STOMP

Structuring Your Own Management of Pain

Setting goals that help you and your doctor alleviate your pain and improve your quality of life.

SWEDISH

www.swedish.org/STOMP

Contents

Introduction

Working with patients who suffer chronic pain, no matter what the cause, can be distressing for both health care providers and patients. Often, primary care practitioners do not have the time or resources to try new approaches for chronic pain management. They write prescriptions for medicines or treatments that may not work, have troublesome side effects, or are only partly effective. This may lead to multiple referrals and procedures, often, unfortunately, with no improvement in long-term pain or quality of life.

This booklet is intended to be a resource for those of you facing the limitations of the medical system in dealing with your complex needs. The choice is clear. You have to learn to take charge of your own care.

Each chapter in the booklet addresses a topic that affects the perception of pain. There are recommended readings and links to several helpful web sites (not sponsored by drug companies). For those who wish to explore the subject in more depth, visit the Swedish STOMP (Structure Your Own Management of Pain) website: www.swedish.org/STOMP.

This booklet presents a lot of information and many different areas to focus on and tools to choose from. If suggestions in this book and the hyperlinks to other information sites are followed, the reader can expect positive lifestyle changes, improved function and decreased pain. However, the way to use this book is to choose one small area to work on, a path that suits you, seems doable and feels like a good fit. It is very important not to feel overwhelmed; no one is expected to follow all of these suggestions. Although tackling more than one of these areas eventually is important in decreasing your pain and improving your quality of life, work in any one of these areas will bring improvement. Lasting change is gradual and takes time. Discuss with your healthcare provider and, if appropriate, your significant other to choose an area to start with and set a few simple measurable realistic goals.

If you are ready to control your care, stimulate changes in your brain (neuroplasticity) and decrease your pain, use the STOMP information to develop your goals and an action plan.

The STOMP medical team developed this program specifically with you in mind.

We wish you good luck on your voyage to recovery.

Editors and Contributors

Gordon Irving, M.D.
David A. Hanscom, M.D.

Contributors

Louise Berkowicz, M.D.
Allen Hume, Ph.D.
Hubert A. Leonard, M.D., Ph.D.
Carolyn McManus, PT, MS, MA
Maureen C. Pierce, Ph.D.
Howard Schubiner, M.D.

Chapter One:
Learn About Pain

Introduction to Mind Body Medicine

Howard Schubiner, M.D.

The role of the mind has been largely overlooked in chronic pain treatment. However, there is strong evidence that the mind can change the pain experience to a large degree. In fact, the conscious experience of pain is only possible because the human brain can interpret signals from our bodies to create the sensation of pain. From this point of view, the saying "All pain is in the brain" is an actual fact. Our brains have specialized areas that can both increase or decrease the feeling of pain. How we perceive pain is affected by many factors. For example, a study by Henry Knowles Beecher found that only 32 percent of recently wounded soldiers in WWII reported experiencing pain. And think of the boy who doesn't cry after skinning his knee until he sees his mother running toward him.

Chronic pain is much more complex than acute pain and the mind plays a large role in how this pain is experienced. However, most current treatment methods still rely on biotechnological treatments such as medications, injections, ablations and surgery. Unfortunately, research has shown that these methods are not particularly useful in reducing chronic pain. Most providers assume that chronic pain is simply caused by tissue damage in the body. Without addressing the role of the brain, attempts to fully resolve the pain are usually not successful. This standard approach leaves most patients with little hope of becoming pain-free.

Recently, researchers have shown that pain can be caused by "nerve pathways" even when there is no sign of tissue damage. A nerve pathway is a collection of nerve cells in the brain that triggers a certain action or response in the body. A nerve pathway is created when a group of nerve cells are used over and over until eventually they learn to fire automatically creating pain. Pain caused by nerve pathways is every bit as real and severe as pain caused by actual tissue damage. The discovery that our brain can learn to cause pain has led to the development of new brain-based therapies.

Recent research has shown that people with migraine and tension headaches, neck and back pain, fibromyalgia, abdominal and pelvic pain syndromes and many other disorders can "unlearn" pain. It's possible to dramatically reduce or completely get rid of symptoms in a relatively short time period.

Therefore, it is important for people with chronic pain to be evaluated carefully. Providers who are not familiar with the concept of pain caused by nerve pathways are likely to assume that small changes on a patient's X-rays or MRI exams must point to the reason for the pain. This may not only be wrong, but may prevent patients and their providers from finding more effective treatment. Once it becomes clear if an individual has nerve pathway pain, tissue damage pain, or a combination, a more effective treatment plan can be developed.

Neuroplasticity

David A. Hanscom, M.D.

Scientists had long thought that a person was born with a certain number of neurons (nerve cells) and would slowly lose them over a lifetime that the cells would not change or grow. Although the brain is more active during the first few years of life, it has been clearly shown that the brain can change at any age—for better or worse.

The word "neuroplasticity" describes the ability of the brain to adapt and change. Depending on the stimulation, the changes can be either helpful or harmful.

The brain can change in a number of ways:

- Growth of new neurons
- Shrinking of unused neurons
- Increasing or decreasing the number of connections per neuron
- Building up or losing layers of the insulation around nerves (myelin). This layer improves the speed of nerve conduction.
- A healthy area of the brain can take over some of the work of an injured part of the brain and develop new capacities.

The bottom line is that your brain is constantly changing depending on how much it is stimulated—or not stimulated.

- There is great improvement potential because the nervous system is able to continue to change in a helpful way, but it must be kept active.
- On the other hand if your brain changes negatively, cells shrink or wither, it is harder to undo. It is still a solvable problem but you need help and tools.

With modern brain scans that can actually measure brain size and activity we are able to see these changes. Some changes can happen quickly. A recent study showed that certain parts of medical students' brains enlarged within a few months after starting school.[1]

It has also been shown that the brains of patients in chronic pain shrink, however, the brain also re-expands with successful resolution of pain.

Why would your brain shrink in the presence of chronic pain? One way of thinking about it is to view the pain nervous system as an energy drain that steals energy away from healthy creative parts of your brain. The brain areas that allow us to enjoy friends, entertainment, community, creativity etc., gradually shrink. There is a huge amount of neuron activity generated by these regular enjoyable pastimes that does not occur in the presence of unrelenting pain.

Once a pain pathway is created in your brain it is essentially permanent. It may become less active but it is not going to disappear. So what is the answer? There is only one and that is what the Swedish STOMP project is all about. You must build new pathways or detours around the problem pathways. Once you learn the tools and choose the ones that are the best fit for you, it is remarkable how consistently the pain will lessen or even disappear.

Welcome to a big adventure and the start of your new brain. It will not be easy but it is also not difficult. You will do the brain building. Use the STOMP booklet as your resource. Choose just the tools that seem a good fit for you and make it an enjoyable experience. The aim of the STOMP team is to assist you in regaining a rich and full life.

References

1. Draganski, et al. Temporal and spatial dynamics of brain structure changes during extensive learning. *The Journal of Neuroscience 2006*; 26: 6314-6317.
2. Apkarian AV, Sosa Y, Sonty S. Chronic Back Pain is associated with decreased prefrontal and thalamic gray matter density. *Journal of Neuroscience 2004*; 24: 10410 -10415.

Resources

Gordon Irving, M.D.

Determining the Validity of Online Resources

There are hundreds of websites and it may be hard to know which ones offer useful information and which probably do not, or are trying to sell you something. You should ask some simple questions before using a website for the first time so you know if you can trust it.

- Who runs and pays for the site?
- Does it list any credentials?
- Does it represent an organization that is well-known and respected?
- What is the purpose of the site and who is it for?
- Is the site selling or promoting something?
- Where does the information come from?
- Is the information based on facts or only on someone's "testimonial" and feelings?
- How current is the information?
- Does the site show when it was last updated?
- How are links you can follow from the site chosen or for more helpful tips view the fact sheet "Evaluating Online Sources of Health Information" which can be found at the website: www.cancer.gov (search for "internet").

Below are some recommended resources. Resources for additional topics can be found at the end of each section throughout the book.

Books and Websites

General Pain Information

- *Pain Tamers* by Helen M. Dearman
- *The Pain Survival Guide: How to Reclaim Your Life* by Dennis C. Turk
- *Cognitive Therapy for Chronic Pain: A Step-by-Step Guide* by Beverly E. Thorn, Ph.D.
- *Managing Chronic Pain: A Cognitive-Behavioral Therapy Approach* by John D. Otis, Ph.D.
- *Back in Control* by David Hanscom, M.D.
- *The Feeling Good Handbook* by David D. Burns, M.D.
- *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness* by Jon Kabat-Zinn
- *Managing Pain Before It Manages You* by Margaret A Caudill, M.D., Ph.D., MPH
- *Mind Over Mood: Change How You Feel by Changing the Way You Think* by Dennis Greenberger and Christine Padesky
- *Unlearn Your Pain* by Howard Schubiner, M.D. with Michael Betzold
- *The War on Pain* by Scott Fishman & Lisa Berger
- *Heal Your Headache: The 1-2-3 Program for Taking Charge of Your Pain* by David Buchholz
- *The Chronic Pain Solution: Your Personal Path to Pain Relief* by James N. Dillard and Leigh Ann Hirschman
- *The Trigger Point Therapy Workbook* by Clair Davies, Amber Davies and David G. Simons
- Pain Connection, www.painconnection.com
- American Chronic Pain Association, www.theacpa.org
- The Mayday Pain Project, www.painandhealth.org
- painACTION, www.painaction.com
- U.S. Pain Foundation, www.ctpainfoundation.org
- CreakyJoints, www.creakyjoints.org
- The American Academy of Pain Medicine, www.painmed.org/patient/facts.html
- P.U.R.E. H.O.P.E., www.pure-hope.org

- American Headache Society Committee for Headache Education, www.achenet.org
- CancerCare, www.cancercare.org
- National Council on Aging, www.ncoa.org
- National Council on Aging Center for Healthy Aging, www.healthyagingprograms.org

Back Pain

- *Treat Your Own Neck and Treat Your Own Back* by Robin McKenzie
- Back Care, www.backcare.org.uk
- National Back Exchange, www.nationalbackexchange.org

Care Givers

- *Chicken Soup for the Volunteer's Soul* by Jack Canfield, Mark Victor Hansen, Arline Oberst, John Boal, Tom Lagana and Laura Lagana
- *Staying Sane: When You Care for Someone with a Chronic Illness* by Melvin Pohl and J. Kay Deniston

Fibromyalgia Resources

- *The Fibromyalgia Relief Handbook* by Chet Cunningham
- *Fibromyalgia and Chronic Myofascial Pain: A Survival Manual* by Devin J. Starlyn and Mary Ellen Copeland
- Fibromyalgia Information Foundation, www.myalgia.com
- FibroCenter, www.fibrocenter.com
- Fibromyalgia Network, www.fmnetnews.com
- National Fibromyalgia Association, www.fmaware.org

Meditation

- *Living With it Daily: Meditations for People with Chronic Pain* by Patricia D. Nielsen
- Mindfulness with Jon Kabat-Zinn, http://goo.gl/4aAd
- Cognitive Neuroscience of Mindfulness Meditation, http://goo.gl/ldnw
- I AM heart, www.applied-meditation.org
- Wildmind, www.wildmind.org
- Meditation CDs, www.carolynmcmanus.com/

Medication Information

- American Society of Health-System Pharmacists, www.safemedication.com
- The Partnership for a Drug Free America, www.drugfree.org

Nutrition

- *Prescription for Dietary Wellness: Using foods to heal* by Phyllis A. Balch
- *Turn Off the Fat Genes: The Revolutionary Guide to Losing Weight* by Neal Barnard
- USDA Center for Nutrition Policy and Promotion, www.cnpp.usda.gov

Prescription Assistance

- RxAssist, www.rxassist.org
- Prescription Assistance Program, www.pparx.org

Suicide Prevention

- American Foundation for Suicide Prevention, www.afsp.org

Temporomandibular Joint Problems

- The TMJ Association, Ltd., www.tmj.org

Chapter Two:

Sleep

Sleep and Pain

Gordon Irving, M.D.

