

kinetic medicine
BACX**2FIT**
.get better .stay better .live better



“ So you have pain? It might be of some comfort for you to know that you’re not alone. Hopefully of even more comfort is that this resource is here to help you figure stuff out! ”

Along with helping you move better and more often, we hope that you can learn a little too, because this is where treating your pain is going to begin –with your brain.



The Mental Battle Against Pain

It's important for you to know that what you do in your daily activities has a part to play in your pain. It may even play a more important role in prolonging your pain than anything that happened when it first started. Your body is healing, adapting and learning all of the time. If you've had pain for some time now, this is likely to have changed the way you have moved, and consequently how your muscles and joints have responded, as well as how you think and feel. All of this is very important to consider for you to progress in your journey to controlling your pain.

By answering the questions in the next section, we're going to learn a little bit more about what makes you hurt.

Personal Pain Profile

Please list below the top 5 specific activities that you are aware of that aggravate your pain:

1. _____
2. _____
3. _____
4. _____
5. _____

For each of these activities, please mark on the line the intensity of your back pain following these activities:

Activity 1. 

Activity 2. 

Activity 3. 

Activity 4. 

Activity 5. 

What do you do currently, or have you done in the past, that gives you relief?

Medication: _____

Other strategies: _____

Please rate how long you can complete these activities before you begin to experience symptoms of aggravation:

eg: minutes, repetitions

Activity 1. _____

Activity 2. _____

Activity 3. _____

Activity 4. _____

Activity 5. _____

Is there anything else about these activities that might make them more or less aggravating? *For example, walking uphill is aggravating but on a level surface is not aggravating. If so please list:*

Activity 1. _____

Activity 2. _____

Activity 3. _____

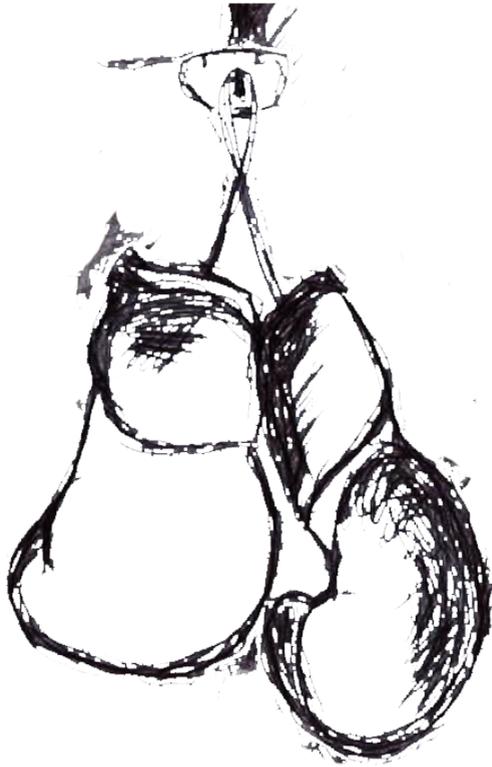
Activity 4. _____

Activity 5. _____

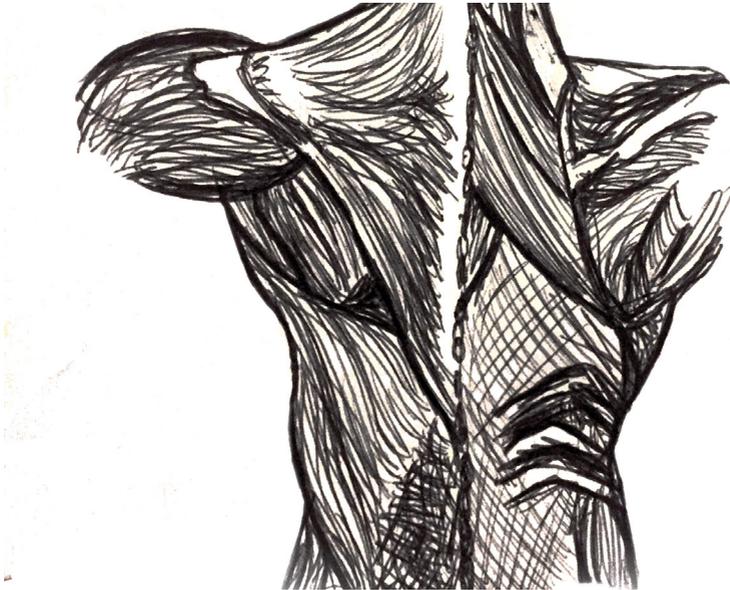
Someone told me my back is 'stuffed', how is this going to help?

