

Raising Pain Tolerance Using Guided Imagery

Patients can derive not only symptomatic relief but actual physiologic healing in response to treatments that primarily work through beliefs and attitudes about an imagined reality.

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“Pain is inevitable; suffering is optional.”—Hindu Spiritual

During the many years that I directed the UCLA Pain Control Unit, one of the most valuable things I learned was that it is possible for someone to have pain and yet not suffer. When two patients were admitted with similar diagnoses, histories, demographics, and objective findings, we would often find tremendous variability in how well they were coping with pain and its consequences.

The poorly coping patients were anxious, depressed, unable to sleep, work, or engage in personal relationships, and they grieved their inability to function as well as they did previously. Many were stuck in anger about their pain or denial about its impact on their work and family relationships. Most regretted various choices they made that led to the pain experience, and many tearfully mourned their loss of health, function, purpose, meaning, income and relationships. Clearly, they were suffering and had little, if any, tolerance to their pain.

The highly coping patients reported much greater tolerance to pain in general, as well as a consistently positive attitude and focus on the future. “You don’t go forward looking backward,” one said. Although they had to make major lifestyle adjustments to cope with pain, most continued working as best they could. Many benefited from strong family or church relationships and support. All were eager to learn about any treatment alternative that might be of help, and most remained hopeful and optimistic about the future.

Pain Tolerance

Pain tolerance can have a huge impact on how patients respond to any type of medical treatment. With this understanding, we established five primary goals for the UCLA Pain Control Unit:

1. To correct the underlying condition causing pain, if possible.
2. To reduce or block the pain signal from reaching consciousness.
3. To increase tolerance to pain so that it interferes less with work, sleep, relationships, and lifestyle activities.
4. To increase the ability to self-manage pain, and decrease dependence upon medications and medical care.
5. To treat people in pain, rather than pain in people.

In the clinical situation, there are limitations in our ability to reverse severe physical pathology such as in treating degenerative neurological diseases, so our first goal often remained unmet. The Unit was based in the UCLA Department of Anesthesiology and despite our use of many interventional pain management techniques, we were also not always successful in blocking pain.

However, we found that guided imagery could be used to raise pain tolerance, facilitate restful sleep, elevate mood, increase motivation, reduce dependence, and promote self-management. Guided imagery techniques enabled us to best meet our remaining three goals, and they became one of the most effective ways to help our patients reduce suffering even when “nothing more (medically) can be done.”

Increasing pain tolerance is the basis of effectiveness of some of our most potent analgesics. I’ve long believed that opiates have little to do with pain, and everything to do with suffering and the inability to tolerate pain. When people in pain are given an injection of morphine, they often state that “it still hurts,

but it doesn't bother me." This represents enhanced central tolerance to pain rather than decreased pain intensity, yet it enables patients to become significantly more comfortable and functional in their lives. Other techniques that mimic or stimulate endorphin release, such as acupuncture, may also be effective because of their ability to raise pain tolerance.

Factors Affecting Pain Tolerance

Pain tolerance is defined as the amount of pain that a person can withstand before breaking down emotionally and/or physically. Pain tolerance is distinct from pain threshold or sensitivity, which is the minimum stimulus necessary to produce the experience of pain.

The ability to tolerate pain has been studied by numerous researchers in their laboratories, and many interesting findings have been published. For example, experimental studies have demonstrated that pain tolerance decreases with age, that men have higher pain thresholds and tolerances and lower pain ratings than women, and that whites tolerate more pain than Asians.^{1,2}

Other studies have shown that the presence of an individual who provides passive or active support reduces experimental pain. Whether the person who is with them during the painful event is a friend or a stranger, just the presence of another human helps subjects to tolerate a much higher level of pain than when alone.³

How relevant the results of such experimental pain studies are for clinical practice remains a controversial issue. Subjects in experimental studies know how and why the pain is being caused and that it will not continue for long or permanently harm them. This is not the case for people in chronic pain who often feel that their suffering will never end.

Some believe that regular exposure to painful stimuli will increase pain tolerance by helping the body to build "immunity" to the pain. However, the opposite appears to be true, for repeated painful experiences can teach a person how severe pain can become and how difficult it can be to get relief. In addition, greater exposure to pain results in more painful future exposures due to synaptic sensitization.^{4,5}

Assessing Clinical Pain Tolerance

Most busy clinicians do not have the time, expertise, or temperament to measure pain tolerance utilizing complex experimental protocols with dolorimeters or cold pressor tests, even though it might be helpful to do so. Fortunately, there are two simple guided imagery techniques that can be used to assess a patient's clinical tolerance to pain. The first involves having them create a mental picture of their pain at its worst by offering the suggestions in Table 1.