Sleep affects pain. You may have noticed that when you sleep poorly and are tired your pain tends to be worse. Research shows that one of the most important predictors for pain intensity is the number of hours slept the night before. Bottom line: if you sleep poorly, your pain will be worse the next day.

Medication management should include sleep as well as pain. As sleep improves, the need for pain medications will decrease. Eventually the need for sleep meds will also decrease.

Sleep Hygiene

How Much Sleep Do We Need?

The amount of sleep each person needs depends on many factors, including age. For most adults, seven to eight hours a night appears to be the best amount of sleep, although some people may need as few as five hours or as many as 10 hours of sleep each day.

If you feel drowsy during the day, especially during stimulating activities, you haven't had enough sleep. If you routinely fall asleep within five minutes of lying down, you probably have severe sleep deprivation, possibly even a sleep disorder. Micro-sleeps, or very brief episodes of sleep in an otherwise awake person, are another mark of sleep deprivation. In many cases, people are not aware that they are experiencing micro-sleeps. This may be a cause of accidents both on the road and at work. It will certainly reduce your ability to perform at your full potential.

Unfortunately many medications including those that are given for pain can interfere with normal sleep patterns. These include antidepressants, opioids and anti-anxiety medications, even those given as sleeping aids.

Obesity worsens sleep and increases the risk of snoring and sleep apnea (pauses in breathing while you sleep). Chronic lack of sleep also increases the risk of obesity by changing the level of certain hormones. In a study of American adults who slept fewer than six hours, 33 percent were obese compared to only 22 percent of those who had six-nine hours of sleep.

Reaching a Pre-sleep Brain State

(Techniques to get asleep and stay asleep)

The brain state associated with meditation or self-hypnosis is much like the pre-sleep brain state. A pre-sleep brain state can be brought on by mental activities that involve experiencing absorbing sensations and images instead of planning or worrying.

Reaching a pre-sleep brain state will increase the chance that you will fall asleep.

You can use these methods when you first go to bed at night, or if you wake up in the middle of the night.

The 3-2-1 technique:

- Get into a comfortable position, mentally checking your body to make sure that every body part is as comfortable as possible.
- Listen for and note three sounds, any three sounds.
- Note three neutral or comfortable body sensations, any three sensations.
- Allow three images to appear in your mind's eye, and note them.
- Note two sounds, two sensations, and two images.
- Note one sound, one sensation, and one image.
- Note three sounds, three sensations, and three images.
- Note two sounds, sensations, and images.
- Note one sound, sensation, and image.
- Keep repeating until you drift off to sleep.

Relaxation by mental scanning:

- Get into a comfortable position, mentally scanning your body to make sure that every body part is as comfortable as possible.
- Starting with one foot, note relaxing feelings and sensations in the foot, and allow those sensations and feelings to grow and spread.
- Systematically allow those feelings to move into each area of your body (one foot, lower leg, upper leg, other foot, other lower leg, other upper leg, one hand, that arm, other hand, other arm, shoulders, etc.)
- Pay close attention to feelings of relaxation and "letting go".
- Enjoy and become absorbed by those feelings and sensations until you drift off to sleep.

Using imagery (your imagination) to go to a relaxing and absorbing place in your mind:

- Get into a comfortable position, mentally scanning your body to make sure that every body part is as comfortable as possible.
- Select a place that you would like to go to in your mind's eye. A place where you can feel safe, very relaxed and comfortable.
- Imagine being in that place and just notice what is around you and how relaxed you feel. Notice the colors, the smells, the comfortable breeze.
- Keep imaging the details of this place (and your own comfort) until you drift off to sleep.

Sleep Restriction therapy

- Use a sleep diary to keep track of your total hours of sleep at night.
- Get up at your usual time but go to bed later so you are only in bed for as long as you are currently sleeping. For example if you find that you are only sleeping about four hours a night and you normally get up at 7 a.m., go to bed at 3 a.m.
- Do not lie in your bed or sleep during the day.
- Gradually increase length of time in bed by 30 minutes until you are getting a full night's sleep.

Specific Sleep Issues

Some specific sleep problems may need specific treatments

- Sleep apnea: Observers say you snore loudly and often hold your breath while sleeping. It may make you grumpy, impatient, irritable, forgetful, or fall asleep while being active. You may experience hard-to-treat headaches. It tends to make obesity, depression and leg swelling worse.
- Restless leg syndrome: You feel a creeping, crawling, aching, or tingling sensation in your lower legs worse at night-time. It may last for one hour or longer. Sometimes it also occurs in the upper leg, feet, or arms. You feel an irresistible urge to walk or move your legs, which almost always relieves the discomfort.
- Periodic leg movement: This is a repetitive cramping or jerking of the legs during sleep.
- Depression and anxiety: These are also associated with poor sleep. These can be helped by non-medication methods as well as medications.

A restful night's sleep is one of the top priorities in solving your chronic pain. The effectiveness of your other treatments is limited until you are regularly experiencing a full night's sleep for at least six weeks. Usually medications are required for a while in the presence of pain. As your pain diminishes so will your need for sleep medicines.

No major additional treatment decisions should be made until this goal is accomplished.

Steps to Get There

Keep a regular sleep routine

- Go to bed at the same time, each night. Wake up at the same time. Ideally, your schedule should remain the same (+/- 20 minutes) every night of the week.

Avoid naps if possible

- Each of us needs a certain amount of sleep per 24-hour period. We need that amount, and we don't need more than that.
- When we take naps, it decreases the amount of sleep that we need the next night – which may cause broken sleep and lead to insomnia.

Don't stay in bed awake for more than 5-10 minutes

- If you find your mind racing, or worrying about not being able to sleep during the middle of the night, get out of bed and sit in a chair in the dark. Let your mind race while you are in the chair until you are sleepy, and then return to bed. No TV or internet during these periods! They will just stimulate you more.
- If this happens several times during the night, that is OK. Just maintain your regular wake time, and try to avoid naps.

Don't watch TV or read in bed

- When you watch TV or read in bed, your brain associates the bed with being awake.
- The bed is saved for two things – sleep and sex.

Do not drink caffeine after 12 noon

- The effects of caffeine may last for several hours after you drink it. It can break up sleep as well as make it harder to get to sleep. If you use caffeine, only drink it before noon.
- Remember that many sodas and teas contain caffeine as well.

Avoid substances that may interfere with sleep

- Cigarettes, alcohol, beta-blockers (medications given for blood pressure), antidepressants taken in the evening and many over-the-counter medications may cause poor sleep.

Exercise regularly

- Exercise before 2 p.m. every day. Exercise helps continuous sleep.
- Avoid heavy exercise before bedtime. It may increase hormones, which may disrupt sleep.

Have a quiet, comfortable bedroom

- Set your bedroom thermostat at a comfortable temperature. Generally, a little cooler is better than a little warmer.
- Turn off the TV and other noise that may disrupt sleep. Background 'white noise' like a fan is okay.
- If your pets wake you, keep them outside the bedroom.
- Your bedroom should be dark. Turn off bright lights.

Clock watching

- If you are a "clock watcher" at night, hide the clock.

Have a comfortable pre-bedtime routine

- A warm bath or shower.
- A warm milk drink without caffeine.
- Meditation, or quiet time.

Resources

- World Sleep Foundation, www.worldsleepfoundation.com
- Exercises to treat sleep apnea, http://goo.gl/iDMul (Download the free attached online video supplement)

Chapter Three:

Calming the Nervous System

A Mind Body Approach to Healing Chronic Pain that is Non-Structural

Howard Schubiner, M.D.

For many people with chronic pain, the cause is a nerve pathway problem rather than tissue damage. The treatment for a tissue damage problem is different than for a nerve pathway problem. This section deals only with nerve pathway problems. These include fibromyalgia; neck and back pain without a significant structural problem; migraine and tension headaches; and most chronic abdominal and pelvic pain syndromes like irritable bowel syndrome and interstitial cystitis.

There are four parts of treatment for a nerve pathway problem:

1. **Education**
   It is difficult to overcome a nerve pathway problem unless you understand it fully. Educate yourself about nerve pathways (see the reading list below). It is critical for your healing to understand that a structural physical disease is not the main reason for your pain and that you can get better! If you believe that, then you are on the road to recovery.

2. **Behavioral interventions**
   Meditation can help soothe the mind and calm fears. Since these nerve pathways start in the brain, it is also possible to relieve pain by reprogramming the brain. This can be done by talking to the pain and telling it to stop! If you are forceful and firm, you can retrain the nerve pathways. Since nerve pathways are learned, they can be "unlearned" by repeatedly challenging the symptoms and taking control over them. It is a "mind over brain" technique and is very effective.

   In addition, if the pain has "triggers," such as movements, activities, foods, or weather changes, challenge those triggers to unlearn them. Decide that the triggers will not control you anymore and create powerful affirmations (positive messages) to overcome them.

Each day when you have pain or when you face pain triggers, tell yourself "I am healthy and strong. There is nothing seriously wrong with me. I can be pain free and I will not let this stop me. Pain, go away. I don't need you and I don't want you." The more forceful words you use, the better. Then continue with your activities.

3. Emotional interventions
   Emotions are often the key to unlocking chronic pain. Most people with chronic pain have deep emotions that have been held in, such as anger, guilt, fear, or sadness and loss. Recognize these emotions and deal with them. Therapeutic writing is often good method for resolving feelings. An emotion-based psychotherapy known as Intensive Short-Term Dynamic Psychotherapy (ISTDP) is also a very effective process created by Dr. Habib Davanloo that is now being taught and practiced around the world. More information on this technique can be found in *Unlearn Your Pain* (see below).

4. **Life changes**
   Many people need to make changes in their lives. If you are trapped in a relationship that is hurtful or destructive, something needs to be done to ease or resolve the situation. If you are on bad terms with people you love, this situation may need to be changed. If you are stuck in a work situation that is overwhelming or overly stressful, that may need to be changed. Take a close look at your life and see if there are some issues that should be addressed and seek help to find solutions for them. These issues are often key towards solving a chronic pain problem caused by learned nerve pathways.

Resources

- *Back in Control* by David Hanscom, M.D.
- *Unlearn Your Pain* by Howard Schubiner, M.D.
- *They Can't Find Anything Wrong!* by David D. Clarke
- *Healing Back Pain, The Mindbody Prescription, and The Divided Mind* by John E. Sarno, M.D.

Mindfulness

Carolyn McManus, PT, MS, MA

Chronic pain means you are likely to have more stress than people who don't have pain. You have probably noticed that when your pain is worse, you feel more stressed. It's true: pain is stressful! Also, having pain means you may be able to do less in your life and this can create stress. Stress is associated with tighter muscles, poorer sleep, anxiety, shallow breathing patterns, depressed mood — and all of these lead to worse pain! Without even knowing it, you may be medicating pain flares that are fueled by stress. Instead of focusing on medication, you can learn how to reduce the stress and will find you need less medication.

Mindfulness Stress Reduction

Why should I use the Mindfulness Technique?

How you choose to respond to the physical sensation of pain has a major impact on how your nervous system creates pain and on the quality of your life. Your automatic reactions to pain often amplify the pain generating activity of your nervous system and cause an increase in your pain and distress.

Mindfulness techniques are evidence-based practices (research has been done and published in the medical literature) that help change the nervous system back towards a normal non-pain state.

Through the Mindfulness Technique:

- You can learn skillful responses to pain that reduce pain and distress.
- You can identify and choose skillful responses to more effectively manage pain.
- Consider the following equation. Do you relate to it?

[a] Pain = unpleasant physical sensation + your physical, cognitive (thinking, understanding) and emotional reactions to the sensation

Mindfulness means present-moment awareness and offers you a constructive, practical and effective way to observe your physical, cognitive and emotional reactions and make skillful choices that can decrease your pain and distress.

Remember you may not have control over the sensation of pain, but you do have control over your reactions to the sensation of pain. Your choices directly impact your nervous system activity.

