MOVING THE BODY IN CHRONIC PAIN: WHAT CLINICIANS NEED TO KNOW

Moving the Body in Chronic Pain: What Clinicians Need to Know" is part of a series of six Whole Health tools designed to assist clinicians who want to enhance Veteran s chronic pain self-management skills. For additional information, refer to the other materials in the Self-Management of Chronic Pain" overview.

Chronic pain is complex and it can help to view it from the Whole Health perspective. Chronic pain requires day-to-day management through the use of multiple self-care strategies, including setting realistic goals, pacing activity, managing thoughts and feelings associated with pain, and—no less important—moving the body. This clinical tool focuses on how physical activity is important in the self-management of chronic pain and how clinicians can help patients make optimal use of this area of proactive self-care.

WHY ENCOURAGE PATIENTS WITH PAIN TO CONTINUE TO WORK THEIR BODIES?

For chronic pain, physical activity is an important part of a self-management regimen that increases active pain coping. Treatment approaches that focus on increasing activity rather than avoiding activity have better outcomes.[1]

Gradual, progressive exercise improves mood in people who have chronic pain with associated depression or anxiety. For example, in studies of fibromyalgia patients, exercise not only increased fitness and function but also improved their sense of overall well-being.[2-4] One meta-analysis found that mindful movement exercise, such as Tai Chi and yoga showed a benefit to depression and anxiety severity when used by those with Major Depressive Disorder compared to passive controls.[5]

Exercise has a positive effect on pain. A longitudinal population-based study suggests that exercise is associated with lower levels of pain; as well, less pain is reported during times that more exercise was reported.[6] Similarly, reduced pain intensity has been noted in both individuals with chronic low back pain and general populations of chronic pain.[4,7] Meta-analyses of individuals with fibromyalgia found that exercise improved pain, mood, quality of life and pain perception.[8,9] Although more data is needed, exercise may be pain relieving to individuals with fibromyalgia syndrome when exercising at low-to-moderate intensity.[10]

Exercise appears to have a pain relieving (hypoalgesic) and possibly pain desensitizing effect.[11-14] Tan et al. (2022) conducted a systematic review of aerobic exercise with individuals with musculoskeletal pain and found that exercise (biking or walking) increased pain thresholds and decreased pain ratings for this group.[15]

A tendency toward passive coping (e.g. taking medications or waiting for the pain to stop) in people with chronic pain may lead to high attrition rates (38-87%) from ongoing use of

exercise.[16-18] Starting small and gradually building on success may show more positive results in patients who are inclined to cope passively.

Exercise may provide a benefit to sleep disruption, a common pain-related problem. A meta-analysis of fibromyalgia patients suggested that movement therapies (e.g. Tai Chi) lead to significant improvement in sleep.[19] Reduced incidence of insomnia was noted in individuals with chronic low back pain who remained physically active.[20]

Exercise does not need to be complicated, require a gym membership, or equipment. Several meta-analyses found that walking is associated with significant improvements in pain and function, and possibly pain thresholds.[15, 21-22] It is also well known that exercise improves overall health, disease risk, and progression of chronic illnesses such as cardiovascular disease, type 2 diabetes and obesity.

WHAT TYPES OF MOVEMENT ARE HELPFUL?

Researchers have investigated both exercise and mindful movement for chronic pain. Below are findings from these studies that include aerobic and anaerobic, as well as yoga, Pilates, tai chi, Alexander Technique and Feldenkrais Method. Typically, exercise of any kind is shown to be superior to no or minimal intervention. Regardless of type of exercise or movement, intensity should always be carried out gradually and progressively.

AEROBIC EXERCISE

Long-term benefits include improved mood, decreased pain and pain perception, improved physical functioning and improved cardiovascular fitness.[15, 21-25] It may also lead to immediate decreases in anxiety and depression. Meta-analyses by La Touche et al., and Lemmens et al., suggest that aerobic exercise may help to decrease the frequency of migraines.[29-30]

ANAEROBIC EXERCISE

Research on anaerobic exercise shows the following findings:[2-4,8-9,23-28]

- Literature supports the use of core strengthening and stabilizing exercise in chronic and subacute low back pain, but not acute pain.
- Benefits include reduced work absenteeism, enhanced personal engagement in physical rehabilitation, and improved overall functioning.
- In patients with subacute pain, anaerobic exercise may prevent profound deconditioning, kinesiophobia, and the development of chronic pain syndromes.
- No one particular strengthening method or technique has been found to be more effective than others.

- Progressive resistance training may offer additional improvement in psychological wellbeing.
- Exercise training may be more effective than physical therapist hands-on treatment.
- Individualized programs may offer the best rates of success (often through physical therapy).