Table 1. An Image of Pain At Its Worst

"If it's safe to do so, close your eyes for a moment, and bring to mind a time when your pain was at its very worst... A 20 on a 0 to 10 scale... Don't worry, we won't do this for long, but take a moment to recall one or more times when you felt totally incapacitated by pain and completely unable to handle it... Get in touch with how this horrible pain experience affected you... and those around you ... and all the things you were thinking and feeling when your pain was at its very worst... Let yourself remember for a moment how painful it was and how desperate you were at that time... As you get in touch with these feelings, allow an image to form in your mind's eye that represents or symbolizes your pain at its very worst... Let the image convey all the physical aspects of your pain at its worst, as well as the ways it affected your emotionally and socially... Many different images or symbols or people may come to mind, which is fine, and when one particularly clear image has formed that represents or symbolizes your pain at its worst, describe it to me..."⁶

Once a clear image of their pain has formed, a variety of helpful Interactive Guided ImagerySM techniques can be employed, which I have described in detail elsewhere.⁷ For example, an experienced imagery guide can invite the patient to enter a dialogue with their pain, to ask why it's there, what it wants, what it needs, what it has to offer, and under what circumstances it would be willing to leave. This can reveal important information about the source of the pain experience and how well patients relate to their pain.⁸

A Picture of Pain At Its Worst

I strongly encourage all clinicians to provide colored marking pens and paper so their patients can draw the image that represents their pain at its worst. Let your patients know that they do not have to be an artist and that their drawing can be as simple, abstract, or comprehensive as they want.

As they say, “A picture is worth 1000 words” and a close examination of such patient drawings can reveal critical information about their pain experience that you will not find revealed in any medical history or standardized psychometric tests.

For example, Figure 1 shows a drawing by a patient with post-laminectomy pain who has been totally victimized by chronic pain. He ultimately revealed that the pressure on the clamp that was making his pain unbearable was being applied by a close family member who he could not control. By resolving this family conflict and learning to use imagery techniques for pain control, this patient was able to raise his pain tolerance sufficiently to permit his return to gainful employment. While this patient obviously has artistic talent, such pictures can be as simple as stick figures while still providing clues to the patient's pain.

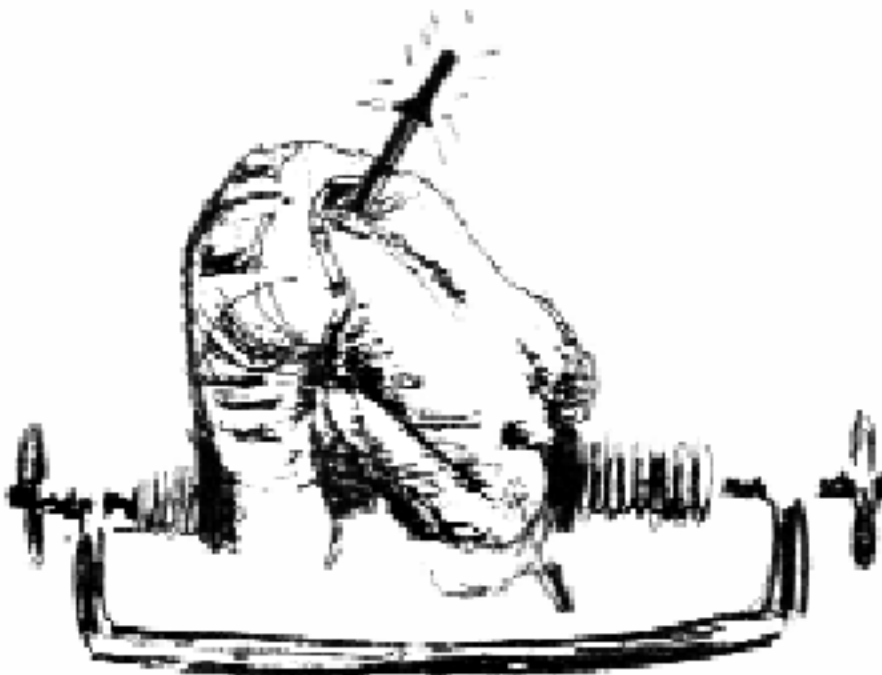


Figure 1.

