

- » Looking into back pain causes
- » Knowing why traditional back pain management often fails
- » Taking the lead with self-care
- » Building strength and resilience

## Chapter **1**

# Brushing Up on Back Pain Basics

**B**ack pain is ubiquitous, and treatment for it is inadequate and expensive, despite the healthcare community's extensive experience dealing with it and the remarkable technology available to diagnose and treat it. Modern medicine's failure with back pain is frustrating for patients and providers. It can significantly diminish the quality of life, and it's rarely improved with a "quick-fix" — a simple correction of a misalignment in the spine, a surgical procedure, a better mattress, or a muscle relaxer. Doctors can order X-rays and magnetic resonance images (MRIs) that remarkably reveal the patient's inner anatomy, yet they often can't decipher from those images what's causing the pain. The pain can magically go away without treatment and then, just as magically, return three months later worse than ever before without a precipitating event.

Doctors sometimes conclude that they can "find nothing wrong," the implication being that the pain is all in the patient's head. Even worse, it suggests that the only choice is to live with the pain or try a prescription medication or an injection to dial it down. These treatments are not without a downside. They have side effects, they're temporary, and they do nothing to address the underlying pain generator or make the back healthier.

The good news is that regardless of whether your doctor can find a cause, you can do a great deal on your own and with the help of various healthcare professionals to successfully manage your back pain and get your life back. In this chapter, we bring you up to speed on the basics.

## Exploring Possible Causes of Back Pain

When most people set out to answer the question of what's making their back hurt, they assume something is broken, perhaps a musculoskeletal issue that's putting pressure on a nerve — a slipped disc, a compression fracture, arthritis, osteoporosis, something structural or mechanical like that. However, sources of back pain can be far more wide-ranging and elusive to decipher. Here's a short list of less obvious factors that can cause or contribute to back pain and the perception of pain:

- » **Diet:** Diets high in processed foods, sugars, refined carbohydrates, and unhealthy fats (such as trans fats) can contribute to arthritis and other inflammatory conditions, which may affect the spine. (*Arthritis* means joint inflammation.)
- » **Dehydration:** For reasons not fully understood, dehydration can cause back pain. We've seen it happen with athletes who intentionally lose water weight to qualify for competition in a certain weight class.
- » **Posture:** Poor posture when sitting, standing, lifting, or doing anything can strain muscles and ligaments. In Chapter 7, you discover how to keep your spine in a neutral position, which is the most stable contour of the spine when you're standing, sitting, and even when you're "bending over."
- » **Sleep:** How you sleep (on your back, side, or belly), the mattress you sleep on, how long you sleep, and the quality of your sleep can all contribute to back health. Keep in mind that when you're sleeping, your body is busy detoxing, repairing damaged cells and tissues, and engaging in numerous other activities that impact every system in your body.
- » **Body weight:** Carrying extra weight isn't necessarily bad for the back in and of itself. In fact, in some ways, it can help strengthen the spine. However, being overweight can be a sign of other underlying health issues that can contribute to back pain. In addition, excess weight can amplify the negative effects of poor posture.
- » **Lifestyle factors:** Use of nicotine products (smoking, vaping, chewing tobacco), a sedentary lifestyle, excessive alcohol consumption, and other unhealthy lifestyle factors can cause back pain or make it worse.

## UNDERSTANDING CENTRAL SENSITIZATION

Back pain is generally divided into two categories — acute and chronic. *Acute pain* usually occurs suddenly. It can have a specific cause but often presents without an obvious cause. *Chronic pain* is ongoing, typically lasting longer than three months, and often persists even after the injury or underlying cause has healed or had adequate time to heal. (Note that acute back pain rarely resolves completely and often recurs.)

A concept that may explain why pain persists even after the cause has been resolved is *central sensitization* — a tendency for the nervous system to become more sensitive to pain signals due to chronic pain. When back pain becomes chronic, the brain may persist in signaling pain or become hyper-responsive, amplifying pain signals even when the underlying issue has improved.

