



## Understanding Pain

### What is pain?

Pain is an unpleasant experience that occurs when your brain concludes, rightly or wrongly, that your body is in danger. Specialised nerves (nociceptors) throughout your body send signals to your brain when they sense any changes that might possibly be dangerous. Your brain evaluates the signals by drawing on evidence from many areas including your thoughts, vision, emotions, and memories. If it concludes that your body needs protecting, your brain produces pain and also stimulates other protective mechanisms. Although you seem to feel pain in the injured area, the pain is produced within your brain.

### Does having pain mean I have an injury?

No, you can have an injury without experiencing pain, and you can feel pain with little or no tissue damage. Your brain can increase or decrease your pain depending on your perception of danger. For instance, a lip injury would probably be more painful for a trumpeter than for a dancer, because healthy lips are crucial to a trumpeter's performance. You may feel more pain if a scan shows something unusual, even though the "unusual" condition may be completely harmless – the scanned image convinces your brain that you are in danger. Fatigue and stress can also increase your sensation of pain. You can even feel pain in body parts that no longer exist, for instance in an amputated limb. Although pain is an unreliable indicator of actual injury.

*It is essential to understand that each person's pain is a real and personal experience.*

### Why should I learn about pain?

Understanding pain is a type of therapy – the more you understand, the less pain you are likely to feel and the more you can do to relieve it. Pain research has made enormous advances over the past decade and current information can help you resist outdated beliefs and unhelpful suggestions. Understanding that pain is the result of complex processes including, but far beyond tissue damage allows you to decide how you can change your experience. Improving your fitness, strengthening any weak body areas, eating wisely, sleeping adequately and exercising can all help reduce your brain's alertness to danger. Your brain changes rapidly when you are injured, but it keeps responding to changing circumstances throughout your life.

*Your brain is "plastic" – you can mould it by what you know, what you believe and what you do.*

### If pain is an unreliable indicator of danger, what use is it?

The brain generates pain to make us react immediately, possibly saving us from serious harm. A quick reaction is helpful when stepping on a tack, even if you discover later that the "tack" was something harmless. Pain prompts you to protect the area, and to investigate whether harm has actually occurred. Pain encourages you to seek professional advice, to be active in rehabilitating any injury, and to make any necessary changes to your technique or to your health and fitness.

Pain is essential for health. There is a rare condition where people experience no pain, but without the protection of pain, these people constantly injure themselves and may even die. **Value pain as a signal, but realise that you have power over it.**



## What should I do about pain?

Luckily, your brain's evaluation process is ongoing, so any pain experience can be increased or decreased according to the evidence of your own eyes, your own expectations, the expectations of those around you, your previous experiences, your beliefs about the potential impact of the injury, your stress levels, and your general feeling of security. Since your brain produces pain because it sees more evidence of danger than of safety, you can kick-start your brain's plasticity (its ability to change) by strengthening the evidence of safety and reducing your fear of danger. As a performer you are likely to focus on how much **pain** you have, how much you **can't** do, and how much it will **harm** your career. By contrast, your pain can be reduced by focusing on positive aspects.

## Pain and the healing process

1. Initial pain, redness and swelling are all signs that your protective systems are actively starting the healing process
2. Although they are less obvious, other systems such as your immune, respiratory, endocrine, autonomic, cognitive, emotional and motor systems are also facilitating your recovery
3. Your brain's first priority is to keep you healthy, and your body has an inbuilt capacity to repair damage
4. Every injury is a learning opportunity – use your recovery time to prepare your body against future injury.

## How do I know which advice to trust?

Given the rapid increase in pain research over the last few years, it is not surprising that many people are unaware of new knowledge and still give misleading information. Traditional advice such as “no pain, no gain”, that you should “push through pain”, or that enduring pain is “a sign of dedication” and “the price you pay for success”, is not only incorrect, it can lead to serious injury and have a disastrous impact on your career. It is wise to check with the resources listed at the end of this guide if you suspect you may be receiving outdated advice. For your own protection, equip yourself with sound, up-to-date knowledge based on current research.