Another picture drawn by a patient with migraines—depicting hands clamping the legs, tearing out guts, punching the jaw, choking the neck, pulling out an eyeball still attached to its optic nerve, pulling hair, and stabbing and shooting pointblank into the head—clearly is not tolerating the pain well.

The SUTS Scale

The second assessment technique is equally simple. Many clinicians use a SUDS (Subjective Units of Discomfort) scale to measure pain intensity by asking, “On a scale of 0 to 10, where 0 represents no discomfort, and 10 represents the greatest discomfort you can imagine, how uncomfortable is your pain right now?”

We can also utilize a SUTS scale (Subjective Units of Tolerance Scale) by asking, “On a scale of 0 to 10, where 0 represents no ability whatsoever to deal with or tolerate pain, and 10 represents the greatest tolerance, endurance, and strength you can imagine yourself achieving, how well are you tolerating your pain right now?”

As I record their tolerance ratings, I respond by saying, “How would you like to learn a way to make it 20, 30, maybe even 100?” and rarely get turned down.

Guided Imagery and Healing

Mental images—formed long before we learn to understand and use words—lie at the core of who we think we are, what we believe the world is like, what we feel we deserve, and how motivated we are to take care of ourselves. They strongly influence our beliefs and attitudes about how we fall ill, what might help us get better, and whether or not any medical and/or psychological interventions will be effective or even helpful. For these reasons, learning how to guide our patients’ imagery can be an enormously powerful tool for modern pain therapists.

A mental image can be defined as a thought with sensory qualities. It is some-thing we mentally see, hear, taste, smell, touch, or feel. The term “guided imagery” refers to a wide variety of mind/body techniques, including simple visualization and direct suggestion using imagery, metaphor and story-telling, fantasy ex-ploration, game playing, dream interpretation, drawing, and “active imagination” where elements of the unconscious are invited to appear as images that can communicate with the conscious mind.

Once considered “mumbo-jumbo,” or at best, an “alternative” or “complementary” approach, guided imagery is finding widespread scientific⁹ and public¹⁰ acceptance, and nearly ever bookstore now offers guided imagery self-help CDs or DVDs.¹¹

Research on the omnipresent placebo effect, the standard to which we compare all other modalities (and find relatively few more powerful), has provided some of the strongest evidence for the power of the imagination and positive expectant faith in healing.

If people can derive not only symptomatic relief, but actual physiologic healing in response to treatments that primarily work through beliefs and attitudes about an imagined reality, then learning how to better mobilize and amplify this phenomenon in a purposeful, conscious way becomes an important, if not critical, area of investigation for modern medicine.

Imagery Has Physiological Consequences

In the absence of competing sensory cues, all the systems in the body respond to imagery as they would to a genuine external experience. For example, take a moment to imagine that you have a big, fresh, juicy yellow lemon in your hand, just plucked this morning. Allow an image of this lemon to form in your mind’s eye so you can fully sense its heaviness and smell its fresh, lemony tartness. Now, imagine taking a knife and carefully cutting out a thick, juicy section from the lemon. In a moment, I’d like you to imagine taking a big bite of the lemon slice, and as you do, feel that sour, tart lemon juice explode in your mouth, saturating every taste bud so fully that your tongue begins to curl as your lips pucker up...

To the extent you were able to imagine this vividly, even as you read it, the image probably produced some salivation, for the autonomic nervous system easily understands and responds to the language of imagery.

Here is the crux of the matter: If imagining a lemon makes you salivate, what happens when you imagine that you are a hopeless, helpless victim of never-ending pain? Doesn't it tell your body's intrinsic healing systems to stop and give up?

Imagery, Attention, and Worrying

Some people feel that they have little ability to create images in their minds, but everyone can cultivate this talent to an amazingly high degree. In fact, the most common way that people use imagery is by worrying. What we worry about is never happening in the real world, only in our imagination. We regret the past, which has already happened, or become fearful about the future, which is a total fantasy since it has not happened yet.

People in pain worry all the time. They worry that their pain will never end and that they will remain helplessly immobilized by something they cannot control and cannot endure. As a result, they usually have little difficulty describing an image of their pain at its very worst. I've often heard phrases like, "a swarm of fire ants are chewing on the nerve", or "a gigantic elephant is sitting on my chest." These are familiar and powerful images that immediately come to mind as soon as the first symptoms of pain emerge.