- » **Other medical conditions:** Certain medical conditions can cause back pain, including urinary tract infection (UTI), kidney stones, hernia, gastrointestinal issues, tumors, and fibromyalgia. Obviously, these conditions need to be ruled out before jumping to the conclusion that the origin of the pain is musculoskeletal.
- » **Psychological and emotional factors:** Depression, anxiety, and emotional distress can all cause or contribute to back pain. On the positive side, your mind can play a powerful role in successfully managing back pain.

See Chapter 3 for more about the possible anatomical and biological causes of back pain, and turn to Chapter 4 to discover more about the mind-body relationship and how to leverage it to enhance your recovery.

## Looking Into the Conventional Approach to Back Pain Management

The conventional approach to back pain management involves using several therapies, alone or in combination, depending on the nature, severity, and duration of the back pain and underlying conditions. Conventional back pain therapies and treatments include the following:

- » **Rest:** Traditionally, doctors have recommended periods of rest and avoiding strenuous physical activities. More enlightened healthcare providers now recommend short periods of rest only for severe, acute back pain, a gradual

return to normal activities as the pain subsides or even before the pain subsides, and exercise to strengthen the back for long-term recovery.

- » **Cold/heat:** Cold diverts blood supply away from the back and stifles both inflammation and healing, and heat recruits blood supply to the back, increasing both inflammation and healing.
- » **Chiropractic care:** Chiropractic adjustments and other manual interventions can provide short-term relief for acute back pain, but adjustments may not be sufficient for protecting against future back pain, and they do nothing to strengthen the back and structures that support the spine.
- » **Physical therapy:** Physical therapy can help with flexibility, break up scar tissue and knots, improve poor posture, and strengthen the core, which can reduce back pain. It should always include exercise and a home-based plan for long-term recovery, but this is something therapists and patients often fail to follow up on.
- » **Medication:** Medication is useful for short-term relief. Think of it as a means for enabling you to exercise your back for more long-term and sustainable back pain management. Medication carries a risk of side effects and developing a dependence on it.
- » **Spinal injections:** Spinal injections involve the targeted delivery of medication, such as a corticosteroid (to reduce inflammation) or an anesthetic (to block the pain). Spinal injections may be used therapeutically (to provide relief) or diagnostically (to confirm a suspected pain generator prior to performing a more invasive procedure such as surgery).
- » **Surgery:** Surgery can be very effective for relieving back pain in cases in which the doctor can clearly identify a structural or mechanical abnormality that's clearly associated with the pain, such as a herniated disc or bone and ligament pressing on the spinal cord or a nerve. However, surgery is overprescribed for back pain, as explained in the nearby sidebar, "Tread Carefully."

## TREAD CAREFULLY

People often think of modern medicine as purely scientific, but it's a business that's susceptible to human nature and corruption like any other business. When seeking treatment, be well-informed, skeptical, and assertive. Keep in mind that treatment decisions are ultimately your call, and don't be swayed by the belief that the doctor is always right. Here are some points to make you consider a provider's treatment recommendation more carefully:

- Most providers follow a fee-for-service model, so they're incentivized to recommend the services they provide. As a result, your diagnosis and treatment may

be decided more by where you start looking for answers than by what's actually wrong. We're not suggesting that doctors are greedy and driven solely by a profit motive — only that the way they're incentivized can subtly influence their treatment recommendations.

- Doctors are human and are driven to help their patients in the best way they know how. They provide the treatment they've been trained to provide, which may not always be what's best.
- Patients generally don't like to hear, and doctors hate to say, "I don't know," when the question of what's causing the pain and what will make it go away comes up, so doctors often give the best possible answer they can think of, which isn't always the best answer.
- Conventional medicine is focused more on treating illnesses or suppressing symptoms, and less on improving health, so doctors tend toward prescribing medication, surgery, and other medical interventions instead of offering advice on diet, lifestyle, and other self-care interventions.
- Doctors often assume, sometimes correctly, that patients won't put the time or effort into improving their own health or will continue to make unhealthy choices, so they provide what they think their patients want — a quick fix.
- Health insurance companies provide little time for doctors to spend with their patients getting to know them and educate them. Doctors often have just enough time to review the patient's symptoms, come up with a diagnosis, and prescribe something or make a referral. The fee-for-service system incentivizes doctors to pack in as many patients as possible.
- Medical imaging, such as X-rays and magnetic resonance imaging (MRI) can show anomalies that are incidental to the back pain a patient is experiencing, and the doctor may jump to the conclusion that the anomaly is the cause of the back pain without any ability to confirm it. This is a common practice that results in a great deal of unnecessary procedures.