Steps to Get There

Formal Mindful Awareness Exercise

1. Pause now and direct your awareness to your body and breathing. Listen to your present-moment experience with a stable, steady mind. Some sensations may be pleasant; others, such as pain, may be unpleasant; and still others neutral.
2. Imagine your mind is like the sky, and the pain is like a cloud in the sky.
3. Listen with compassion. Be kind to yourself. Listen with the same friendliness you would offer a loved one if he or she were in your situation.
4. Avoid any tendency to judge or criticize yourself. Pay attention to your body as if you were doing so for the first time. Accept your experience just as it is without needing to change or improve anything.
5. Deliberately scan your body. Observe your feet, legs, torso, hands, arms, shoulders, neck, face and head.
6. When you have completed scanning your body, let your attention rest with the rhythm of your breath. Breathe deeply.
7. Observe your abdomen and rib cage move with your in breath and out breath, here and now. Breathe into your waistband.
8. Count each exhalation. On the first out breath, say to yourself “one,” on the second out breath, say to yourself “two,” and so on up to the tenth exhalation. When you reach the tenth out breath, return to “one” and begin again. When your mind wanders, label it “thinking” and return your attention to your breath and the counting practice. Begin again with “one.” Continue for five minutes.

A wandering mind is the most common concern people have when beginning to meditate.

This is normal and not a sign that you are doing something wrong. When you become distracted from the present moment, notice that your mind has wandered like a cloud drifting by in the sky. Avoid judging your experience as right or wrong. Note "thinking" and return your attention to the present moment and your breathing.

Although these instructions may sound simple, the mind quickly wanders off and becomes lost in thought. Pain is also distracting. Just as the body can be trained to perform with greater strength and endurance through regular exercise, the mind can be trained to function with greater stability and clarity through this mindfulness practice. Begin practicing this formal mindfulness exercise for five-to-10 minutes each day.

Informal Mindful Awareness Exercise

An informal practice involves bringing present-moment awareness into daily activities. For example, when walking, notice your present-moment experience. Notice your breath, the sensations of your feet when they touch the ground and the feeling of your legs moving through space. Or, when you wash your hands, again, notice your breath, the warm water on your fingers and palms, and the sensations in your shoulders. Any daily activity can become an informal meditation practice.

Mindfulness and Pain Management

- You are not your pain.
- Pain is a physical sensation, not your identity.
- You are a whole human being who is dealing with a medical condition.
- By learning to be mindful, you can observe pain with a stable, compassionate and curious mind. You can identify pain sensations and your physical, mental and emotional reactions to pain sensations. This alone is helpful.
- You can experiment with new responses that reduce your distress and often decrease your pain intensity.
- By training your mind to be in the present moment, you also worry less about the future and put your energy into skillful choices and living well today.

Resources

- *The Mindfulness Solution to Pain: Step-by-Step Techniques for Chronic Pain Managemen*t by Jackie Gardner-Nix
- *Full-Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness* by Jon Kabat-Zinn
- What Meditation Really Is with Jon Kabat-Zinn, http://goo.gl/dXjpK
- Guided Mindfulness practices with Jon Kabat-Zinn, http://goo.gl/6aQPV
- Cognitive Neuroscience of Mindfulness Meditation with Philippe Goldin, Ph.D., http://goo.gl/ldnw
- Guided Mindfulness Meditation Body Scan, http://goo.gl/rpk9R
- University of Wisconsin, Department of Family Medicine: Guided Meditation Instruction by multiple teachers. www.fammed.wisc.edu/mindfulness
- Mindfulness meditation CDs can be found at www.carolynmcmanus.com.

Relaxation

Carolyn McManus, PT, MS, MA

Most people with chronic pain notice that they carry a lot of tension in their body. For example, no matter where your pain is located, you may notice that your neck or shoulders feel tight. Pain creates overall body tension because our muscles tighten as we 'brace' against pain. Tight muscles make pain worse. How?

1) Tight muscles "pull" on the body. For instance, tight shoulders can pull on the neck, irritating joints and nerves to the scalp. This can create tension headaches. Tight back muscles can worsen back pain by pulling on the spine and connecting tissues.

2) Tight muscles generate chemicals that activate pain-related nerves, making pain even worse. Muscle relaxants, or pain medicine to ease muscle tension, are often not effective when used for a long time. They may have unwanted side-effects and cause other problems. There are better ways to manage your pain. You can learn exercises to reduce muscle tension and relax. Research shows these exercises can help you feel better and reduce pain.

Relaxation Techniques

Below is a list of suggestions to help you learn how to relax.

Deep Breathing: When you are under stress or in pain, your breathing pattern can become more shallow and faster. Many people hold their breath. This pattern of shallow breathing reinforces the body's stress reaction. In contrast, diaphragmatic or belly breathing decreases the body's stress reaction and promotes a calming of your mind and body. The instruction to observe your breathing and take a deep breath sounds simple; but it is not always easy to do when stress and pain levels are high. It does get easier with practice. Develop the habit of observing your breath and breathing deeply during times of stress. Deep breathing is a proven way to reduce your stress reaction. Below are some steps you can take to practice deep breathing.

1. Formal breathing practice
    a. Sit comfortably with a good posture. Place your hand on your belly, just below your navel. As you breathe in, try to breathe into your hand. Allow your breath to move deep into your lungs and your stomach to gently move outward and your lower ribs to move out to the side slightly. It may feel like you are breathing into your waistband.
    b. As you breathe out, allow your stomach to gently fall.
    c. You do not have to take an extra-large breath. Your breath can be a normal size.
    d. The key is to allow your breath to fill the bottom of your lungs. You know this is happening when your stomach slightly rises on the in breath and falls on the out breath.
    e. Now repeat a word or phrase to yourself that helps you relax in concert with your breath. The simplest of these is "in" on the in breath and "out" on the out breath. You can use any word or phrase that has meaning for you. For example:
        i. Your own name on the in breath followed by the words "let go" on the out breath.
        ii. "May I" on the in breath, "be peaceful" on the out breath.
        iii. "Present moment" on the in breath, "only moment" on the out breath.

iv. If you practice within a religious tradition, you can use a word or phrase from spiritual writings or the phrases “let go” on the in breath, “let God” on the out breath, or “in the Kingdom of God…I dwell.”

f. Practice for two minutes at least once a day.

2. Informal deep breathing
   a. Use deep breathing when you have pain, during daily activities and when going to bed.
   b. Wherever you find yourself, whatever the time of day, take a moment to bring your attention to your breath and take a deep breath.
   c. Observe your breath during routine daily activities, such as sitting at a red light in traffic, standing in line at the grocery store or waiting in a doctor’s office.
   d. If your pain increases, notice your breath and breathe deeply.
   e. When you are going to sleep, notice your breath, breathe deeply and repeat the word or phrase that helps to calm your mind and body.

Progressive Relaxation

This exercise involves gently tensing then relaxing the major muscle groups throughout your body. It promotes the body awareness you need to control your stress and tension and will help you relax.

Autogenic Training

Autogenic training promotes states of deep relaxation by inviting you to repeat key phrases to yourself. “My right arm feels heavy and warm” is an example of an autogenic phrase. You guide your awareness to different body areas, repeating these calming phrases.

Body-Scan Relaxation

Body scan relaxation involves guiding your awareness through your body in an orderly way, relaxing each body area. It is a simple and commonly used relaxation technique.

Guided Imagery

Guided imagery exercises can be taught to promote relaxation and engage the mind-body relationship in a healing process. Images can be general, for example: “Imagine yourself in a calm and peaceful place.” Or they can be specific, for example: “Imagine lots of oxygen bathing an area of pain.”

Movement Meditations
Movement meditations such as gentle yoga, walking meditation and Tai Chi, involve moving in a slow, controlled manner with awareness while also breathing calmly and peacefully.

Hypnotic Techniques
To bring on a state of specific focused attention using imagery.

Biofeedback
Provides a person with information about the body, such as muscle tension levels, that can be changed. The information may not usually be under voluntary control or is normally under control but regulation has broken down

Various types of biofeedback include muscle electromyography (EMG), temperature, breathing and heart rate variability.

Resources

- *The Relaxation & Stress Reduction Workbook* by Martha Davis, Matthew McKay and Elizabeth Robbins Eshelman
- Mayo Clinic - Stress Management Assessment, http://goo.gl/eDMro
- University of Maryland: Stress Relaxation Techniques, www.umm.edu/sleep/relax_tech.htm
- Hobart and William Smith Colleges: Relaxation Techniques, www.hws.edu/studentlife/counseling_relax.aspx
- CD recordings of relaxation exercises, www.carolynmcmanus.com

Clinical Hypnosis

Maureen C. Pierce, Ph.D.

What is Hypnosis?

Hypnosis is a state of focused attention. It uses the imagination to increase your responsiveness to suggestions. Hypnosis can help change thoughts, feelings, behavior, and physical state. When you focus your mind, you are able to use it to your benefit. Hypnosis can treat many psychological and medical problems, notably pain management. Hypnosis can help you sleep better, stop smoking, manage your weight, prepare for surgery, and manage anxiety.

What are the Benefits of Using Hypnosis for the Management of Pain?

- Affects areas of the brain associated with pain
- Lowers pain sensation
- Lessens intensity of pain
- You can experience comfort and safety within your body
- It increases a sense of control
- There are few, if any, side effects

Common Myths Regarding the Use of Hypnosis

- **MYTH:** The practitioner has control over the patient.
  TRUTH: When you are in a state of relaxed and focused awareness, you are always in control and are aware of this control.
- **MYTH:** Hypnosis does not work when physical symptoms are “real.”
  TRUTH: Regardless of the cause, all symptoms are real. Hypnosis helps treat many psychological and medical conditions.
- **MYTH:** Hypnosis is the same as sleep.
  TRUTH: Hypnosis is not the same as sleep. In fact, the brain activity seen during hypnosis is like the brain activity seen when people are awake.
- **MYTH:** Only weak-minded people can be hypnotized.
  TRUTH: Some people respond better to hypnotic suggestions than others. Responding to hypnosis is not dependent on personality. a few people are less able to respond to hypnosis, but the majority respond readily.

- **MYTH:** A person will not be awake and will not remember anything. **TRUTH:** Hypnosis is very much like what happens when you are absorbed in a hobby or other interesting activity.
- **MYTH:** Stage hypnosis is the same as clinical hypnosis. **TRUTH:** Stage hypnosis is for entertainment; Clinical or medical hypnosis is used to help people.

Resources

- American Society of Clinical Hypnosis, www.asch.net/
- American Psychological Association, http://goo.gl/buW15

Writing/Journaling

David A. Hanscom, M.D.

Anxiety is a universal and necessary part of the human experience. It is a protective mechanism. When you feel threatened or cannot meet a basic need, such as air, food or water, you will take action to solve the situation and decrease your anxiety. Not being in pain is a basic human need. Your first reaction to pain is anxiety and if you cannot relieve your pain the next response will be anger. When you are experiencing chronic pain you are truly trapped and your frustration levels will rise to intense levels. The term I use is "The Abyss," which is anxiety x anger x time.

It is important to understand the link between anxiety and anger. Anxiety causes the need for control. Anger results from loss of control. Therefore anger is really "high anxiety."

Using the Mind Body concept we look at pain, anxiety, and anger in terms of neurological pathways. Just like an athlete, artist or musician lays down routine pathways with repetition and practice, your brain lays down pathways or circuits in response to repeated pain, anxiety, and frustration. Once you have a pathway of any kind in your nervous system it is permanent and can always be triggered. So what can you do?

The answer is simple and effective. You create “detours” around the pathways. There are many ways of doing this but I have found one foundational step to be critical. That is the task of writing down your negative thoughts and immediately throwing them away.

This sounds too easy. Why would you do this?

New neurological pathways are created by connecting thoughts with:

- Thoughts
- Emotions
- Experiences
- Physical sensations

When you have written down these negative/disruptive thoughts you make a “space” for yourself outside of the thoughts. The reason to throw them away quickly is not to get rid of them but to help you to write more freely. Do not take these thoughts personally or seriously. They are just chronic emotional circuits tied in with your pain. They have nothing to do with who you really are. Writing down these thoughts creates an awareness of the source of your anxiety and frustration. You now have a chance to choose a different response to a given stressor. As you continue to make more thoughtful, skillful choices, your brain will grow new neurons and form more functional connections.

There are three parts to re-programming your nervous system:

1. Awareness – become aware of your repeating nerve pathways/ circuits.
2. Detachment – take a step back to see what is really going on.
3. Laying down new circuits/pathways – new pathways can bypass troublesome older ones and quiet them down.