There is an old saying that "whatever you give your attention to grows," whether it is your garden, your children, your worries and fears, or your experience of pain. Because patients tend to worry about pain at its worst much of the time, this image gets a lot of attention. As a result, it grows very large and soon becomes a major focus of the patient's life experience.

These negative images can also become self-fulfilling prophecies, for they have the power to create their own reality in the body, just as thinking of a lemon can make you salivate. If a patient experiences pain as "a sizzling hot poker that is constantly being stabbed into my knee", or as "a lion gnawing on my back, tearing deeper into my nerves with every bite", such images can have profound physiological effects that can increase the experience of suffering and interfere with the body's natural pain relieving abilities.¹²

Negative Imagery as a Habit

Over time, thinking about the image of pain at its worst becomes habitual, and despite reassurance from health care providers, family, and friends, patients tend to remain constantly anxious that it will occur again. While it may be counter-intentional to focus so much attention on this horrible image, many patients feel that they are unable to stop thinking about it, just as they were unable to quit smoking or lose weight. Painful negative imagery has become a habitual way of thinking.

How do you best break an old habit? By learning a new one that is incompatible with the old one, and then by thoroughly reinforcing the new habit until it replaces the old one. In other words, to stop a patient's habitual way of thinking that pain will always be unbearable, we need to create a new image of pain that is incompatible with the old one, and then reinforce it by giving it as much attention as possible.

A Picture of Pain At Its Best

In addition to a drawing picture of their pain at its worst, I invite patients to get in touch with their pain at its best by using the suggestions in Table 2.

Table 2. An Image of Pain At Its Best

“Now that you've drawn a picture of your pain at its worst, let that image go and clear your mind... Let's now draw a second picture that represents your pain at its best. Here's how... Close your eyes for a moment and recall a time when you were having a lot of pain, but you were able to handle it really well... Maybe it was an important event of some kind and, although your pain was present, it sure didn't stop you from doing what you wanted or needed to do... It was quite an accomplishment, for somehow, this time, you were amazingly strong, determined, tough, and able to overcome the pain... As you recall how well you managed that situation despite being in pain, allow another image to form that represents or symbolizes the pain you were able to manage, the time when your tolerance was very high, and your pain was at its best... Again, incorporate all the physical, emotional, social, and spiritual aspects of this experience and when an image of your pain at its best becomes clear, describe it to me.”⁶

Once this image comes to mind, I ask the patient to draw a picture that represents their pain at its best. If a patient has difficulty creating a positive image of pain, it is usually because they are highly anxious and so uncomfortable that they do not want to acknowledge that pain can ever be “at its best.” In such cases, it is very helpful to teach them basic relaxation skills using other guided imagery techniques such as Conditioned Relaxation.¹³

The Importance of Relaxation

While anxiety, fear, stress, and emotional upset do not usually cause pain, these emotions can greatly amplify the pain signal and/or significantly reduce tolerance when they continue unabated over time.

When a patient becomes stressed and afraid that their pain is going to get out of control, the pain signal becomes increased which makes pain less tolerable and more difficult to handle. Teaching patients how to relax can help to calm their nervous system and often reduces or eliminates the amplification effects of anxiety and stress.

We usually begin by having patients sit down or lie down, close their eyes, and focus all of their attention on their breathing. Once they do, we ask them to make their breathing a little bit slower, deeper, quieter and more regular. This alone can be highly effective in reducing stress and anxiety. A simple relaxation exercise is included in Table 3.

Table 3. Basic Relaxation Training

Let's start by taking a few slow, deep abdominal breaths... Inhale... Exhale... Inhale... Exhale... Simply focus your attention on your breathing right now and let everything else go for a few minutes... Just breathe slowly and deeply from the abdomen... Letting your breathing become slower... Deeper... Quieter... And more regular... As you inhale, bring healing nourishing oxygen and restoring life energy to every cell of your body... And as you exhale, blow away any worries or concerns... Inhale... Exhale...

As you focus all your attention on your breathing, you may be surprised to notice how easily this kind of slow deep breathing alone can help to produce a nice state of deep, gentle relaxation... Just let go and allow your body to breathe itself according to its own natural rhythm, as it becomes slower, quieter, deeper, and more regular...

Good. Now let's begin by taking a Signal Breath, a special message that tells your body you are ready to enter a nice state of deep relaxation. Simply exhale... breathe in deeply through your nose... and blow out through your mouth... You may notice a kind of tingling sensation as you take the signal breath. Whatever you feel is your body's way of acknowledging that it's ready to focus inside and experience

greater relaxation, comfort, and peace of mind...