YOGA/PILATES/TAI CHI

- Benefits include pain reduction, improved function, decreased disability and enhanced spinal mobility.[19,23-30] In a meta-analysis by Anheyer et al., (2019) short-term efficacy of yoga was found in improving headache frequency, duration, and pain intensity in patients suffering from tension-type headaches.[31] As well in another recent meta-analysis, on low back pain, Anheyer et al., (2022) found yoga to be associated with short-term improvement in pain intensity, pain related disability, mental health and physical functioning.[32]
- Benefits are greater than those obtained through educational interventions and equal to those obtained through participation in conventional exercise programs.
- Exercises which target stretching and flexibility show slightly less impact on pain than aerobic and anaerobic exercise.

ALEXANDER TECHNIQUE/FELDENKRAIS METHOD

- Evidence exists for the effectiveness of Alexander Technique (AT) lessons for chronic back pain patients including improving balance skills and posture.[33] One study found that Alexander Technique plus exercise led to modest but significantly greater improvement in quality of life, level of disability, and number of days with back pain.[34] In several randomized controlled trials, AT proved helpful in reducing neck pain.[35]
- Feldenkrais Method (FM) includes the learning of alternative movement patterns carried out in an active and mindful way. A 2022 systematic review and meta-analysis of demonstrated improvements in pain, disability, quality of life in chronic back pain, with improvements in pain, functional balance and perceived exertion in those with cervical, dorsal or shoulder pain.[36] FM also showed increased benefit in improving quality of life, disability and interoceptive awareness when compared to controls engaged in core stability exercises.[37]

HOW CAN I HELP AS A CLINICIAN?

Once a full evaluation has been completed and red flags have been ruled out, Veterans can be encouraged to cultivate attitudes and behaviors that are helpful in the self-management

of chronic pain (refer to the box below). Self-management of pain should be part of the discussion as soon as possible to prevent passive coping and a sense of low self-efficacy.

One way for clinicians to enhance self-efficacy is by reinforcing positive coping behaviors they observe. It can help to reinforce them by pointing out what they are doing, for example, that a person is maintaining some level of physical activity, doing physical therapy, enjoying a hobby, maintaining a good family life, keeping a connection with their church, and/or continuing to work. It is also useful to provide access to materials, groups, or other resources that encourage active coping and self-management. Options might include exercise or pain management groups, individual pain management training, relaxation techniques, meditation training, and physical therapy.

Self-efficacy refers to thoughts that influence whether or not behavior change will be initiated, how much energy will go into that change, and how long effort will be sustained in the face of obstacles and challenges. A meta-analytic review found that self-efficacy is a robust correlate of key outcomes related to chronic pain.[38] A study of veterans found that those with PTSD and pain likely have decreased self-efficacy that should be targeted for intervention.[39] This suggests that it is an important risk factor, as well as a protective factor, that has implications for subsequent functioning for those with pain. Higher levels of self-efficacy are associated with increased likelihood of achieving physical activity goals and improvements in pain levels, fatigue, physical functioning, mood, and quality of life.[40,41] Examples of thoughts associated with higher self-efficacy include, "*I can do it*," or "*I will just do what I can and then rest.*"

Active coping versus passive coping. A tendency toward passive coping mechanisms is associated with poorer outcomes and lower levels of physical activity; active coping is associated with better outcomes and less disability.[17,18] Examples of active coping include maintaining activity levels, doing as much as is reasonably possible to do, diverting one's attention away from pain toward more positive activities, and using relaxation strategies. Both active coping and self-efficacy were found to be protective and reduce the risk for musculoskeletal pain.[42]

SEVEN TOPICS TO ADDRESS WITH PATIENTS

During regular follow-up appointments with Veterans with chronic pain, focusing on one of the following topics might help to move in the direction of higher functioning and better pain management. Topic 1 is an excellent place to start. When feasible, choose a topic to cover during a routine clinic visit.

TOPIC 1: FUNCTIONAL GOALS

Functional goals focus on improving the health, function, and quality of life of an individual. They can serve as both a target and a source of motivation for Veterans.

- The idea of functional goals can be introduced through the Personal Health Inventory (PHI). The Veteran can be provided with the materials and allowed to work on it at home with the support of people who care about him or her.

- Ask them if they have any functional goals that are important to them. For example, do they want to be able to take a vacation, go hunting, or be able to sit through a movie at a theater? Explore activities they might enjoy or that would be meaningful to them, and then help take steps in the direction of reaching their goals.