The take-home message here is to be skeptical about any diagnosis or treatment recommendation you receive. Get a second opinion before proceeding with any major surgery or costly or invasive medical procedure.

## Taking a Novel Approach to Back Pain Management

Conventional treatments for back pain are provider-centered and focused on illness (pain and what's causing it), with the patient being a passive recipient of treatment. Our novel approach to back pain management is personalized and

patient-centered, with the patient playing an active and supervisory role and providing substantial self-care (for example, diet and exercise). Providers (chiropractors, surgeons, pain management professionals, physical therapists, and so on) are at the periphery, being called in to provide services on an as-needed basis. In this model, you take on more of the responsibility for managing your back pain.

In the following sections, we explain this model in more detail.

## Embracing self-efficacy: You can do it!

*Self-efficacy* is the belief that you can accomplish what you set out to do. It is an independent determinant of health; in other words, all other things being equal, those who are confident in their ability to overcome health challenges have better outcomes than those who don't. Make a commitment to yourself that you're not going to let back pain get you down and that you'll do whatever it takes, and then stick to it.



WARNING

Don't confuse self-efficacy with self-reliance. You may need some help along the way — a chiropractor, surgeon, physical therapist, or pain specialist can play a key role in empowering you to achieve your back pain management goals. For more about self-efficacy, see Chapter 4.

## Shifting your focus from combating illness to restoring health

One of the biggest mistakes both patients and doctors make in the context of back pain management is that when they fail to identify a clear anatomical or biological cause of the back pain, they assume that nothing can be done to reduce the pain. The truth is that almost regardless of what's making your back hurt, you can build back strength and mobility and reduce the pain, mostly with self-care, including the following:

- » Eating healthy foods
- » Staying hydrated
- » Improving sleep quantity and quality
- » Improving your posture
- » Building core strength, especially your hidden core (the back muscles that support your spine)

- » Making healthy lifestyle choices, such as not smoking or vaping, drinking alcohol in moderation (if at all), and maintaining a healthy weight
- » Managing stress, which may involve addressing relationship and workplace issues



Restoring health may also involve combatting illness, but as you become healthier, you're going to find that your body resolves some illnesses on its own and requires less medication and medical treatment overall.

## Taking a do-it-yourself approach

Our approach to managing back pain is mostly do-it-yourself (DIY) with the addition of pockets of assistance from various healthcare providers as needed. In Chapter 5, we provide guidance for determining when starting with a healthcare provider is best — for example, when you can't move without experiencing excruciating back pain or when your back pain is accompanied by weakness in your arms or legs. In most cases, however, you can safely start with a DIY approach.

For easy reference, we packed most of our DIY advice in Part 2 (Chapters 6–11). Here's our overall advice in a nutshell:

- » **If you smoke, vape, chew tobacco, consume excessive amounts of alcohol, or bring other nasty stuff into your body, stop that.**
- » **Eat healthy, mostly plants (vegetables, nuts, fruits, and grains), along with healthy proteins and fats.** Steer clear of sugar, baked goods, highly processed foods, and any foods that make you feel lousy (for example, many people have trouble with dairy products).
- » **Drink mostly water and enough of it, but not too much.** (When you're getting enough water, your pee is pale yellow — not clear and not dark yellow or orange.)
- » **Get off your butt.** Your body is designed to move and is a lot healthier when it does, even when you're in pain.
- » **Be mindful of your posture.** Stand straight, sit up, shoulders back and down. If you need to pick something up, squat, keeping your back straight (see Chapter 7 for details).
- » **Build core strength, especially your hidden core (the back muscles that support the spine).** See Chapters 7, 8, and 9 for details and specific exercises that strengthen and mobilize the hidden core.