Remember your breathing, slowly and deeply ... If you like, imagine that there's a ball of pure energy or white light that starts at your lower abdomen, and as you inhale, it gently rises up the front of your body to your forehead... And as you exhale, it goes down your spine, down your legs, and into the ground...

Again, imagine a ball of pure energy or white light rising up the front of your body to your forehead as you inhale ... And as you exhale, it goes down your spine, down your legs, and into the ground... Circulate this ball of energy around for a few moments, and as you do, allow its circulation to move you into an even deeper state of relaxation and comfort... .

If you like, you can use this ball of energy as a kind of energetic sponge, absorbing any tension, tightness, pain, or discomfort from anywhere in your body draining it down your legs, down your spine, and into the ground... Leaving you feeling relaxed, much more comfortable, and at ease...

Each time you inhale and exhale and circulate the ball of energy, you may be surprised to find yourself twice as relaxed as you were a moment before... Twice as comfortable... Twice as peaceful ... For with each breath, every cell of your body becomes even more relaxed and comfortable as any remaining tension, tightness, pain, or discomfort drains down your spine, down your legs, and into the ground... Continue to circulate this ball of energy around for a few moments more until you are as totally comfortable as you can be right now...

Remember that like any other activity, the more you practice, the better you become... If you practice using the ball of energy to relax yourself this way at least once or twice daily, you'll soon find that you can automatically relax just by taking the Signal Breath... So keep practicing... It will help a lot...

When you end this imagery exercise in a few moments, you may be surprised to notice that you'll feel not only relaxed and comfortable, but also refreshed and energized with such a powerful sense of well being that you will easily be able to meet any demands that arise... To finish, simply open your eyes and take the Signal Breath once more. Exhale... Inhale deeply through your nose... Blow out through your mouth... and be well."¹³

After focusing on their breathing, we ask them to systematically scan each part of their body and to notice any parts that still have any tension, tightness, pain, or discomfort. If they do, we ask them to use their breath to blow away any discomfort as they exhale, and as they inhale, to bring healing, nourishing oxygen to every cell in the area of discomfort.

Next, we ask them to bring to mind a place that is very beautiful, peaceful, safe and comfortable—a place that they love to think of in their imagination. It might be a real place they've actually visited, or a place they've totally invented. Once there, we ask them to notice what they see, hear and smell, what the temperature is like, and what time of day it is.

As they pay attention and focus on different sensory cues, their body's regulatory systems respond as if they are actually in such a place. This shifts the autonomic nervous system into more parasympathetic activation, generating the relaxation response.

Thanks to recent studies with functional MRIs, we now know that when people imagine that they see trees, flowers and a beautiful blue sky, they actually activate the occipital areas of their brains. When they imagine hearing sounds, they activate the temporal lobes of their brains. As they imagine the different senses, they actually activate different parts of the brain that normally process those senses.

In other words, when the brain concludes that “This looks like a beautiful, peaceful place, it feels like it, it sounds like, and it smells like it,” the entire body responds by becoming more relaxed, just as if it were there.

Mind-controlled Analgesia

This guided imagery technique can be used once patients have drawn their pictures of pain at its worst and best (see Figures 2a and 2b, respectively). Mind Controlled Analgesia (MCA) is designed to elevate pain tolerance by transforming the first image into the second. After inducing relaxation as discussed above, typical suggestions for MCA are shown in Table 4.



Figure 2a. Patient drawing of *pain at its worst*.



Figure 2a. Patient drawing of *pain at its worst*.

Figure 2b. Same patient drawing of *pain at its best*.

Table 4. Mind Controlled Analgesia

“Now, for just a few moments, bring to mind the image of your pain at its very worst... If you can, recall the first picture you drew as fully and as clearly as possible. As you remember this image of your pain at its worst, also recall all the problems associated with this horrible experience... How badly it affected you and those around you...

Now watch what happens as you convert and transform the image of your pain at its worst to the one of your pain at its best... Let go of the first image, let it fade, and bring to mind the second picture you drew of your pain at its best... Take a few moments to also get in touch with the experience this more positive picture brings to mind... Recall all the details of what was going on when you were able to handle your pain so well. What were you doing?... Why was it important or significant?...