## What is chronic pain?

If pain persists long after injured tissue has healed, it can be labelled “chronic pain”. It may be that the tissue is being repeatedly re-injured (see the ASPAH Guide to Overuse and Chronic Injury Care). It is possible that poor or inadequate rehabilitation has not prepared the healed tissue to resume its normal workload. However, persisting pain may also mean that the brain has “learnt” to continue producing pain despite the absence of danger signals. Luckily, the brain's plasticity (capacity for change) allows it to “unlearn” the faulty response and restore its normal protective function.

By the time pain has become chronic, it is likely to be multidimensional, with physical, emotional and medical aspects. Your emotional state and stress hormones can sensitise nerve tissue and heighten the pain experience, whereas learning to effectively manage stress and restore emotional balance will improve emotional wellbeing and may reduce chronic pain. Poor sleep stresses your body and thus can aggravate pain. Lifestyle choices can also make a difference – poor diet, excessive alcohol use, too little sleep and smoking can all contribute to sensitising your nervous system.

Modifying the above factors can really help with reducing chronic pain. Therefore, you may benefit by asking your doctor to arrange coordinated help from specialists in the relevant areas. This is particularly important for people who have previously been prescribed strong pain killers.

***Remember that your brain's plasticity means you can “unlearn” pain***



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Performing Arts Healthcare

## Where can I find more information?

Explain Pain 2<sup>nd</sup> Edition: Dr David S. Butler & Prof G. Lorimer Moseley. Noigroup Publications (2013) ISBN: 978-0-9873426-6-9

The Explain Pain Handbook: Protectometer. Prof G. Lorimer Moseley & Dr David S. Butler. Noigroup Publications (2015) ISBN: 978-0-9750910-9-8

The Sensitive Nervous System. Dr David S. Butler. Noigroup Publications (2000) ISBN:0-9750910-2-6

Explain Pain: Supercharged. Prof G. Lorimer Moseley & Dr David S. Butler. Noigroup Publications (2017) ISBN:978-0-6480227-0-1

An ASPAAH Guide to Overuse and Chronic Injury Care

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**NB: This ASPAAH Guide is intended as an educational resource only and does not replace professional advice. ASPAAH recommends that diagnosis and initial advice is always obtained from an accredited healthcare professional.**

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## A Guide to Performing Arts Healthcare

ASPAAH is pleased to offer you this Guide which has been compiled by experts in the field. This is an example of ASPAAH's many resources, all designed to inform performers and those who work within the performing arts of current information that may assist their health and wellbeing.

By becoming an ASPAAH member, you will share in exciting new developments in the Australian performing arts healthcare landscape, including:

- A range of health care guides, posters, conference presentation videos and webinar recordings
- Professional listing in ASPAAH's online Directory of Members
- Access to a network of leading performing arts professionals, clinicians and researchers
- Discounted registration for ASPAAH conferences and other events
- Access to Local Chapter events
- Opportunity to run Local Chapter events
- Regular news about local, regional and national performing arts healthcare events
- Full annual subscription to *Medical Problems of Performing Artists*
- Free advertising in ASPAAH bi-monthly e-newsletters
- The right to vote and hold office in the Society

If you work in the performing arts in Australia, ASPAAH is *your* organisation. We encourage you to join our extensive membership of performing arts practitioners and organisations so you can access a wide range of ASPAAH Guides, conference videos, newsletters and events. To join and/or to make a tax-deductible donation, please contact [admin@aspah.org.au](mailto:admin@aspah.org.au).

ASPAAH Guides include:

Acute Injury Care	Overuse and Chronic Injury Care	Understanding Pain
Australian's Health System	Safety in the Performing Arts	Healthcare Insurance Options
What Health Professionals Do		

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