REMEMBER

Most people think of the spine as the framework of support for the back, but muscles, tendons, and ligaments provide a network of support for the spine, as well — they have a relationship based on mutual support. Even if nothing can be done to “fix” the spine, plenty can be done to strengthen the muscles that support it.

- » **Incorporate homespun remedies to decompress the spine, massage your back muscles, increase circulation, and relieve pain.** By “homespun remedies,” we mean DIY techniques involving inexpensive items such as foam rollers, a yoga/physio ball, over-the-counter pain-relief ointments, and other equipment and supplies that are readily available. (See Chapter 10 for details.) You can do this while watching TV instead of melting into your recliner.
- » **Improve your breathing.** Every cell in your body needs a constant supply of oxygen and a continuous release of carbon dioxide (a waste product). In Chapter 11, we provide several techniques to optimize breathing. Maintaining good posture also helps by giving your lungs more room to inflate.

## Embracing the five components of fitness

Many doctors’ offices, especially those of orthopedic and spinal surgeons, have a model of a skeleton or spine hanging in every examination room (or at least a poster hanging on a wall). This gives the false impression that the spine is somehow separate from the body. The truth is that the body is an organic whole. To have a healthy spine, you need a healthy body. One approach is to focus on the five components of fitness, as explained in the following sections.



TIP

Start with the movements and exercises we recommend in Chapters 8 and 9. As you build strength and endurance, consider looking into high-intensity interval training (HIIT). HIIT workouts address several of the five components of fitness at once. Other workout types generally address only one or two. For example, weightlifting improves both muscular fitness and body composition.

### Muscular fitness

Muscular fitness has three components of its own:

- » **Explosive power:** Single or multiple high-exertion motions that move weight quickly; for example, jumping, punching or kicking a heavy bag or pads, performing Olympic weightlifts, and putting shot (shotput).
- » **Absolute strength:** The movement of a maximum amount of weight a certain distance; for example, bench pressing the most weight you can or

lifting the heaviest stone you can to the top of a wall — the tests of strength common in strongman competitions.

- » **Muscular endurance:** The ability to move the body or a weight many times over a sustained period of time; for example, doing 10 pullups, 20 push-ups, or 15 curls with a 10-pound dumbbell.



REMEMBER

Most of the exercises we recommend in Chapters 8 and 9 build muscular endurance, which has the biggest positive impact, specifically on everyday back health and fitness.

## Cardiovascular fitness

*Cardiovascular fitness* is the ability of the heart, lungs, and blood vessels to deliver oxygen to the muscles during sustained physical activity. To build cardiovascular fitness, you typically need to engage in strenuous physical activity for at least 20 minutes at a time. Activities and exercises that build cardiovascular fitness include running (or walking at a fast pace), dancing, bicycling, rowing, climbing stairs, jumping rope — anything that makes you breathe heavily for 20 minutes or more.

## Mobility and flexibility

*Mobility* is the ability of the joint to move and is commonly referred to as “range of motion.” *Flexibility* is the ability of a muscle to stretch. Both are essential for muscle strength and performance and for mitigating the risk and severity of injury.



REMEMBER

During the initial stages of improving your back, focus first on building mobility and strength and then on increasing your flexibility. Even during workout sessions, mobilizing and strengthening muscles first warms them up and makes them more pliable, optimizing the benefits of any stretching you do while mitigating the risk of injury from stretching. Don’t stretch cold muscles.

## Body composition

Body composition is the ratio of body fat to the rest of the body (muscle, bone, organs) by weight. Excessive body fat is an indicator of poor health. We’re not going to get into an in-depth discussion of what’s considered excess body fat, what constitutes “ideal” body composition, body mass index (BMI), or other such topics. Too much focus on body weight can take the focus off of building strength, and we’re not sure how relevant it is to back pain. Besides, most people who need to be conscious of the health implications of being overweight know when their weight issue is significant enough to be negatively impacting their health.

