

# Introduction

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Pain is an unavoidable part of life and, for one in five people, a major part of life. Despite its physical connotations, pain is rarely just a physical problem. At least 50 per cent of people with physical pain also suffer from emotional pain, such as stress, anxiety and depression. Because of the overlap between physical and emotional pain, the term is increasingly used to refer to both. It's also been discovered that pain is in the brain as much as in the body. Although the brain has long been regarded as a passive recipient of experience, we now know that the brain not only receives pain signals, it is also modified by pain and it is capable of modifying pain. Without your brain you wouldn't feel pain, and without your brain you couldn't *not* feel pain. This discovery has led to the development of new ways of treating pain, based on changing the brain activity that maintains pain. This book is about those techniques, and how to use them to "change your brain, change your pain".

Traditionally, physical and emotional pain were viewed as separate problems, treatable by different methods. In recent years health professionals have accepted that physical and emotional pain are connected and that they need to be treated in a unified way. Pain is also increasingly seen as a problem that involves the mind and the body, which has prompted greater acceptance of the role of thoughts and feelings in pain. One of the most exciting developments has been increased understanding of the role of the brain in pain. Neuroscientists have uncovered the brain activity that maintains physical and emotional pain. They have also discovered that the same areas of the brain are involved in physical pain as emotional pain. The other important discovery is neuroplasticity—the brain's capacity to be changed by experience. Neuroplasticity is the key to understanding pain that cannot be explained in terms of physical pathology.

The type of experience that has the greatest impact on the brain is severe stress. Severe stress has been found to trigger changes in brain chemistry, structure and

functioning. For example, adult survivors of childhood abuse and neglect have reduced brain volume. Chronic pain sufferers have decreased gray matter and decreased levels of neurotransmitters associated with emotional regulation. People who have suffered severe stress tend to react abnormally to later stress, including increased risk of anxiety, depression and chronic pain, regardless of whether the stressor was physical or mental. They also respond less well to normally effective treatments such as drugs, surgery and counselling. Increased understanding of the effects of stress on the brain, together with neuroplasticity, has revolutionized both our understanding of pain and our approach to overcoming pain.

The key to overcoming pain lies in learning how to change the brain activity that maintains physical and emotional pain. This requires investing a little time in learning about the brain, which is arguably just as important to know how to look after as the body is. The brain is the center of the human nervous system and essential to experience. Everything we experience goes through our brains. The brain is organized in a hierarchical fashion, with the lower areas responsible for processing sensory-emotional information and the upper areas responsible for interpreting and deciding how to respond to events. Generally speaking, your brain processes sensory information in an “upward” direction from the brain-stem to the neocortex. Your brain is also divided into left and right hemispheres, with each side responsible for different tasks. Good brain functioning requires a smooth flow of information in all directions. Anything which disrupts the normal flow of information between the different areas of the brain causes problems.

Most people who have suffered severe stress are unaware of any connection between their physical and emotional pain. For example, more than 50 per cent of depressed people’s first visit to a medical practitioner is for a physical symptom.<sup>1</sup> There is also a tendency to ignore or deny emotional pain; downplaying the effects of stress is better than feeling vulnerable or defeated. The adult survivor of abuse or neglect can start their own family and appear to have overcome their “bad start” in life. The war veteran can don civilian clothes, get a job and appear to have left the horrors of combat behind. The benefit of this denial is that it helps us believe that we have triumphed over past adversity. No one wants to admit that they are still suffering because of something that happened 20 years ago. The problem is that it leaves the physical and emotional effects of stress unacknowledged and unresolved. Behind the façade of normalcy, problems such as anxiety and depression, ill-health and chronic pain all remind us that, ultimately, “the body remembers”. The inescapable conclusion is that if we are to have any hope of overcoming pain, we need to understand how our nervous system works and how it is affected by stress.

Understanding how your brain works and is affected by stress is the key to overcoming physical and emotional pain. Severe stress changes the structure and functioning of the brain in ways that predispose us to pain. Healing pain requires restoring normal brain functioning including emotional connectedness, responsivity

and regulation. This requires five sensory-emotional strategies, each of which addresses a particular effect of stress, namely:

- 1 safety and support.
- 2 reconnecting with your feelings
- 3 learning how to control stressful feelings and pain
- 4 changing your thinking
- 5 building resilience.