The key to increasing your chances to resolve your chronic pain is your ability and willingness to let go of the anger and anxiety associated with it. The emotion and pain pathways are so closely linked that it is only possible to experience meaningful pain relief when you break this connection. Separating your emotions from your pain pathway is a learned skill and writing is an essential tool.

Writing down negative thoughts is a process you may need to do for the rest of your life. This practice is not a philosophy but a practical tool to reprogram the nervous system. Consider it a self-care action similar to brushing your teeth.

Steps to Get There

- Learn about how the brain lays down pathways by reading, *The Talent Code* by Dan Coyle.
- After you have become comfortable with free writing, read *Feeling Good* by David Burns, M.D. Dr. Burns has developed structured formats that are very effective. Learn to write in the "three-column technique."
- Once you have made progress with your anxiety, engage in the tools suggested by Fred Luskin, Ph.D., in *Forgive for Good*. He discusses his four research projects out of Stanford on forgiveness and provides strategies that will enable you to experience the mental and physical benefits of forgiveness.
- *Unlearn Your Pain* by Howard Schubiner, M.D., clearly explains the Mind-Body Syndrome. It includes many suggestions for how to create more functional pain free circuits in your brain.
- The Hoffman Institute website provides a framework for examining your life in terms of patterns and Mind-Body Concepts. It is an effective eight-day, in-house, reprogramming process that can be considered later in your healing.
- Back in Control: A Spine Surgeon's Roadmap Out of Chronic Pain (www.back-in-control.com) This resource provides a method to create an action plan based on the principles delineated in the book of the same name.

Resources

- *The Talent Code* by Daniel Coyle
- *Feeling Good* by David D. Burns, M.D.
- *Forgive for Good* by Fred Luskin, Ph.D.
- *Unlearn Your Pain* by Howard Schubiner, M.D.
- The Hoffman Institute, www.hoffmaninstitute.org/
- *Back in Control: A Spine Surgeon's Roadmap Out of Chronic Pain* by David Hanscom, M.D., www.back-in-control.com

Music Therapy

Gordon Irving, M.D.

Why do music therapy?

Music has been associated with healing the body and mind for centuries. Research has shown that listening to live music results in a much greater effect on physical and psychological states than does recorded music. However the greatest positive medical effects are with patient-preferred music. Listening to, or better yet engaging in focused musical activity is effective in changing the mood, creating relaxation, and can assist in decreasing your pain.

Steps to Get There

- Choose the music that suits you, your mood and your activity.
- Do your exercise program while listening to your favorite music. This will create a quick and pleasant passage of time.
- If you can play an instrument you may have to modify your technique or even get an instrument like an electronic keyboard that does not require as much wrist and finger movement and pressure as a piano to play.
- Even if you do not own or cannot play a musical instrument, tapping out rhythms, xylophones, hand chimes, rain sticks and other percussion instruments can be used to reduce pain and promote pleasure and relaxation.
- Do deep relaxed breathing to the rhythm of the music. This encourages regular breathing and relaxation.
- Close your eyes while listening to music and imagine yourself in a place you would like to go.
    - Visualization is a powerful reprogramming tool
- Composing songs about the experience of pain and coping with it can be freeing
    - As pointed out in the writing section the more accurately you can convey your frustrations around pain the more effective the exercise.

Helpful Hints

- Choose music that you like and that is appropriate to your activities.
- Make the whole experience as enjoyable as possible.
    - If finances are a problem going to a thrift store may allow you to buy an MP3 player to download music you like or buy a musical instrument that you want to play.

Resources

- American Music Therapy Association, www.musictherapy.org
- Effect of Music Therapy Among Hospitalized Patients with Chronic Low Back Pain: A Controlled, Randomized Trial. National Center for Biotechnology Information, www.ncbi.nlm.nih.gov/pubmed/15914256
- *Music Therapy for Pain* by Dr. Scott Stoney (Part 1), http://goo.gl/GXclW
- *Music Therapy for Pain* by Dr. Scott Stoney (Part 2), http://goo.gl/GXclW
- *Music Therapy for Pain* by Dr. Scott Stoney (Part 3), http://goo.gl/AEgcp

Anxiety and Depression

Allen Hume, Ph.D. and Maureen C. Pierce, Ph.D.

Chronic pain and other health care issues may result in negative emotional states, including anxiety and depression. When we experience pain, our brain "sounds the alarm" by sending messages to release neurotransmitters, hormones and other chemicals to protect us. Once the threat is diminished, our body and brain goes back to a state of balance, or homeostasis. When the pain does not stop, however, our body continues to send out messages to protect us, which over time drains us, both physically and emotionally. We are then at greater risk of developing anxiety and depressive symptoms, that when left unaddressed can become their own problem. For example, many folks in pain may experience greater worry, less control over these worried thoughts, increased restlessness and tension, and greater irritability due to the pain response. Or there may be greater sadness, loss of interest in previously enjoyed activities, feeling guilty or worthless for no good

reason, or perhaps even hopeless about the situation. These responses are understandable and occur in many with chronic pain and other health care issues.

Addressing these feelings is a priority and can be done in many ways, acknowledging the feelings and thoughts, seeking counseling, discussing with your medical provider, and/or taking a medication that is targeted to the symptoms you experience. Interestingly, there is evidence that the part of the brain where physical pain is experienced is also the part of the brain where negative emotional states are experienced. So in a sense, our pain response is both physical and emotional at the same time. Take a look at the websites listed in "resources," consider accessing your family and social support system, and talk with your health care provider if you are experiencing these feelings.

Steps to Get There

1. Take part again in activities you used to enjoy as much as you can — you may have to make a list of activities and select the ones you can still do in spite of pain.
2. Learn some new stress management skills, including relaxation, deep breathing, guided imagery, and meditation, all of which have been shown to help depression, anxiety, and pain.
3. Use your social support network. With chronic pain, you may have to make new contacts with others, either individually or in a group setting. There are many resources available in your community, online, and professionally.
4. Learn how to use cognitive behavioral therapy (CBT) to address your negative thoughts, which will help you feel better.
5. Listen to your favorite music, watch a movie you particularly enjoy or read a good book.
6. Stay focused on being as active as possible — when we are passive in our approach to life we are more likely to dwell on negative feelings, experiences, and pain.
7. Discuss your feelings with a trusted medical provider. Follow all recommendations, both for pain and emotional symptoms. Pain and stress interact; therefore, we must address both at the same time.
8. You may want to enter individual counseling with someone who understands chronic pain. Group therapy can also be very helpful.

Resources

Anxiety

- American Psychological Association, www.apa.org/helpcenter/stress.aspx
- Anxiety Disorders Association of America, www.adaa.org
- National Institute of Mental Health, www.nimh.nih.gov
- Mental Health America, www.mentalhealthamerica.net

Depression

- Depression Screening, www.depressionscreening.org
- National Alliance on Mental Illness, www.nami.org
- National Institute of Mental Health, www.nimh.nih.gov
- American Psychological Association, www.apa.org

Trauma

Allen Hume, Ph.D. and Maureen C. Pierce, Ph.D.

Trauma is present in approximately 40 percent or more of individuals who suffer from chronic pain, whether it happened before the onset of pain (i.e. childhood abuse), or was the cause of the pain (serious motor vehicle accident). The pain we experience may be affected by our previous trauma history. We may spend a lot of time thinking about painful emotional events, we may be unable to work or "physically" manage our traumatic memories any longer due to pain, or the pain may serve as a trigger for past negative emotional experiences.

In order to effectively manage the pain and trauma, both issues will require your attention, along with your healthcare provider. Many times, we don't want to disclose information about past trauma. We may not feel ready to trust the provider with that information. We might think that our pain won't be taken seriously. Seeking care from a psychologist or other mental health provider who has experience with both pain and trauma is most likely to be helpful. This provider

can help you unravel the complex interaction between pain and trauma and develop effective coping skills. In addition, if and when it is appropriate, there are therapies to reprocess the experience that helps resolve the emotional pain, which in turn may also help the physical pain.

Steps to Get There

1. Learn more about PTSD (post-traumatic stress disorder), trauma and how it interacts with pain. There are many good resources listed below that you can use.
2. Learn ways to reduce your stress and tolerate distress, including breathing exercises, guided imagery, relaxation skills and meditation. The more you can self-soothe, the better you will be able to manage traumatic stress.
3. Listen to your favorite music, read a good book or watch a movie you enjoy.
4. If you have PTSD, professional intervention is most helpful. Talk to your healthcare provider for a referral to a mental health provider who works with both pain and trauma.
5. Like other forms of anxiety, individuals with traumatic stress benefit from good social and family support. Be sure to seek out others for emotional support, leisure activities and skills development.
6. Consider joining a therapy group for individuals who have experienced trauma and pain. The more resources you have the better.

Resources

- EMDR Network, www.emdrnetwork.org
- U.S. Department of Veteran Affairs, www.ptsd.va.gov
- National Institute of Mental Health, www.nimh.nih.gov
- American Psychological Association, http://goo.gl/KAPSK

Thoughts

Allen Hume, Ph.D. and Maureen C. Pierce, Ph.D.

Chronic pain has a profound impact on our thoughts and beliefs, and more importantly on ourselves. Folks in pain often talk about their experiences in “absolutes,” using words such as always, never, should and must when facing difficulties. We are also inclined to unrealistic, distorted in our thinking, particularly when we don’t feel good physically or emotionally.

For example, we may “catastrophize,” which means assume the worst without good reason. For example, the back may hurt a bit and we assume that we will wind up back in surgery, when in fact the sensation may be temporary. While it is common to think this way at times, it isn’t a helpful way to think about our problems. Individuals with chronic pain may feel very bad when they first get up in the morning due to a restless night of sleep. The person may be tired, stiff, and frustrated. As they think about how they feel they notice thoughts such as “I shouldn’t feel this way” or “I’ll never get any better.” These thoughts in turn affect emotions, increasing feelings of worry, depression and hopelessness.

A common emotional outcome is believing that others will think badly of the person in pain because the person in pain feels bad. There are many ways to address this type of thinking and beliefs, but the best may be cognitive behavioral therapy or CBT. The basic idea of CBT is that one can change how they feel by recognizing and changing their distorted thoughts. Keep in mind that everyone, and we mean everyone, has distortions in thinking at times. The most common tend to be black and white thinking, jumping to conclusions, minimizing success, focusing on the negative, and catastrophizing.

The good news is that by firmly challenging our thoughts, we can change how we feel, both emotionally and physically. Take a look at the resources provided and discuss with your healthcare provider.

You may want to find a psychologist, either individually or in a group setting to work with your thoughts – just be careful – making these changes might improve your outlook and how you feel!

Steps to Get There

1. Learn to recognize your thought distortions so that you can begin to challenge and change them. There are many websites and books that can help.
2. Seek support and feedback from others you trust, including family, friends, and providers.
3. Notice when you use words like should, ought, must, never and always, either in your head or out loud. These words are often signs of thought distortions and can be a signal to examine and confront your thoughts.
4. Consider seeing a therapist who uses cognitive behavioral therapy (CBT). This is a practical, generally short term therapy focused on teaching you how to change your own thoughts and feelings.

Resources

- Feeling Good by David Burns
- National Association of Cognitive Behavioral Therapists, www.nacbt.org
- Rational Emotive Behavior Therapy, www.rebtnetwork.org/whatis.html
- American Psychological Association, www.apa.org

Joy, Pleasure and Spirituality

Louise Berkowicz, M.D.

Our thoughts and emotions affect how our bodies work and feel. Forgetting to “smell the roses” is common when a person has chronic pain. Finding joy, pleasure and connection to life helps us focus on the positive aspects of living.

As you work to build and keep a sense of wellbeing and connectedness, less energy and attention will be paid to your pain pathways and pain will often decrease notably. Certain practices and exercises help to increase awareness of the mind/body/spirit connection. Do these exercises often to help you train your brain.