TOPIC 2: CURRENT ACTIVITY LEVEL ASSESSMENT

How much activity does this patient do on a daily basis? Are they spending the day in bed or in front of the TV? Are they attempting to do too much? Some individuals with pain do less and less over time, while others overdo. Still others may roller coaster between doing too much on a "good day" and not doing anything on a "bad day." Knowing their patterns can allow clinicians to support them more effectively.

- Have them describe a typical weekday and a typical weekend.

- If they appear to be fairly low-functioning, consider doing the following:

- Work with them on setting small, progressive goals for exercise that incorporates functional goals.

- Encourage any positive activity, however minimal.

- You might include family members or significant others to assist with encouraging activity and providing positive reinforcement when activity occurs.

Activity Pacing (sometimes simply referred to just as *pacing or pacing skills*). Pacing is an active self-management strategy whereby individuals learn to balance time spent on activity and rest for the purpose of achieving increased function and participation in meaningful activities. Pacing is a learned skill that might involve pre-planning to adjust activity and manage energy to not over do or under do activity. It may involve listening to the body signals and thoughts to make appropriate changes to both improve level of and guide the reintroduction and increase of activity. Pacing aims to reduce pain-contingent avoidance of activity in order to improve functioning.[43-45]

Evidence is limited that pacing is associated with reduced pain or increased functioning in those with chronic pain. A meta-analysis of seven studies found that pacing did not reduce the severity of pain. It was however, found to assist in lessening joint stiffness and the interference of fatigue, as well as decreasing the variability of physical activity.[46] One longitudinal study found that distress and pain severity decreased as pacing increased and a cross-sectional study had associated pacing with lower levels of depression and anxiety.[47,48] Pacing with the stated intent to increase activity was associated with more positive affect and better daily functioning whereas no such associations were found for pacing with the intent to avoid pain.[49]

Functional disability can be avoided if patients effectively manage their energy level and pain during activity. Pacing might begin with analyzing an activity to determine how it might best be accomplished. Options might include slowing down, breaking the task into manageable pieces, adding appropriate rest and activity intervals, etc. The goal is to find the right balance.

If people appear to attempt to do "too much," discuss:

- Pacing activities to optimize energy use and avoid flare-ups. It is best not to let activity levels fluctuate too greatly.
- Breaking activity into smaller tasks. For example, plan to mow half the lawn today, and half tomorrow.
- Taking breaks or rest. Refer to the "Taking Breaks: When to Start Moving, and When to Stop" Whole Health tool.
- Alternating activity periods with rest.
- Setting time limits for activities that lead to overdoing. For example, a person can set aside 30 minutes (or whatever time frame will not cause them to have increased pain) for lawn mowing, rather than stopping only when the entire lawn is mowed. After a rest period, they can engage in another round of time-based activity, followed by more rest, until the task is complete.
- Asking family and friends for help might be appropriate when it comes to tasks that are difficult or might exacerbate pain.

TOPIC 3: DEPRESSION

Depression is a common pain comorbidity. So are stress and anxiety.[50-54] Consider the following:

- Is depression impacting activity? Fatigue and low motivation can be symptoms of depression.
- A depression screening tool, such as the PHQ9, may be useful.
- If depression seems to be having an impact, the Veteran might benefit from:
    - Anti-depressant medications.
    - Counseling for issues related to loss.
    - Pain psychology to address the impact of pain on mood.
    - Joining a pain management and/or coping group to decrease isolation and increase coping skills.

- Engaging in exercise, such as aerobic or progressive resistance training. Most important, is the patient's willingness to engage rather than the type of exercise.

Refer to the "Depression" overview for more information.

TOPIC 4: PAIN FLARE-UP

A flare-up of pain is an exacerbation of more typical levels of pain. Pain flares can be used interchangeably with "break-through pain," although this term may be used more specifically for instances when pain medications are not working effectively for pain management. Rather than being static, pain is commonly a dynamic experience; it changes over the course of a day or week for many individuals. Pain fluctuations are associated with higher levels of depression, as well as decreased work productivity and more disability.[55] Certainly, both unpredictability of pain and pain flares can interfere with physical activity. Consider the following:

- Encourage self-management of pain flares. This can create more self-reliance for the patient and decrease reliance on emergency department and clinic visits, not to mention medication use.

- If pain flares are a problem, help the patient create Pain Flare Management Plan. For more information refer to the tool, "A Pain Flare Management Plan: Suggestions to Offer Patients."

- If a flare or fluctuating pain levels interferes with patients' progress toward their goals, do not encourage them to stop an activity; rather, have them cut back for a day or two and then slowly increase activity again.