These strategies are also organized in the same bottom–up order in which your nervous system processes information. Safety is a basic need without which the lower sensory areas of the brain would remain in a state of arousal and closed to new information. Safety is a prerequisite for learning how to control stressful feelings and pain. The most effective way to change stressful feelings and pain is to stimulate the non-rational lower areas of the brain where pain is mainly “stored”. Activities that enhance brain connectivity and information flow are also beneficial. These include loving relationships, and interesting and enjoyable activities—anything that stimulates different feelings to those associated with pain. Over time, these kinds of activities stimulate neural repair and re-wiring, and changes in the brain activity that is maintaining the pain. Changing your thinking and resilience involves higher-order mental processes such as monitoring your thinking, goal-setting and self-actualization.

The nature and sequencing of the above strategies is based on the phase-oriented approach to the treatment of post-traumatic stress disorder, which simply means that the problem is broken down into different parts which are addressed in order of priority. For example, you have to be emotionally stable before you can confront your pain. You have to learn how to regulate negative feelings and emotions if you are to have any hope of overcoming past trauma. One approach which incorporates all of these elements in an effective way is eye movement desensitization and reprocessing (EMDR). EMDR derives its name from a procedure wherein clients engage in a dual attention exercise involving stimulated bilateral eye movements and focusing on their problem. When integrated with other treatment elements (as above), this procedure has been found to reduce physical and mental distress, and improve coping. Since its inception as a treatment for post-traumatic stress disorder (PTSD), EMDR has been applied to a range of other somatic and emotionally-based problems. The method’s unique combination of sensory inputs, focused attention and cognitive re-appraisal makes it the most brain-smart psychological treatment method around.

## Do you need this book?

This book is for you if you suffer from persistent physical and/or emotional pain which is not adequately explained or managed by current medical methods. Associated with this you may also have:

- endured severe stress prior to your pain and/or injury, (e.g. childhood emotional neglect, family instability, physical or sexual abuse, combat experience, prolonged life instability, etc.)
- experienced a physical injury, resulting in pain and disability, which is causing stress or depression.

Mental health professionals should also find this book a useful tool for understanding chronic pain and the effects of stress on mind and body, as well as how to treat these problems more effectively.

## How will this book help you?

You may think that you have not been affected by early stress in your life, or that you have been able to escape your past unscathed. Extensive research suggests that no matter how “successful” you are, it is very difficult to go through severe stress without some physical and mental ill-effects—so whether your pain was triggered by a physical injury or illness, and has persisted beyond the normal healing timeframe, or whether it started after a period of severe stress, you need to understand the role of the different physical, mental and emotional factors.

*Change Your Brain, Change your Pain* will teach you how to neutralize the physical, mental and emotional effects of severe stress that maintain pain. The first half of the book explores the similarities and overlap between physical and emotional pain, including changes to brain structure and functioning. The second half of the book describes a range of techniques designed to reverse the sensory-emotional effects of stress which maintain pain.

Chapter 1 consists of a brief review of what we know about pain and the brain, including how stress affects the brain, plus five things that you can do right now to start changing the brain processes that are maintaining your pain. The aim of Chapter 1 is to orient you to the notion that pain is as much in your brain as your body, and how and why this is so.

Stress can be both a precipitating factor *and* a response to pain, particularly after a serious injury. Chapter 2 describes the normal emotional responses to injury and pain and what they mean. In this chapter you will learn that anxiety, anger and depression are normal and potentially adaptive responses to injury and pain. Chapter 2 will help you understand *why* you feel anxious, angry or depressed, and the role that these feelings play in pain.

Chapter 3 explores the relationship between stress, pain and the brain more deeply. Here you will learn how your brain works, including how it communicates with your body. You will see that there is a kind of bio-chemical feedback loop between your brain and your body which transmits information back and forth, sometimes in the absence of external stimuli. You will learn how stress affects your brain and your thoughts, feelings and behaviors, and how those effects can maintain and exacerbate pain. Although this chapter contains a lot of terms that may be new to the lay reader, you have to remember that understanding any complex system requires becoming familiar with the terminology. Give yourself time to absorb this information, and don't be worried if you don't understand everything at first—you can always re-read it later.

Whether you realize it or not, the way you think about pain and your theories about pain determine how you deal with it. If your theories about pain are wrong, chances are the way you cope with pain is going to be wrong. In Chapter 4 you will find an explanation for your pain, including the role of the brain in pain and how physical and emotional pain overlap. You'll also learn how memory and neuroplasticity maintain pain and how they can be harnessed to change pain. This will give you a theoretical basis for the five sensory-emotional strategies that follow. The chronic pain stress risk factors questionnaire will enable you to evaluate which types and effects of stress are involved in your pain, and consequently which self-help strategies you need to focus on most.