Steps to Get There

1. **Deep Breathing**: Breath in slowly counting to five and fill your lungs so that your stomach expands but your shoulders do not lift. Expanding your lungs fully can trigger a relaxation response. Repeat by breathing out for a count of five and then breathing in to five. Repeat up to ten times
2. **Meditate**: Meditation can mean many different things. Some people use it as a time to think. Others meditate while walking or running. Find techniques that you enjoy. Meditate twice a day
3. **Eat Mindfully**: Occasionally eat in silence, chew each bite 20 times and enjoy the taste. This enhances appreciation of food.
4. **Laugh Often**: Laughing has many great health effects. It boosts your body's ability to fight germs, increases energy relieves aches and pains, lowers blood pressure, and improves mood.
5. **Be Gentle and Kind to Yourself**: Say positive words to yourself such as "I am wonderful, I honor and respect myself, I love myself." Do this daily.
6. **Express Yourself**: Speak from an open heart and be true to yourself and others.
7. **Exercise**: Choose an exercise you enjoy and do it daily.
8. **Learn**: Look at the lessons you are learning, especially in times of difficulty and challenge.
9. **Be Mindful**: Take time to be aware of the beauty around you, from nature to the human touch.
10. **Be Grateful**: When you wake up, think of one thing for which you are grateful.
11. **Notice Stress**: Become aware of how your body reacts to stress. Relax (see #1, #2 and #4) to help deal with the stress.

Resources

- *The Wise Heart* by Jack Kornfield, Ph.D.
- *The Four Agreements: A Practical Guide to Personal Freedom* by Don Miguel Ruiz
- *Anatomy of the Spirit* by Carolyn Myss, Ph.D.
- *A New Earth* by Eckhart Tolle
- *Vibrational Medicine* by Richard Gerber, M.D.
- Laughter Yoga International, www.laughteryoga.org
- Help Guide, www.helpguide.org/life/humor_laughter_health.htm
- University of Maryland Medical Center: Laughter is the "Best Medicine" for Your Heart, www.umm.edu/features/laughter.htm
- ISSEEM (International Society for the Study of Subtle Energies and Energy Medicine), www.issseem.org
- IONS (Institute of Noetic Sciences), www.noetic.org
- William A. Tiller Foundation, www.tiller.org
- Mind Body Medicine Center, www.cmbm.org
- Wisdom at Work: Joel and Michelle Levey, www.wisdomatwork.com

Chapter Four:

Outside the "Box"

Relationships

Allen Hume, Ph.D. and Maureen C. Pierce, Ph.D.

Pain often affects our relationships with others, including family, friends, employers and physicians. Often the person in pain doesn't want to feel like a burden to others; other times they seem to want to have someone else take care of everything for them. The family member or friend may feel helpless and unsure how to help — in fact they may not understand how the person in pain is feeling. So what do you do?

You might be surprised at how similar your feelings and thoughts are with those around you. Many times people feel powerless, out of control, angry, and frustrated but we often feel better once we have talked to our friends, family, and others.

Steps to Get There

1. Ask for what you need from others – don't assume that they know.
2. Talk about your concerns.
3. Balance your needs with the other person's needs as well.
4. Point out common goals and try working through your differences calmly without raising your voice. Try not to be defensive.
5. Remember that the other person may not know how you feel — use clear language and check in to see if they understood.
6. Remember that pain is only one part of your life. It's okay to let others know that you want to talk about "normal" things.
7. Do what you can to enjoy time with friends and family. Remember to take it easy, be compassionate, they may not think about things the way you have come to understand them
8. Try new activities and involve others.
9. Remember that family and friends want to be supportive and understanding, even if you feel like they don't. Let them know it is okay to not know what to do or say. Family and/or couples therapy may be helpful as well.

Resources

- American Psychological Association, www.apa.org/monitor/jan06/chronic.aspx
- Relationships and Pain, www.goalistics.com/tag/relationships-and-pain/
- Health Talk Online (United Kingdom), www.healthtalkonline.org/chronichealthissues/Chronic_Pain

Hobbies

Gordon Irving, M.D.

Many people in pain feel they can't do or enjoy anything.. Is this you? Have you had to stop doing something you love because you felt you could no longer do it?

The good news is that you can often find a way to do it but at a lower intensity. Try a new hobby or one you had before you experienced chronic pain.

You can use any hobby that you have enjoyed in the past or want to do now. Sometimes just writing down the steps you need to get there is important in motivating you to do it. One possibility is learning magic.

Magic

Alan Kazam

If you enjoyed entertaining people with magic tricks when you were younger why not try it again? Even if you don't have experience, why not try something new?

Becoming a magician

Learning some simple magic tricks will work your brain and your body, plus it will give you a new skill which you can use to entertain family and friends. Even people with disabilities can do magic: famous Argentinean magician, René Lavand, performed great sleight of hand even though he only had one hand!

Before we begin there are three rules that you MUST consent to called “the magician’s code.” The rules are:

1. Practice, practice, and practice tricks before you show them to anyone.
2. Never repeat the same trick for the same people.
3. Never tell how you do your tricks.

Magic is based on simple principles and if your audience finds out how it is done, the magic disappears

Steps to Get There

Visit a magic shop and ask them to help you find books or DVDs to study (see resources.) Get advice from other magicians at clubs, magic shops, or on the Internet (see Resources.)

Magic can help with many common social and work situations. To perform magic means learning to be confident in public and understanding how to control audiences.

Resources

- *Mark Wilson’s Complete Course* in Magic by Mark Anthony Wilson. This is remarkably inexpensive for what it contains and many magicians would recommend it as a first book.
- Jay Sankey’s *Amazing Magic and Mentalism that Anyone Can Do* — Volumes 1 and 2 DVDs. These DVDs can also be ordered from his website, www.sankeymagic.com
- Learn Magic, www.magic.about.com/od/beginningmagic/u/learnmagic.htm This has lots of free tricks with explanatory pictures, great tips for beginners and plenty of links to other sites where you can get even more free tricks.

Chapter Five:

Caring for Your Body

Nutrition and Weight Management

Gordon Irving, M.D.

Good nutrition improves sleep, energy levels, mental focus and emotional health. Our food choices help fight germs, so if we aren't eating well we are more likely to become sick or feel poorly.

Poor nutrition and/or eating calories, particularly derived from processed foods and sugar may cause weight gain and obesity. A body mass index (BMI, which is your weight in pounds divided by your height in inches) of 30 or more indicates obesity. A BMI of more than 40 is called morbid obesity and carries significant risk of shortening your life. Obesity makes pain worse and increases stress on your knees, hips, and other joints. It is important to lose weight for your health and to control pain.

How does nutrition help pain?

1. Many pain sufferers have food sensitivities that they may or may not know about (see the elimination diet listed below).
2. Some foods cause inflammation in the body which can make pain worse. You may help your pain by eating foods that decrease inflammation. Search the internet for "anti-inflammatory foods" for more information.
3. Being overweight can cause pain all over the body pain as well as in the knees, hips, or back. Losing 10-15 pounds in weight can decrease your pain significantly.

Changing how you eat, drink, and exercise can be hard, but the results are rewarding in every part of your life. It can help you think clearly, improve memory, and better your moods. Eating healthily can also help you decrease your risk of heart disease, diabetes, and cancer.

If you are overweight:

1. Check your weight at least once a week.
2. Focus on losing one to two pounds every week. Cut out sodas and fried food as a first step.
3. Use measurement tools (cups, spoons, and food scales) and read nutrition labels. Patients who need to lose weight, especially those having trouble, may not realize how many calories they eat. These tools can help.
4. Lower your body mass index (BMI) (weight in pounds divided by height in inches) to less than 30. Weight loss lasts longer for people who are happy with their results so aim for realistic goals. This will help build your confidence so you may not need professional help.

Steps to Get There

Below is a list of tips to improve your nutrition.

- **Choose a diet that follows basic rules.** There is no single diet that will work well for everyone who needs to lose weight. The basic rule of any healthy diet is to limit foods that are high in unhealthy fat, get plenty of healthy protein such as skinless chicken, non-fatty meat portions, or fish, eat more vegetables (except potatoes which are high in carbohydrates) and fresh fruit (except bananas which are high in starch) and drink plenty of water. Avoid sodas, even diet sodas.
- **Eat only at meal times.**
- **Choose foods that you enjoy.** Finding healthy foods you love to eat helps!
- **Remove triggers** for overeating:
  - Go to the grocery store after a meal to prevent impulse buys.
  - Keep unhealthy food out of sight.
  - Avoid buying unhealthy food.
- **Shopping:** When you shop, use cash instead of your credit card; this may help you from buying “comfort food”.
- **Have a reward system:** Set weekly goals and reward yourself when you reach them, but not through food. Tell yourself “I’ve been OK,” “I’m doing great,” and “I have the ability to lose weight and to have an active lifestyle.”

- **Figure out your emotional eating cues and replace them with other behaviors.** Choose behaviors that are difficult to do when eating (e.g., writing, knitting, housekeeping, exercising, and taking a bath).
- **Vitamin supplements:** Some vitamin supplements may help. Vitamin D may help with muscle pain. How much vitamin D you need depends on many factors like sun exposure; skin color; food choices and digestive health. If taking a multivitamin supplement most have only relatively small amounts of vitamin D. You may have to take a single vitamin D supplement to get to the 2,000 to 4,000 IU (international units) per day that is frequently recommended.
- **Nutritionists and Naturopathic doctors (NDs):** Registered dietitians and naturopathic doctors are great nutrition counselors. See a nutritionist or naturopath to get help with new healthy habits.
- **Elimination diets:** If you think you may have food intolerances, trying an "elimination diet" may help you find out which foods you are sensitive to. First, stop eating all foods you may be sensitive to. Then reintroduce them one food at a time. Meeting with a dietitian or naturopathic doctor during an elimination diet may help.
    - Keep a food diary and write down what and how much you ate and any symptoms you notice. This can help you identify food allergies or intolerances.
    - Stop eating these foods for two weeks. If you cannot do this all at one time, choose a few and then try not eating the others during a second two-week trial. (Only do two trials.)
        1. Dairy products, including cheese. Instead, use soy milk and soy cheese, or rice milk, and rice-based ice cream.
        2. Egg and foods with egg.
        3. Foods with gluten, such as wheat and wheat-based products (pasta/noodles, barley, oats, or rye grains.) Instead, you can eat brown rice, nuts, buckwheat, spelt, millet, potatoes, or sweet potatoes.
        4. Citrus fruits.
        5. Corn and foods with corn.
        6. Plants from the nightshade family (tomatoes, potatoes, eggplant, peppers, and tobacco.)
        7. All processed foods, including caffeine. Suddenly stopping some foods (such as drinks with caffeine) may cause withdrawal symptoms (such as headaches) but this should only last a few days.

- After two weeks, add back one food group to your diet every three-five days. Writing down what you are eating and how you are feeling during this time can help you to notice how a food may be affecting your mood, energy, and pain (using numbers to rank how you are feeling may be helpful).
- Your pain may flare-up or you may feel more tired when you eat something that you are sensitive to. If you notice this, you may want to stop eating that food.

Resources

- *Good Calories, Bad Calories and Why We Get Fat: And What to Do About It* by Gary Taubes
- *The Primal Blueprin*t by Mark Sission
- *New Atkins for a New You* by Drs. Eric C. Westman; Stephen D. Phinney and Jeff S. Volek
- *The Dukan Diet* by Dr. Pierre Dukan
- *The Paleo Diet* by Loren Cordain, Ph.D.
- USDA Center for Nutrition Policy and Promotion, www.cnpp.usda.gov
- Academy of Nutrition and Dietetics, www.eatright.org
- CDC Healthy Weight: BMI Calculator, www.cdc.gov/healthyweight/assessing/bmi/
- Harvard School of Public Health, The Nutrition Source, www.hsph.harvard.edu/nutritionsource
- The Vegetarian Resource Group, www.vrg.org
- Physicians Committee for Responsible Medicine, www.pcrm.org
- Memorial Sloan-Klettering Cancer Center: Herbal therapies www.mskcc.org (search for " herbs")

Smoking

Gordon Irving, M.D.

Most people are surprised to learn that smoking makes pain worse. One of the best things you can do to help your pain is to quit smoking. Smoking changes how your brain and body feel pain. Most people think that smoking helps with stress. In fact, smoking causes stress on the body, and it is linked to more anxiety. Cigarette smoke keeps oxygen from going to your discs and the tight muscles affected by pain. By quitting smoking you will save money, improve your physical and emotional health AND you will improve your pain!

Why should I stop smoking?

