a screen that the patient can see. The provider and patient may then try several approaches to determine which one(s) best reduce the muscle tension (e.g., different positions, muscle relaxation skills). Over time, the patient increases awareness of muscle tension and hones approaches to consciously mitigating that tension.



V. Emotional Awareness and Expression Therapy (EAET): This therapy focuses on resolving psychological trauma and conflict as a means of reducing pain-related symptomatology. It includes elements of pain neuroscience education (i.e., pain is generated in the brain, and pain circuitry in the brain is tied to cognitive and emotional networks), trauma-informed care, healthy communication, and the expression and management of emotions related to traumatic experiences. EAET can be delivered in group or individual formats. It produces reductions in pain as well as improvements in functioning and quality of life in patients with fibromyalgia, chronic abdominal pain, and a variety of other chronic pain conditions.

VI. Movement therapies: These therapies, such as yoga and tai chi, generally include gentle activity, breathing techniques, stretching, and related elements. The benefits of movement therapies are similar to those of CBT, ACT, and mindfulness: reduce pain intensity, pain-related disability, and symptoms of depression and anxiety; and enhance functional capacity and general quality of life.

Many of these interventions can be largely delivered remotely, using standard telehealth techniques such as secure videoconferencing. Recent work suggests that the benefits of treatments such as CBT and ACT are equivalent across delivery modalities (e.g., patients receiving virtual CBT for chronic pain report just as much reduction in pain, improvement in function, and decrease in negative affect as patients attending in-person CBT sessions).

In addition to the above list of approaches taken by pain psychologists, patients may need therapy to target specific **biopsychosocial factors** such as behavioral treatment for insomnia, couples therapy, and stress management (e.g., behavioral approaches to reducing sleep disruption include limiting noise and light, optimizing bedroom temperature, and setting a consistent bedtime and wake time).

Communication with other members of the multidisciplinary pain-management team is important. For example, in the context of multidisciplinary management of a patient with chronic gastrointestinal pain (e.g., due to irritable bowel syndrome or gastroparesis), a pain psychologist might offer CBT that focuses on reducing abdominal pain while coordinating communication among a pain physician who is prescribing analgesic medications, a gastroenterologist who is managing gastrointestinal symptoms (possibly related to pain medication side effects), a nutritionist, and a physical therapist. **The overall goal is to help the patient develop an adaptive self-management approach to chronic pain.**

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