## Neuromuscular fitness

*Neuromuscular fitness* is the ability of the nervous and muscular systems to work together to produce physical movement. You can think of it in terms of reflexes, balance, and coordination. In addition to ensuring well-coordinated physical movement, neuromuscular fitness helps to lower blood pressure, enhance mobility, and increase flexibility. Disciplines such as yoga, Pilates, tai chi, qi gong, and other martial arts are all effective in building neuromuscular fitness. Dancing, surfing, skiing, and other fun athletic activities are also helpful.



REMEMBER

We like to think of neuromuscular fitness as part of the mind-body connection that we discuss in Chapter 4. Everything in your life that impacts how you think and feel, including your job, relationships, and overall outlook impacts your health in some way, positively or negatively.

## Augmenting self-help with professional care

We view self-care as the core treatment for back pain and look at other treatments, not as ends in themselves but as the means to enabling self-care. The purpose of whatever treatment you receive — surgery, chiropractic adjustment, pain management, physical therapy, acupuncture — is to get you back on your feet, re-engaged in physical activities, and back to the gym.



REMEMBER

The big question is where to start. If you have a serious spinal injury that's clearly causing your back pain, you probably want to start with a surgeon. You don't want to do anything that could possibly make a spinal injury or deterioration worse. However, in most cases, people with back pain are better off not being too hasty about seeing a medical professional, because a diagnosis can lead to unnecessary surgery or other medical interventions and plant seeds of illness in the mind of the patient, which can be counterproductive. We can't tell you where to start on your journey to more effectively managing your back pain, but in Chapter 5 we provide guidance that can help you make a more judicious decision.

In Part 3, we take you on a deeper dive into your provider options and other related topics, including the following:

- » Getting an accurate diagnosis and exploring the different types of providers who can enhance your recovery, including physical therapists, surgeons, chiropractors, personal trainers, and psychologists

- » Understanding the unique benefits of different types of medical imaging technologies, including X-ray, magnetic resonance imaging (MRI), computed tomography (CT), and single-photon emission computerized tomography (SPECT)
- » Deciding whether to treat the pain generator, the pain, or the patient and in what sequence
- » Using medication to manage the pain
- » Engaging in physical therapy to improve mobility and reduce pain
- » Understanding the benefits and limitations of chiropractic care
- » Exploring common surgical procedures that can help, estimating their predictability of success, and understanding their potential drawbacks
- » Knowing what a psychologist or psychiatrist can do to help manage back pain

## Opting for value-based care

*Value-based care (VBC)* is a healthcare delivery model that rewards healthcare providers based on the *quality* of the care they deliver rather than on the *quantity* of that care. The current healthcare system in the United States is a pay-for-service model that rewards providers for the quantity of care they deliver. You may not be able to do much to change the system, but you have the power to create your own VBC model by playing an active role in coordinating your treatment. Here are a few suggestions for ensuring that you're getting the most effective treatment options for you:

- » **Get educated:** Reading this book is a great way to build your knowledge and understanding of back pain and make well-informed treatment decisions. Do additional research on your own if a provider recommends a treatment you're not familiar with.
- » **Choose your providers carefully:** If you feel as though you're being rushed through appointments, your provider's not listening to you or doesn't "get you," or you're getting a diagnosis and prescription that seems too quick to be accurate, don't hesitate to change providers.
- » **Communicate and collaborate closely with your providers:** Build strong relationships between you and your providers and encourage and facilitate communication among providers when appropriate. Be assertive. Let your providers know that you're more interested in long-term solutions than quick fixes, and you're willing to do the hard work it takes to achieve and maintain optimal health.

» **Make sure proposed treatments align with your bigger goals.** Providers are often focused on treating illness, which is appropriate at times, but be sure you're not getting quick fixes that set you up for bigger problems later (such as providing medication that relieves the pain but does nothing to improve your back). Understand the benefits and potential drawbacks of every treatment option and have a big-picture plan in place that supports your long-term personal, professional, health, and fitness goals.

Managing back pain isn't just about your back or your pain; it's about your life. This book is committed to empowering you to reclaim your life and live it more fully. Our hope is that your back pain gradually diminishes to the point at which it no longer crosses your mind.