As you think about your pain at its best, notice that your pain didn't seem to stop you from doing what you wanted or needed to do... Somehow, you were able to endure it and focus on what was important... Remember how grateful you were that pain didn't shut you down and feel that gratitude for a few moments.

Now notice what's different about the two pictures of pain you drew... What's needed to convert the first picture to the second?... How can you imagine that happening?...

If the first picture includes a part of your body that has been injured, for example, you might find it helpful to imagine fresh, new blood freely flowing to that area as you relax, carrying with each heartbeat the precious oxygen and vital nutrients essential to the healing process...

As your muscles, ligaments, and tendons relax more and more, your blood vessels serving this area can open up more and more, carrying life energy to every cell, cleansing, healing, nourishing, rebuilding and restoring them to optimal functioning...

Imagine any areas of irritation, inflammation, or infection being quickly repaired and replaced by new healthy tissue... Imagine any areas of discomfort that remain becoming healed and restored...

If the first picture represents any emotional pain, fear, anxiety, depression, anger, or grief you have experienced, imagine those feelings dissolving and fading away, being replaced with a sense of gratitude and relief as you bring the second picture to mind, remembering that you have the ability to tolerate your pain and that you can live a full and functional life... What is needed right now to manifest the tolerance you experienced when your pain was at its best?...

Use your creative imagination and transform the picture of pain at its worst into the picture of pain at its best... Anything is possible in your imagination, so be creative... And make it happen... By focusing and concentrating your attention on the experience of being able to handle your pain, of being able to do all you want or need to do, you encourage your body to make this possibility a greater reality in your life...

Take a few moments more to enjoy fantasizing about this... Allow yourself to imagine how it feels to be in control of your pain, to smile and laugh again, and to experience a new sense of total freedom that allows your body to move in harmony and balance... Your abilities and confidence returned... How good it feels to know that you have the ability to tolerate pain...

Before we end this exercise, remind yourself that every time you start to bring to mind the image of pain at its worst, you will immediately replace it with the image of pain at its best, remembering that if it's important, you can do it... You've demonstrated your ability to tolerate pain and you can do it again now...

When we end this exercise in a few moments, you may be surprised to notice that you feel much more relaxed and comfortable, and also energized with such a powerful sense of wellbeing that you will easily be able to meet any demands that arise... To finish, simply open your eyes and take the Signal Breath once more. Exhale... Inhale deeply through your nose... Blow out through your mouth... and be well."¹³

After learning MCA, patients are reminded that every time that they start to bring the picture of pain at its worst to mind, they need to immediately transform it into the picture of pain at its best, remembering that they have the ability to tolerate their pain, and it is time to put that ability into practice.

Problem Solving

Some people think they cannot draw pictures in their imagination because they “don’t see anything.” That is fine because imagination is not necessarily what you see, but what you experience. Can you recall the song Jingle Bells? Do you remember how it goes? Are you “hearing” Jingle Bells or just imagining it? In the same way, it does not matter whether you “see” anything or not if you can experience it, like the taste of an imaginary lemon.

If your patient reports that their mind wanders or they find it difficult to concentrate, make sure they’ve removed anything distracting from their environment and encourage them to stay with it. Tell them not to be alarmed or frustrated, and to simply imagine that any distracting thoughts are like passing butterflies, fluttering off into the distance. Suggest that they let them go and return their attention to remembering that they know how to tolerate pain.

Resources

If your patients are still having difficulty mastering Mind Controlled Analgesia, I recommend that you refer them to a Certified Interactive Imagery Guidesman. These are licensed clinicians and health educators who have been rigorously trained and then certified by the Academy for Guided Imagery. More information and a free referral directory can be found online at www.AcadGI.com.

Patients can also benefit by listening to pre-recording CDs that contain “over the counter” strength guided imagery exercises. While not as personalized as working with a certified imagery guide, they provide an inexpensive way for patients to learn on their own. When using CDs, it’s important for the voice of the guide to be pleasing to the listener, and that the pacing (or speed) of the imagery is comfortable and relaxing. If the suggestions are offered too quickly, the experience can become frustrating since the images do not have enough time to fully develop. And if it moves too slowly, the experience becomes very boring and listeners then doze off to sleep. CDs created by the author are available at www.acadgi.com/imagerystore.

The Academy also trains health care providers who are interested in incorporating guided imagery into their practices. The introductory program requires only thirteen hours of home study, after which they are able to begin utilizing the basic techniques that are suitable for many acute and chronic pain problems.

Resources

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