In Chapters 5 through 12, you will learn the five sensory-emotional strategies for overcoming pain. Chapters 5 and 6 cover safety and support, and reconnecting with your feelings. These are two basic types and effects of stress which are often associated with chronic pain. Without them you will find it difficult to succeed in implementing the pain-control strategies that follow. Chapters 7, 8 and 9 describe a range of strategies for changing the sensory-emotional processes that maintain your pain. Some of these, such as relaxation, exercise and sleep management, will be familiar. Others, such as bilateral stimulation, are new. This is where you will need the CD at the back of the book. The CD contains four tracks of evocative words, music and bilateral stimulation, designed to evoke your inner pain resources. You will need a set of headphones and some uninterrupted time. The more often you listen to the CD, the more relaxed you will learn to feel. Chapter 10 is about how to change your thinking, particularly negative, self-defeating attitudes. Chapter 11 is about building resilience. Resilience is not a pain-management strategy *per se*, but it is an important buffering factor against stress and pain. Some types of pain are too intense to overcome on your own. Chapter 12 is about how EMDR treatment can help overcome pain, particularly pain associated with psychological trauma.

The strategies in this book differ from those associated with mainstream approaches to the treatment of pain. Instead of being told that you should ignore your pain (when it lacks a medical diagnosis), you will be encouraged to understand

and respect it. Instead of being encouraged to ignore your feelings about your pain, you will be taught how to deal them. Instead of being told that you alone are responsible for your pain, you will be encouraged to share the burden of it with others. Instead of being pressured into reducing your medication and increasing your levels of physical activity, you will be shown how to discover the right levels of these vital self-help strategies. Some professional readers will no doubt find these ideas challenging, but pain sufferers should find them liberating and useful.

## How to use this book

This book is designed to be both an instructional and a practical tool. You should begin by reading it and reflecting on the content. At this stage, feel free to read the chapters in any order you like. You will find a lot of new ideas and insights, some of which will have an immediate impact on how you feel about yourself and your coping; others may take a little longer to integrate. You may find it helpful to share this information with your loved ones or therapist. “Jessie” felt that her family didn’t accept how her chronic pain condition made her feel, but after she showed them the chapter about normal emotional reactions to injury and pain they became less judgmental and more tolerant.

Before you try to apply the self-help strategies contained in the second half of the book, you should complete the questionnaire in Chapter 4. This will guide you regarding which self-help strategies you need to concentrate on most. Each strategy is accompanied by exercises to help you learn the skill. You don’t have to stop reading and complete the exercises immediately you come upon them, but you should attempt the exercise(s) at some stage. Although you may wish to move backwards and forwards between the different strategies, remember that they are designed to build on one another. If you find yourself having difficulty with a particular strategy, you may need to go back and ensure that you have adequately mastered an earlier skill-set.

## Caveats

A few caveats. You will notice that this book uses the term “pain” to refer to both physical and emotional pain. This is not meant to imply that physical pain is the same as emotional pain. Physical pain and emotional pain *are* different, and there is plenty of information about how to treat them as such. However, physical pain and emotional pain also have many similarities including overlapping physical, emotional and neurological processes. Any pain that is not purely based on physical pathology is likely to involve some combination of the above factors.

*Change Your Brain, Change Your Pain* is aimed at people who suffer from overlapping physical and emotional pain and want to learn a unified way of healing both. This is the kind of pain meant where the term is used in this book. The challenge, and the key to successful treatment, is knowing how and when to separate physical from mental pain, and how and when to view them in a unified way. You should find this book helpful in this regard. If your pain is predominantly physical, you should of course pursue all reasonable medical treatment options.

As this book is primarily designed for a non-professional audience, I have tried to keep the brain stuff as simple as possible. Inevitably it will be overwhelming to some, and not enough for others. The aim is to give you enough information to understand how your brain might be maintaining your pain and how you can change that. You don't need to understand all the brain stuff, but it's there because it's impossible to understand chronic pain without it. Having said that, the description of the brain processes involved in physical and emotional pain will almost certainly be out of date by the time this book is printed—this is such a rapidly developing area—however, I am confident that the five sensory-emotional strategies described in this book will become more popular as more research is conducted.

Finally, although this book is about addressing the contribution of stress to pain, you should never ignore the possibility that there may be a physical cause for your pain. For example, many women who were sexually abused experience vaginal pain during intercourse. For some women this is a psychosomatic reaction, but for other women it may be a manifestation of a medical condition, such as vulvadynia. Even then, childhood abuse may have acted as a predisposing factor for this condition. As always, understanding pain requires careful examination of all causal factors—so try to get out of the habit of “either-or” thinking when trying to understand your pain.

The strategies in this book may not “cure” your pain, but with understanding, patience and disciplined application of the sensory-emotional strategies contained herein, you can feel better.

*Mark Grant  
Sydney  
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