It might be interesting to know that persistent and disabling pain isn't just all down to the part of your body that you feel you're having problems with. Pain is a complex whole-body experience that involves the messages from our body parts, the way they are processed by our brains and what our body decides to do with that information. The most important thing for a person in pain to understand is that pain is primarily a threat detection system designed to keep us safe and persistent pain is a problem with how your whole body is managing stimuli that elicit a threatening (and therefore painful) response.

We'd like to think of our bodies as machines and pain as the little alarm to say that something is wrong. But for anyone who's ever owned a car you'll know sometimes what a sensor picks up to light up your dashboard is not always the actual case of something that's gone wrong. The empty fuel light comes on well in advance to tell you to think about filling up soon, though the battery light sometimes will tell you the reason why your car won't start is because there's only enough charge left to illuminate that pesky little light! The human being has a marvelous protection system that's much more complicated than even the fanciest of cars, and it ought to be.



Feelings of motivation, desire, fear, anxiety and pain happen quickly to help us decide in an instant what we should do about our surrounds, they are part of the 'fight or flight' responses. The problem is when signs of threat continue on longer than they ought to, they become less and less accurate as an indicator of threat and stress. This is often because the body's threat detection systems increase their sensitivity to stress the longer threatening stimuli persist.



Other things happen too. Muscles and joints stiffen to prevent movement, we avoid things we would otherwise have easily done, you feel a panic when you have to do things you know have given you pain in the past. This is all to stop you from doing things your body and mind have determined are potentially dangerous. Worse still, your memory might not be what it used to be, you can't think creatively anymore, you've started to gain weight, little things give you panic attacks or the sweats for no good reason. These are side effects of changes to your body's neurological, immune and hormone systems that can sometimes happen when you experience pain. With pain these can be helpful short-term responses, for example, you don't need to remember what you did last week when you're trying to get out of danger, but in the long run the consequences are disastrous.

Generally, there are times when you will experience more or less pain and in most cases it's fair, if not a little too simplistic, to suggest that when you feel the best is when you feel safest. The goal of taking back control of your life as someone who has experienced persistent pain is to work on your body's resilience to the physical, environmental and other stresses that keep your body's threat alarms cranked up.

Hopefully knowing and understanding a little bit more about why you hurt has even started to help you feel better and understand the choices you really have. Some scientific studies have shown that when people with persistent pain understand their pain better they actually have significantly less pain. If you want more resources to understand your pain your exercise physiologist has plenty to share with you.

As well as moving more and thinking differently, we've got a few other weapons for your arsenal.



Sleep on it

It might sound self-evident but sleep is a key tool in helping to tame the beast of persistent pain. Sleep can do marvelous things.

When we sleep, blood flow to our brain increases helping to keep our neurons and synapses wire and fire healthily meaning functions like memory and creativity work better – it's a little like a reboot for a computer. Sleep also improves our brains tolerance to stress, meaning we hold better sway over 'fight or flight' responses. Sleep also helps to restock our brain's own drug cabinet. Our 'endogenous opioid system' produces its own versions of chemicals the likes of which many pain medications try to imitate. In the long term, the harm of some of these medications occurs in the way they hijack our brains own function in regulating this chemistry, so making sure our sleeping patterns are healthy is a crucial consideration.