1. Over time smoking makes your brain more anxious, stressed, and tensed. Like any highly addictive drug you then have to take another cigarette to avoid withdrawal and "feel better".
2. For an hour after smoking, oxygen cannot get to areas of your body, such as the discs of the spine or tight muscles. Smokers tend to have more back and muscle pain.
3. Smoking may make some pain medications not work as well.
4. In a study, people who had lung cancer and continued to smoke had more pain than those who stopped.

Steps to Get There

Below is a list of tips to help you stop smoking.

1. **Keep telling yourself your reasons for quitting** and imagine yourself as you'd like to feel, enjoying your favorite activities without smoking.
2. **Promise yourself something you enjoy**, such as a movie or dinner out as a reward, for getting through the first week.
3. **Get involved in activities** that don't go with smoking, such as meditation or exercise.

4. **For two days before you quit, every time you smoke, write down the feelings you had before smoking each cigarette**:
    - Were you tired? Bored? Hungry? Restless?
    - Write down the positive feeling that came from smoking each cigarette. Did it help you relax? Did you feel less bored? Did it help you wake up? Did it help you go to asleep?
    - Study your list. You'll probably notice a pattern. Consider how you could substitute a more positive lifestyle to get that same feeling such as an activity like a brisk walk.
5. **Make specific plans ahead of time for dealing with temptations**. Find two or three coping strategies that work for you, such as taking a walk or calling a friend.
6. **Set a quit date**. If you smoke mostly at work, try quitting on a weekend. If you smoke mostly when relaxing or with friends, quit on a weekday.
7. **Find things to distract you when you start feeling like smoking**. If you smoke to relax, figure out how to relax without a cigarette. If you smoke to clear your mind, figure out how to do that without a cigarette.
8. **Get help from family and friends**. They can't quit for you, but they can help by not smoking around you, listening to your struggles and encouraging you, and leaving you alone when you need some space.
9. **Make it clear to your smoking friends that you don't want them to give you a cigarette**. When people relapse and smoke, they usually get their cigarettes from friends.

Helpful Hints

- The average person quits up to nine times before they are able to stay smoke-free. If you return to smoking, it doesn't mean you can't quit. It just means you need to try again. Find out what caused you to slip up and change your plan for next time.
- Ask your doctor about other options to help you quit. Try a support group, an individual counselor or other source of help if you have not been able to quit on your own.

- You do not reduce your health risks by smoking low tar/nicotine. Smokeless tobacco, pipes and cigars are just as harmful.
- A scientific trial of cytosine, sold over the counter as Tabex, showed similar results to nicotine replacement therapy with no serious side effects reported.

Resources

- Smoking Cessation, www.smoking-cessation.org
- National Institutes of Health: Medline Plus, www.nlm.nih.gov/medlineplus/quittingsmoking.html

Physical Activity

Gordon Irving, M.D.

Pain may get worse when you do too much or too little activity. If we are not active enough, our bodies age more quickly and our muscles get weak. Research shows that controlled exercise can help chronic pain better than any other treatment, including medication!

Exercise is also one of the best treatments for anxiety, stress, and depression. But if people with chronic pain try to do too much, their pain gets worse and it may take days to feel better.

Beginning a gentle exercise program is one of the best things you can do to help your body and your pain, but go slowly. You can reduce the pressure on yourself by setting goals you can meet. Having pain means you can't do all things you used to do. Pushing yourself to do more than you are able may lead to more pain, both physical and emotional.

Steps to Get There

1. Pacing means starting slow and figuring out how much you can do without causing your pain to flare up. Start by walking to the mail box two to three times a day.
2. Frequency: Doing an activity more often during the day may allow the body to recover and strengthen.

3. Once you have done an activity three times, try increasing the distance or time. Before long, you will be doing more activity on a regular basis than you have done for a long time, and feeling the mental and physical benefits.
4. Exercising daily can help you move more easily and with less pain in as little as three weeks.
5. Remember even if you start slowly, pacing and consistency are the keys.
6. Exercise is not about overnight success, but if you are consistent and patient, you will likely meet your goal.
7. Work up to exercising for at least two and a half hours a week.
8. Record how much you exercise currently. Check how much you walk every day by using a pedometer. Work up to 10,000 steps every day.
9. Both aerobic exercise (like walking or running) and strength training (lifting weights) are important. Start off using smaller weights and higher repetitions (number of times you lift the weights).
10. You may want to try Tai Chi, which research has shown can help pain sufferers.

Helpful hints

1. Do exercises you enjoy. Walking is often the easiest because all you need is your legs. Swimming, biking, Tai Chi, yoga and dancing help chronic pain, too. Try different activities on different days to keep from getting bored.
2. Try to exercise with a partner or pet. Taking a dog for a walk is good for both of you.
3. Get a pedometer. Set weekly goals that involve increasing number of steps or length of time (e.g., walk 500 more steps every week)
4. Make exercise a priority. Set a schedule and stick to it.
5. Listen to your body. Set goals that work for you: No goal is too small.

Resources

- *23 and ½ Hours: What is the Single Best Thing We Can Do For Our Health?* By Mike Evans, M.D., http://goo.gl/zVZPM
- The Chronic Pain Haven, www.chronic-pain-haven.com/exercise.html

Headache Management

Hubert A. Leonard, M.D., Ph.D.

Types of Headaches

- **Tension headaches** are the most common type of headache. As many as 90 percent of adults have had or will have tension headaches. They are more common in women than men and are not as bad as migraines.
- **Migraine headaches** are the second most common type of headache but the most common headache causing distress and disability. An estimated 30 million people in the United States, about 12 percent of the population, will experience migraine headaches. An estimated six percent of men and 18 percent of women will experience migraine headaches. Chronic migraine (more than 15 days of headache each month with at least eight days of migraine) affects one-and-a-half to two-and-a-half percent of Americans and causes disability. Migraine is more than just headache; it involves nausea and/or vomiting or sensitivity to light and sound.

Stages of Migraine

Identifying Your Level of Disability

Migraine disability is different for everyone. Treatment depends on the level/stage of disability. In Managing Migraine (see Resources List), the authors talk about four stages of disability:

- **Stage 1:** Migraines only happen once in a while. Between migraines, people feel normal and do not fear another one. Strong medications work well. Migraine is short-lived and not a disease.

- **Stage 2:** Migraines happen many times every month and get in the way of daily life. People have three to eight headache days a month with some disability. Medication may not always work. Migraine may get in the way of sleep and affect mood. Eating well, exercise, and daily medication may help.
- **Stage 3:** People have 10 to 14 headache days a month for at least three months. Medications may help but pain may come back. They may have anxiety, bad moods, and trouble sleeping. They may miss work, school, or family events. They may overuse medications. Eating healthy, excising, and taking daily medication is needed. Often there are other medical or psychiatric issues that must be identified and treated.
- **Stage 4:** Headaches happen on 15 or more days a month. Overuse of medication often becomes part of the problem. Most people have trouble sleeping, depression and other problems with their health. These people have chronic pain that can only be treated with big lifestyle changes, daily medication, and help from a pain psychologist and others.

Steps to Get There

Know Your Triggers

- **Some foods** may cause migraine headaches but this is different for everybody. Also, these foods will not always bring on a migraine headache. Some common triggers include alcohol, monosodium glutamate (MSG), citrus fruit (lemons, lime, oranges or grapefruits), aspartame (one kind of artificial sweetener), caffeine and aged cheeses.
- **Caffeine** – found in sodas, coffee, tea, chocolate, caffeine pills, some medicines, and painkillers like Anacin, Empirin, Midol and Excedrin – is a major cause of headaches. The headache pain killers can cause a “rebound” effect: You take it to get rid of the headache, which goes away, but then comes back worse than ever. Try to remove all caffeine from your diet. Although you may have withdrawal symptoms for a few days, including headaches, it will be worth it.
- **Medical issues** can cause headaches and migraines, including mental stress, drugs of all types, thyroid problems, diabetes, chronic pain, low magnesium, and brain diseases.

- **Alcohol** can cause headaches or migraines by itself or by causing dehydration. To avoid dehydration, drink water while you are drinking alcohol and before bedtime.
- **Smoking** can cause headaches because the nicotine and carbon monoxide in cigarette smoke affect the blood vessels. Secondhand smoke causes headaches in some people.
- **Stress** is the most common cause of headaches. Know the common sources of stress at home and at work. If it is difficult to get rid of the stresses, get help from other family members or through a psychologist or counselor.

Treat the Symptoms without Medication

- **Rest in a cool, dark, and quiet place.** Use cold compresses, an ice pack, or a bag of frozen vegetables. Some people find heat helps.
- **Changing behavior helps** control headaches. Eat a healthy diet, get enough sleep, drink at least a liter of water a day, and find ways to manage stressful relationships and responsibilities. Learn how to say "No."
- Have someone **massage** your neck and lower back. Try a hot shower.
- **Acupressure** is good for pain relief. Place one finger between your eyebrows and another finger on the top of your head. Push gently and hold for two minutes. Another pressure point is between your thumb and index finger. Push there for two minutes.
- **Relax!** Tension is a major cause of headaches. Lie down where it is quiet and breathe in for eight seconds; breathe out slowly. Do this many times until you feel yourself relaxing. Breathe deep into your belly.

Resources

- *Managing Migraine. A Patient's Guide to Successful Migraine Care* by Roger Cady et al.
- *Heal Your Headache* by David Buchholz, M.D.
- National Headache Foundation, www.headaches.org

  Click on FAQ's(frequently asked questions). Over ten subsections covering different headache topics.
- American Headache Society, www.achenet.org/resources/articles
- Managing Migrane, www.managingmigraine.org

Chapter Six:

Complementary Therapies for Pain

Complementary and Alternative Medicine (CAM)

Gordon Irving, M.D.

It is normal to want to treat your pain in any way that works and is not harmful to you. Many people use CAM therapy and most of this booklet is about complementary therapy such as exercise, relaxation, and meditation, which can decrease pain and improve function. Many herbals, vitamins, and natural products have not been scientifically tested for benefit, side effects or interactions with any medications you may be taking. The reason you get information with your medicine at the pharmacy is because it has been tested and the side effects listed. "Natural products" are not controlled by the Food and Drug Administration (FDA) and their side effects have not been studied. Use sites like www.mskcc.org (search for "herbs"), www.naturaldatabase.com, or www.sciencebasedmedicine.org to learn more about natural products.

Definitions

Complementary Medicine: This is used with standard medical treatment (e.g. acupuncture with pain medications)

Alternative Therapy: This is used instead of standard medical treatment (e.g. a special diet for chronic stomach pain)

Integrative Medicine: This treatment involves the mind, body, and spirit. It uses standard medicine with CAM treatments. That is what Swedish STOMP has tried to do.

There are five main types of CAM:

1. **Mind-Body Medicines**
   - Meditation: Focused breathing and repeating words or phrases to quiet the mind.
   - Biofeedback: Simple machines help you learn to change muscle tension and heart rate.
   - Hypnosis: Relaxed, focused attention on a feelings, ideas, or suggestions to aid healing.
   - Yoga: Stretches and poses with attention on breathing.
   - Creative outlets: Art, music, dance, etc.
2. **Biologically based practices:** Often found in dietary supplements and herbal products: vitamins, herbs, foods, and special diets.
3. **Manipulative and body based practices**
   - Massage
   - Chiropractic care: Adjusting the joints and spine.
   - Reflexology: Pushing on parts of the hands and feet to affect other parts of the body.
4. **Energy medicines**
   - Tai Chi: Slow, gentle movements with a focus on breath and concentration.
   - Reiki: Balancing energy either from a distance or placing hands on or near the patient.
   - Therapeutic touch: Moving hands over energy fields of the body.
5. **Whole Medicine Systems**

   Comes from many areas and cultures of the world.
   - Ayurvedic medicine: From India, balances body, mind and spirit.
   - Chinese medicine: Balances the body's two forces, yin and yang.
   - Acupuncture: Thin needles stimulate points on the body to clear "blockages" and promote health.
   - Homeopathy: Very small amounts of substances are used to help the body heal.
   - Naturopathic medicine: Uses different methods to help the body heal.

How will you know which may work for your pain?