TOPIC 5: FEAR OF PAIN—PART A

When reasonable activities are continuously avoided, it may be from fear of the pain, sometimes referred to as the fear avoidance model (FAM).[56] Avoiding painful stimuli initially with pain onset is natural, but can prove to be a maladaptive response when continued over time.[57-61] Avoidance can lead to decreased functioning, increased disability, more days off work, and impaired physical performance.[62-64]

Clinicians can help by exploring with patients why they are avoiding activity. Common in chronic pain is fear avoidance beliefs or pain-related fears, which comprise cognitions and fears about the potential for physical activities to produce pain and harm. If they are concerned about hurting themselves when they engage in movement, it may help to review the concept of "Hurt versus Harm." They may be experiencing hurt (unpleasant physical sensations) but it is not causing harm (lasting damage). Reassure them and encourage them to continue with activity. For more information refer to the tool, "Exploring your automatic thinking about chronic pain: Working with pain-related thoughts."

TOPIC 6: FEAR OF PAIN—PART B

Some individuals may need specialized assistance to help them with the fear of their pain. Meta-analyses have addressed treatment of fear-related pain and avoidance and found that exercise training is effective for reducing fear-avoidance as well as psycho education about pain and cognitive behavioral therapy[65-66]. Consider referring them to one of the following:

- A physical therapist who can assist with graded increases in activity and/or develop an individualized plan for them to ramp up movement.
- An interdisciplinary pain program, if available.
- A behavioral health specialist or pain psychologist skilled in cognitive behavioral therapy, who can explore maladaptive thought patterns. Research is clear that pain catastrophizing (overestimating the probability of an unpleasant outcome, feeling helpless, and having distress-amplifying thoughts about pain) are detrimental for a patient with chronic pain, is common and closely associated with disability level and pain.[65-70] Treatment approaches that focus on increasing activity rather than avoiding activity lead to better outcomes.[1]

TOPIC 7: THE ROLE OF SLEEP

Explore the role of sleep as a contributing factor in the ability to stay active. Chronically painful conditions are frequently associated with increased sleep disturbances,[71] including changes in sleep continuity and sleep architecture as well as increased sleepiness during waking hours. Sleep deprivation and sleep disruption may increase pain sensitivity and vulnerability to pain.[72] It may also create a vicious cycle between sleep difficulties and chronic pain where one augments the other. Even in the general population, poor sleep may be a risk factor for a range of adverse health outcomes, including disabling pain conditions.[73] In veterans with chronic pain, sleep disturbances and sleep disorders were associated with worse pain outcomes. However, when treated for their sleep disorder and sleep disturbances, these veterans had improved pain outcomes.[74] Consider the following:

- Address basic sleep hygiene with chronic pain patients (refer to the "Recharge" overview) to improve patients' dysfunctional habits surrounding sleep.
- Explore what occurs when they cannot sleep. If a patient tends to ruminate at night, a referral to a psychotherapist for anxiety treatment might be helpful.
- Provide relaxation strategies that can be used at bedtime or when awaken in the middle of the night.
    - Patients might benefit from meeting with a behavioral specialist, such as a pain psychologist or a specialist in sleep.
    - iRest has been adapted from the ancient practice of yoga nidra and developed specifically for military/veteran population. It is a 10-step protocol and has been shown to be helpful to sleep, as well as depression, anxiety, quality of life, pain, traumatic brain injury sequelae.[75-77]

- Clinicians can instruct them in breathing exercises as appropriate. For more information refer to the Power of the Mind tool, "Breathing."

Consider whether sleep aids are needed, or if the patient may benefit from a referral for cognitive behavior therapy (CBT) or CBT-I (CBT for insomnia). Many providers are surprised to learn that these treatments, which include sleep hygiene intervention, have been shown to produce comparable, and sometimes better, results than medications.[78-82]

RESOURCE LINKS

- A Pain Flare Management Plan: Suggestions to Offer Patients: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/a-pain-flare-management-plan-suggestions-to-offer-patients.asp
- Breathing: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/breathing.asp
- Depression: https://www.va.gov/WHOLEHEALTHLIBRARY/professional-care/depression.asp
- Recharge: https://www.va.gov/WHOLEHEALTHLIBRARY/self-care/recharge.asp
- Self-Management of Chronic Pain: https://www.va.gov/WHOLEHEALTHLIBRARY/overviews/self-management-chronic-pain.asp
- Taking Breaks: When to Start Moving and When to Stop: https://www.va.gov/WHOLEHEALTHLIBRARY/tools/taking-breaks-when-to-start-moving-and-when-to-stop.asp

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