The checklist below are indicators that your sleep and related habits could use a little work:

- I don't have a regular 'bed-time'
- I feel anxious about going to bed
- I smoke tobacco or other substances in the evening
- I frequently need to consume alcohol to sleep
- I find it hard to sleep without the assistance of medication
- I watch TV or use a device shortly before I go to sleep
- I watch TV or use a device when I wake through the night
- I consume caffeinated beverages late in the evening
- I frequently lay awake in bed thinking about not sleeping
- I find it hard to stop my thoughts from 'racing'
- I sleep in until late morning

If you ticked 2-3 of these boxes and you feel like you often have difficulty sleeping then it might be worth considering the following:

- Sleep is a habit. A regular bed-time routine can help you learn to sleep better again.
- The use of substances like alcohol, prescription medication or marijuana has been shown to decrease the likelihood of the most valuable kind of sleep where your brain will benefit.
- The bedroom should be a peaceful, relaxing place. Many experts suggest the bedroom is best kept for sleeping and sex only.
- If you wake during the night and can't easily return to sleep, getting up from your bed and completing a boring, low interest task in low light may help you feel tired at which point returning to bed may be more successful.
- Devices, TV and other stimulating activities can make sleeping difficult by increasing your alertness and increasing the production of hormones which may make sleeping difficult
- Waking through the night is a normal experience and isn't necessarily something to be worried about

Take a Breath

Meditation, quieting our thoughts and being calm doesn't often come naturally, especially to someone with persistent pain. Keeping focused for any length of time with pain is tricky, so too is grappling with anxious thoughts and feelings or even overcoming the feelings of hopelessness that might sometimes hold sway. Reaping the rewards of something like mindfulness or meditation doesn't have to be as complicated or difficult as you might think, though.

Our breath is powerfully connected to a number of our body's systems. Our 'fight or flight' system is big driver of increased respiration, but equally, taking control over our breathing can down regulate the hormones that drive our heart to pound and our muscles to stiffen uncontrollably. Breathing can also help to stimulate the 'vagus nerve', helping to reduce feelings of nausea and anxiety.

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So let's try taking our breath and using it as a tool to treat pain. Usually breathing, pausing and counting presents as the easiest ways to do this. There are many different strategies that your exercise physiologist can work with you to develop. The "10 x 10's" exercise consists of taking 10 lots of 10 slow, controlled breaths, counting your way up to 10 with each breath and repeating 10 times. Now the point of this isn't necessarily to perfectly reach the tenth lot but to do as many as possible keeping your attention to the task. You'll easily find your mind wandering off, when you notice this happening bringing your attention back to a focus on your breath can help you to practice your control over your attention. Complete this at a time when you're feeling anxious and you might notice an improvement in the way you feel quite quickly.



Pain & The Microbiome

That big word – ‘microbiome’ – refers to the bacteria in your gut. “What in the world does that have to do with my pain” you ask? Fascinatingly, ever increasing research into the gut is demonstrating a significant relationship between the things we eat, the bacteria in our gut and a whole raft of processes that happen in our body.

Primarily it would seem the main effect our dietary intake has on factors influencing pain is in reducing inflammation. It appears that having good regular sources of fibre in our diet helps our gut bacteria to create ‘short-chain fatty acids’ which have a protective effect in reducing inflammatory processes. Reducing our intake of processed carbohydrates, which is a little trickier than just getting rid of sugar, also seems to help reduce the drive to heightened inflammatory responses.

What is inflammation though? Inflammation refers to the process by which our immune system mobilises to help maintain and repair our body against all sorts of stresses.

The front-line chemicals involved in this process are called 'cytokines' (pronounced sigh-tow-ky-nz) and the presence of these important neurotransmitters increases the sensitivity of our body to some stresses.

So, what should you eat then? A balanced diet, high in fibre, fresh fruits, vegetables and lean protein sources would appear to be the foundation. Ensuring that your diet is low in processed foods is really important also, with a processed food being any food product that has undergone some kind of refinement before it.



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Personal Action Plan

Goals

It is vitally important to the process of treating your pain for us to establish a clear picture of your goals and expectations. In order for you to be successful in this process you need to remain focused on clear objectives.

Below, list at least 5 things you want to do within the next 8 weeks. Please be as specific as possible, relating each goal to a specific setting. Provide as much clarity as you can in order to create an image of what success in these initial stages of treating your pain should look like.