Finding a CAM practitioner:

- Ask your doctor to suggest someone.
- Ask if your hospital keeps a list of centers or has staff that can suggest someone.
- Contact CAM professional organizations to get names of practitioners who are certified.
- Ask about the practitioner's training and experience.
- Call your health care plan to see if it covers this therapy.

Things to Consider:

- Just because a product is natural does not mean it is safe. Some products may interfere with your usual medications.
- Supplements do not have to be approved by the Federal Government and some may not contain what they say do.
- Look on the label for products produced in Germany. They are quality controlled by the government so do contain the stated amount of product.
- Do some homework before you spend your money on an herbal or natural remedy.

Resources

- National Center for Complementary and Alternative Medicine, www.nccam.nih.gov
- MedlinePlus, www.medlineplus.gov
- PubMed, www.ncbi.nlm.nih.gov/pubmed
- Memorial Sloan-Kettering Cancer Center, www.mskcc.org (search for "about herbs")
- Natural Medicines Comprehensive Database, www.naturaldatabase.com
- Science-Based Medicine, www.sciencebasedmedicine.org

Chapter Seven:

Medications

Pain Medications

Gordon Irving, M.D.

Helpful hints

1. Pain medications will not block all pain. Most medications even when they work will only lower pain by about a third.
2. When you have a pain flare-up, taking more medication than prescribed may not help and you may run out of your prescription early. If you use more pills one day, use less over the next few days so you do not run out.
3. Take short-acting painkillers before you do something you know will be painful — for example, gardening. This may stop the pain from becoming intense.
4. Try to have a few pain pills left over at the end of the month so you always have at least a three-day supply. Having an extra supply decreases your anxiety when you get close to your refill date.
5. Always get a refill before you need it so you are not waiting until the last minute.
6. You are the only one who really understands your pain problem and your needs. It is up to you to create a pain-management plan with your doctor. Your provider may not always understand your pain, and it may sometimes be hard to reach them.
7. Medications are only part of the solution and will not solve all your pain.
    a. Using your other pain-management tips are just as important.
    b. Learn to pace yourself during activities.
    c. Avoid trying to get everything done when you are feeling good because it may make you feel bad later.
8. You can have a life even with pain. Those with pain who do the best are those that accept their limitations but live life fully. Understand your fears. If the fear of more pain keeps you from doing anything, it can increase disability. When you are less active you have more time to dwell on your pain. You will have even more limitations over time.

10. The cure is inside you.
    - Pay attention to your body and feelings.
    - Become an active part of your healthcare team.
        - The STOMP project will give you the tools to improve your life.
        - You are the only one who can work with your team.
    - You have the most to gain.
11. Remember to keep your pain medications safe!

Common Medication Concerns

1. Long-term opioids, including hydrocodone, oxycodone, hydromorphone, fentanyl, morphine, methadone, oxymorphone, buprenorphine and tapentadol
    - High doses taken for a long time may make your body more sensitive to pain [opioid-induced hyperalgesia]. The only fix is to stop taking the medication.
    - These drugs may affect how your body fights germs and lower hormones such as testosterone, estrogen, and cortisol.
    - High doses may increase falls. If testosterone has also been suppressed, broken bones are more likely.
    - They may affect sleep [central sleep apnea].
    - They should never be taken with alcohol.
    - Other drugs that affect the brain like benzodiazepines (valium, Ativan, Xanax) increase the risk of overdose and seriously affect your ability to drive safely.
2. Benzodiazepines: Valium, Ativan, Xanax, and temazepam
    - Chronic pain is usually linked to anxiety. However, long-term uses of benzodiazepines does not treat chronic pain well.
    - They may pain worse.
    - They are also very addictive and affect sleep.
    - If short-acting ones (Xanax, Ativan) are stopped suddenly, seizures may occur.
3. Muscle relaxants: Flexeril, Soma, Robaxin, Zanaflex, Skelaxin, and baclofen
    - Most of these drugs are very old and have never been tested to treat pain. They each affect the body in different ways and soma is addictive.
    - Like many medications for chronic pain, these drugs should be used as little as possible.

4. Acetaminophen (Tylenol)
    - Do not take more than three grams per day (for example, 6 extra-strength Tylenol). Take less if you have any liver problems or drink a lot of alcohol.
    - This drug can cause liver and kidney failure when taken for a long time.
    - Some medications, such as Vicodin and Percocet, contain acetaminophen. This should be added in your daily dose.
5. Anti-Inflammatories such as Advil, Aleve, ibuprofen, and Celebrex
    - These drugs may cause stomach and intestinal bleeding, kidney damage and high blood pressure.
    - They often do not help chronic pain except when there is a flare-up due to physical over-activity.
    - If they are not helping, do not take them. They are dangerous. Over 14,000 Americans die from anti-inflammatory drugs every year.

Common Side Effects

All medications have side effects. Some are obvious, others are not.

- **Constipation**: Many pain medications, especially the opioids, cause the gut to slow down and absorb more water. Treatments include laxatives, eating fiber, drinking more water, and taking stool-softening medicine. The stool should be soft and you should not feel bloated after. If you still have problems, talk to your doctor.
- **Dry mouth**: Many medications may slow or stop your saliva (spit). Less saliva can cause stomachache, mouth burning, difficulty talking, and cavities. If you feel your mouth is dry because of your medications, go to your dentist, drink more water, use fluoride and mouthwash, and try other medications to increase saliva.
- **Drowsiness (feeling tired)**: To decrease drowsiness, take less of the medication that is making you tired. Ask your doctor if you can take it before bed or change to a different medication if that does not help.

Resources

- American Chronic Pain Association, www.theacpa.org
- Pain Action, www.painaction.com

Protecting Your Medications

Gordon Irving, M.D.

Why should I protect my medications?

You are responsible for using your medication safely and keeping it from being abused or stolen. Doctors will rarely give you extra medication.

If you give someone your opioids, this could be a crime called "supplying."

Steps to Get There

- Do not share your medications with anyone.
- Lock your medications in a cabinet or safe box and hide the key. You can buy these boxes from many stores.
- Do not use a bathroom cabinet. These rarely lock and are the first place any stranger or visitor in your house will look.
- Make sure your prescription has the right number of pills and count how many you have left every day. If you are missing pills, ask your family and anyone else in your home about it.
- If you are missing pills, move the locked container and change the lock.
- Remember, stealing narcotics a crime and it is taking medication that you need for your pain.
- If you do think someone has stolen your medicine, tell the police. This will help you and may help the person who stole your medicine.

Resources

- Safe Medication, www.safemedication.com/meds/medSafety.cfm
- Smart Disposal, www.smarxtdisposal.net/
- Stop Overdose, www.stopoverdose.org/

Substance Use

Allen Hume, Ph.D.

Alcohol and drug use can affect pain management. Follow all directions with medications since it could cause problems if you do not. When using medications, be sure to be honest with your provider, who will likely have you sign a contract if you are on opioid (i.e. narcotic pain) or benzodiazepine (i.e. Valium, Xanax, etc.) medications. This contract is for your safety and should be followed. Using other drugs and/or alcohol can have very serious and even deadly effects if used with your medications. While it may seem that drugs or alcohol help with pain, anxiety, or depression, do not use them for managing pain. Alcohol, prescribed drugs, and other drugs can make pain feel worse and can lead to injury. Overuse can turn into addiction. If you have concerns about addiction (yours or a family member's) see the links below. Remember, making healthy choices about your usage will make pain management much easier for you.

Steps to Get There

1. Be honest with yourself and your provider about your alcohol and drug use. This includes prescriptions, over-the-counter, and illicit drugs, all of which can affect your treatment.
2. Know your family history of drug and alcohol use Addiction often runs in families.
3. Go online and take a test on your drug and alcohol use. Talk to your doctor or other provider and seek treatment if needed.
4. There are many self-help groups, including Alcoholics Anonymous, NA, and Rational Recovery. Have others help you figure out if you have a drug or alcohol problem. If so, they can help you get better.
5. Learn about drug and alcohol use, either on your own or with a provider's help.
6. There are many excellent providers who can help you with your alcohol, drug, and chronic pain issues.
7. Seek individual and/or group counseling to address your usage and concerns.
8. Stay hopeful and optimistic that you can change your behavior, recover, and improve your pain condition.

Resources

- Alcohol Screening, www.alcoholscreening.org
- National Institute on Alcoholism and Alcohol Abuse, www.niaaa.nih.gov
- National Institute on Drug Abuse, www.nida.nih.gov
- American Psychological Association, www.apa.org
- Alcoholics Anonymous, www.aa.org
- Narcotics Anonymous, www.na.org

Chapter Eight:

Role of Procedures

Spinal Injections

Gordon Irving, M.D.

There are many parts of the back and neck that can cause pain. These include ligaments, muscles, joints, nerves, bones, and discs. Most back pain comes from more than one of these parts.

A bulging disc or disc degeneration, where the pads between the bones in your spine wear down, is normal as you age and usually does not cause pain. Pain going down the leg or arm does not mean there is a "pinched nerve" either. A pinched or inflamed nerve will usually cause sudden, short, shooting pains in the hand or foot. The most common cause of back pain for people 20-50 years old are the pads between your spinal bones (the intervertebral disc); after 65, it is arthritis of the spinal joints. The majority of back pain does not need injections and certainly not surgery.

Having an MRI or CT scan of the spine will not usually show the cause of the pain unless there is a pinched nerve. Even X-rays cannot show what is causing pain and they are usually not needed. Spinal injections may be used for diagnosis and sometimes treatment.

Types of Injection

- **Trigger-point injections**: Injections into a tight band in a muscle with a local anesthetic (numbing medicine). The tight band causes or triggers off pain in an area away from the muscle, hence the term trigger point. These injections can decrease pain, loosen tight muscles and allow you to stretch and stop the trigger point reforming. Trigger points are often over acupuncture points.
- **Acupuncture**: Thin acupuncture needles can be used in classic acupuncture points, just under the surface of the skin, for electrical acupuncture, or for "pecking" treatments. to treat a trigger point or generally to treat pain or headaches

- **Ligaments**: If numbing injections help decrease pain, prolotherapy injections may be used. For these injections, a mixture of local anesthetic dextrose (sugar) and sometimes other substances are injected to cause collagen (scar tissue) to strengthen the ligament and kill small pain nerve endings.
- **Spinal joint injections (facet joint injections)**: These joints help the spine bend from the tailbone to the skull. Like any joint, they can be sprained or get arthritis. The injections are usually done with X-ray, but ultrasound can be used. Numbing medicine and steroids are injected into the joint, or onto the nerves in the joint. If two injections and physical therapy or exercise do not help, a radiofrequency neurotomy procedure (RF) may help (see below).
- **Radiofrequency neurotomy procedure**: A special needle is placed near the nerves in the painful joints. A microwave current in the needle kills the small nerve, so you can't feel pain. These nerves regrow, and if the joint problem does not go away, the RF procedure may have to be repeated.
- **Epidural injections**: The space around the nerves in the spine is called the epidural space. The nerve exits out of the spinal bones via tunnels called foramen. Epidural injections can be done into the middle of the space (interlaminar) or into the tunnel from the side (transforaminal). The transforaminal route is used if there is a herniated disc hurting a nerve in that area. Epidural steroids are injected to decrease inflammation in the epidural space, because of a disc herniation or narrowing (spinal stenosis).
- **Selective nerve blocks**: Blocking nerves with local anesthetic where they come out of the spine helps doctors figure out which nerve is causing pain.
- **Disc injections (discogram)**: Although these injections are sometimes used to diagnose if a disc (pad between the spinal bones) is the cause of pain, it carries significant risk with often not much long term benefit. Blood does not flow to the disc so it can get infected after an injection into it. More than one disc is usually injected, which can be extremely painful if they are a cause of pain. Often more than one disc causes the pain, and there are not good treatments for more than one painful disc. There may be advertisements for "minimally invasive disc surgeries," unfortunately the majority carry significant risk and have not been shown in careful clinical trials to help in the long term.

Injection Facts

1. If the first injection does not help, more injections in the same place will not help.
2. A positive result indicating that an area is causing the pain is when a local anesthetic numbs the pain for two or more hours. Unfortunately even if one injection helped, a second injection may not work.
3. Epidural injections will not help pain in the middle of the back that has been present for more than a year, unless it is due to spinal stenosis.
4. Injections only help a few patients. Weight loss, stopping smoking and exercise have all been shown to decrease pain in the long term more successfully than injections

Problems with Spinal Injections

There are risks will all injections, especially with disc injections and some neck injections. Bruising and discomfort, infection, and reactions to the medications are possible, but rare. Epidural and transforaminal injections into the neck, however, have many more risks and have caused death, stroke and paralysis.

Implantable Pain Devices

Gordon Irving, M.D.

Spinal Cord Stimulators (SCS)

These are wires that send a small current to the spine that changes the pain signals going to the brain. They are usually used for patients whose usual therapy has not worked.

SCS have been used for many painful nerve conditions, including failed back surgery syndrome, severe back and leg pain, and complex regional pain syndrome (CRPS) types I and II (RSD and causalgia). They are used in Europe for problems like severe angina (chest pain because of poor circulation to the heart) and leg pain from poor circulation.

Before implantation, the wires are placed in the back and connected to an external generator that the patient can carry around. The patient goes home and has a normal routine for the next week to see if this helps the pain. This is inexpensive and reversible and shows if SCS will work over time. The permanent generators are placed in the body and can be recharged at home. The patient has a hand-held device to increase or decrease the stimulation.

Intrathecal Pumps

These pumps are implanted under the skin and hold liquid medications. They pump the medication through a tube to the fluid around the nerves in the back (cerebrospinal fluid). This fluid bathes the spinal cord and the brain, so it gets the drug to where pain is felt more directly. Before the pump is placed, there is usually a three-day trial in the hospital.

The medication used is usually an opioid (morphine, hydromorphone or fentanyl), baclofen for spasticity, or ziconotide for neuropathic pain. There are other medications that may be used, including clonidine and bupivacaine. Several others are being tested.

Problems include:

- The pump could stop or the tube could dislodge.
- Scar tissue could form at the tip of the tube, which can press on the spinal cord and cause severe problems including paralysis if not caught in time.
- The pump has to be refilled every two to three months.

Chapter Nine:

Role of Spine Surgery

Surgical Decision Making

David A. Hanscom, M.D.

Spine surgery is often a good solution to structural spine problems. It is a very poor solution when the sources of the pain are muscles, ligaments, or tendons, or when the pain is caused by Mind Body Syndrome.

For a problem to be considered structural it must be:

- Clearly seen on a diagnostic test AND
- There must be clear symptoms

If either of these is not present, then the symptoms are not structural. Many patients have structural problems but no symptoms or the pain is felt in another place. Others have severe pain but normal diagnostic tests.

Every symptom could be structural or non-structural. Even if there is a seemingly clear source for the pain, it does not necessarily mean that is where the pain is coming from. Nerves are what cause the brain to feel pain and you brain does not care why or where the pain signal is coming from. Treating the pain pathways is always mandatory. This applies to every part of the spine from neck to hips.

Common anatomic (structural) diagnoses that you may hear are:

- Degenerative disc disease
    - Degenerated (loss of water from the center of the disc)
    - Bulging discs (the outer ring has collapsed a little)
    - Herniated/ruptured discs (the middle of the disc has broken through the outer ring)
    - Spinal stenosis (narrowing of the spinal canal, pushing on nerves)

- Spondylolithesis (slippage of one vertebrae on another)
  - Isthmic (small bony defect in the back of the spine)
  - Degenerative (the facet joints in the back of the spine have broken down and let the back bones move around)
- Spinal deformity
  - Kyphosis (hunchback)
  - Scoliosis (sideways spine curves)
- Broken bones

Tumor, infection, autoimmune disorders, and severe trauma have clear and special treatments that this book will not cover.

Overview — What May or May Not Be Causing Your Pain

Even if you have these problems they may not cause your pain. These factors make them more likely to be painful:

- Abnormal or too much movement between vertebrae (spine bones) (more than three to four millimeters)
- A pinched nerve.
  - The pressure can be from a bone spur or soft tissue in the spine
- Deformity that is:
  - Decompensated (your upper body is not centered over your feet) You can be tilted:
    - Forward
    - Sideways
    - Both
  - A scoliosis (sideways spine curve) that is worse when you are standing
  - Spine curving that gets worse
- A bone break that has not healed:
  - In babies under four months old
- Medications—Prednisone, anti-inflammatories, etc., slow healing
- Smoking and obesity also affect healing

These factors make spine problems less likely to cause pain:

- Little or no motion between vertebrae
- Completely collapsed disc space
  - The vertebrae have get stuck together
- A disc that does not move will not be a source of pain.
- Narrowing around a nerve without pain
- Deformity that is:
  - Balanced (your head is centered over your feet)
  - The same when lying down or standing
  - Unchanging for many years
- A spine break that has healed

These problems can cause back or leg pain. If the problem is just low back pain, then it is more difficult to find a clear structural source. With low back, neck or thoracic (mid-body) pain, muscles, ligaments, and tendons (soft tissue) are always involved. With just low back pain without sciatica, soft tissue rehabilitation (i.e. physical therapy) is the first step before surgery. Many people can avoid surgery with rehabilitation.

It is much easier to find the source of leg pain. True sciatica causes pain EXACTLY along the nerve. The pain may be felt just on some parts. The pain is usually steady and lasts hours at a time. Often a specific activity will set it off.

Surgery is Not the Only Answer

Many people feel that if all else has failed, surgery is the only answer. It is only the answer for a clear structural problem with matching symptoms. If you cannot clearly find the source of the pain then how can you fix it?

The other problem with spine surgery is that it could cause future problems. Often these can be worse than the original issue.

Surgery for a specific structural problem usually works well.

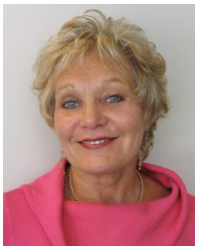
Surgery and Dentistry

You can compare spine surgery with dentistry. A dentist can usually find the structural problem in your tooth that is causing your pain. It can be an infected root or maybe a cavity that has gone down to the root. The chances of a dental procedure on that tooth relieving your pain is essentially 100 percent. But if your dentist cannot find the source of your pain and operates anyway, it is unlikely that he or she will solve your problem.

Summary

No matter the part of the spine, surgery is only indicated for a clear structural problem with matching symptoms. The discomfort should be severe enough to warrant the risk of surgery. As your surgeon is not able to experience your pain only you can and should make the final decision to proceed. Be very careful when choosing spine surgery. If you do not feel involved in the decision-making, then talk to another doctor. Get it right the first time.

Meet the Authors



Louise Berkowicz, MD

Education: Medical degree, University of Cape Town, South Africa.

Board Certified: Family Practice; Hyperbaric Medicine; Certified Wound Specialist

Special Interests: Dr. Berkowicz has a special interest and practice in energy medicine. This unique therapy utilizes different forms of energy to bring about both individual self-awareness and healing. The result is changes in the body, mind and spirit of the patient. She assists the patient in dealing with everyday issues of life, pain and suffering to move toward living lives filled with more pleasure, joy and good health

David A. Hanscom, M.D.

Education: Medical degree, Loma Linda University, Orthopedic trauma fellowship UC Davis, spinal deformity fellowship Minneapolis

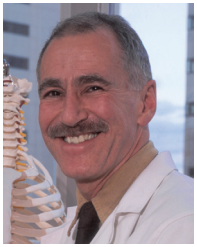
Board Certification: Orthopedic Spine Surgery

Special interests: Complex spine problems in all areas of the spine. He is the founder of the Puget Sound Spine Interest group. He developed the DOCC (Defined Organized Comprehensive Care) project to optimize spine care. He feels that many times further surgery can be avoided through a structured rehabilitation program. The program should involve improving sleep, managing stress, engaging in strength and endurance conditioning, obtaining adequate pain control, and educating the patient so as to regain control of their decision making.

Allen Hume, Ph.D.

Education: Dr. Hume is a Washington State licensed psychologist who earned his doctoral degree from Indiana State University. He completed his internship at the Seattle VA Medical Center.

Special Interests: Dr. Hume specializes in behavioral medicine, chronic pain management, co-occurring psychiatric and substance use disorders, and assessment. He provides consultation and training for physicians, psychologists, allied health professionals and organizations related to his specialties.

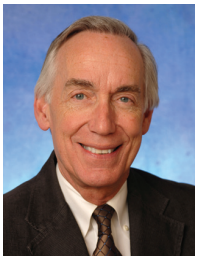


Gordon Irving, M.D.

Education: Medical degree, University of Newcastle in England, Masters degree in Sports Science and Fellowship and Masters degree in Anesthesia, South Africa
Formerly: Medical Director and associate professor at the University of Texas Pain Center, Houston.
Currently: Medical Director of the Swedish Pain Center and clinical associate professor, University of Washington Medical School.

Board Certification: American Board of Anesthesiology with added certification in Pain Management, American Board of Pain Medicine

Special Interests: Dr. Irving specializes in acute and chronic pain management with pharmacological, non-pharmacological and interventional techniques. His interests include neuropathic, spinal and cancer pain. He publishes and lectures locally, nationally and internationally on pain related topics.



Hubert A. Leonard, M.D., Ph.D.

Education: The only physician in Oregon certified in Headache Medicine by the United Council of Neurologic Subspecialties. He received his M.D. and his Ph.D. in Biochemistry from Oregon Health & Sciences University and completed a residency in internal medicine at University of California Hospital in Los Angeles. He completed his residency in Neurology at University of Oregon Health Sciences University, in Portland, and served as chief resident.

Board Certification: Neurology

Special Interests: He has been a neurologist and educator for more than 30 years and specializes in the diagnosis and treatment of headaches. He has been the principal investigator for dozens of clinical trials. Among other honors, he is listed by *The Best Doctors in America*®, which represents the top five percent of doctors in the U.S.

Carolyn McManus, PT, MS, MA

Education: Master of Science, Physical Therapy, Duke University. Master of Arts, Psychology, Antioch University

Special Interests: Chronic pain and stress management, relaxation training and mindfulness meditation. She developed the Swedish Mindfulness-Based Stress Reduction Program. She is an author, national speaker and leader in mind-body treatment strategies for people with chronic pain conditions.

Maureen C. Pierce, Ph.D.

Education: Dr. Pierce is a Washington State licensed psychologist who earned her doctoral degree from Indiana State University. She completed her internship at the Central Arkansas VA Hospital.

Special Interests: Dr. Pierce specializes in the emotional and behavioral aspects of managing chronic pain related to a variety conditions. Her goal is to empower people with pain to take a more active role in their health care. She utilizes a number of treatments, including cognitive behavior therapy (CBT), clinical hypnosis, mindfulness meditation skills, and group therapy. She also leads an eight-week class, Living Well with Pain: Strategies for Coping, and a monthly support group. For more information please visit: www.drmaureenpierce.com.

Howard Schubiner, M.D.

Education: Medical degree from Wayne State University, Internal Medicine residency at Wayne State University, Pediatrics residency at Michigan State University. Clinical Professor at Wayne State University.

Board Certification: Board certified in Internal Medicine and Pediatrics.

Special interests: Founder and director of the Mind Body Medicine program at Providence Hospital in Southfield, Mich. Senior teacher of mindfulness meditation. Conducts research in fibromyalgia and other chronic painful conditions.

Prepared by:

Swedish Pain Center
Gordon Irving, M.D.
Louise Berkowicz, M.D.
Allen Hume, Ph.D.
Maureen C. Pierce, Ph.D.

Swedish Neuroscience Institute
David A. Hanscom, M.D.

Swedish Rehabilitation Center
Carolyn McManus, PT, MS, MA

Providence Brain and Spine Institute
Hubert A. Leonard, M.D., Ph.D.

Mind-Body Medicine Center of Providence
Howard Schubiner, M.D.

Swedish Continuing Medical Education
Danielle Westley

Swedish Neuroscience Institute Spine Program
Alexis Takasumi

Swedish Patient Education Committee
Jeanine Keefe, R.N., MSN, GCNS-BC
Kaetlin Miller, MPH, CHES

Art Design
Carole Miguel

SWEDISH PAIN CENTER
1101 Madison, Suite 200
Seattle, WA 98104
T 206- 386-2013

www.swedish.org

CME-09-08881 Rev. 1/13