Example: I want to be able to walk my dog for 30min around my neighborhood.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Rules

Now that we've established the things that we want to achieve, it's vital you understand what's required to achieve them. Because the physical things you do in your day matter, we need to have an action plan to manage the delicate balance of not doing too much and not doing enough. This is going to involve applying a technique called 'pacing'. The following are the 'rules' you will need to follow in order to make this a powerful tool.

1. Initially, activities should be ceased before significant increases in pain

There is no real truth to 'no pain, no gain'. Rather, "know pain, know gain" is far more appropriate. If you know what specific things aggravate your pain, these activities can be well managed by pacing. If you can find a better way to do things so as not to aggravate your pain you'll be able to do more

2. Activity limitations must be set at the level that can be attained on your worst day

To start, this is what we call a 'baseline' - our starting point. As frustrating as this may be to only do physical work for even just a few minutes at a time, it is vital that you adhere to this principle. A good guide is to estimate what you think you can do on your worst days and work out 75% of that task.

For example, if walking for 5min is what you expect to be your maximum on a bad day, approximately 4min would be a good amount of walking to focus on keeping bouts restrained to

3. Limitations must either be time or repetition based.

For example, sitting for 12min or hanging 5 items of clothing on the clothes line.

4. Exercise must induce fatigue, not pain.

If an exercise does not feel tiring but instead only aggravates pain then you need to let your exercise physiologist know in order to address any discrepancies.

5. Each week your activity limitations should increase incrementally

This must be kept in mind to ensure you don't overdo it on some days and pay for it the next. This will hamper any chance to increase in the long term. Instead, reassure yourself that each week your limitations will improve and your activity levels will be less and less constrained.

Goals Setting

Its important to set goals as it allows you to focus on what you are working towards. It can put you in control of you life and treatment. Goals can help motivate you. Outline your goals and a process to acheive these goals here.

Example:

My Goal: to walk up the stairs without getting out of breath or needing to stop. _____

My Process to achive this:

1.5x stand to sits 3x a day _____

2 walk up 10 steps and rest _____

3 complete walking program _____

I can reach my goals and be pain free.

My Goal: _____

_____ Date: _____

My process to achive this:

Reached: [] Date: _____

Altered: _____

My Goal: _____
_____ Date: _____

My process to achieve this:

Reached: [] Date: _____

Altered: _____

My Goal: _____
_____ Date: _____

My process to achieve this:

Reached: [] Date: _____

Altered: _____

My Goal: _____
_____ Date: _____

My process to achieve this:

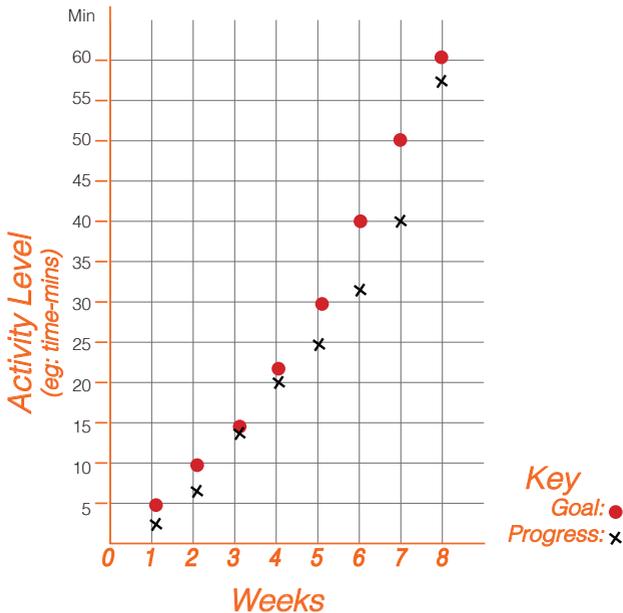
Reached: [] Date: _____

Altered: _____

Your Baseline

So how do you figure out where to start? We need to use the information from the personal pain profile section to determine this. On the graphs below, enter in the details of each physical task you are going to need to pace according to the example following. (if you need to do this for multiple activities then please photocopy this page).

Example: *Activity:* Walking



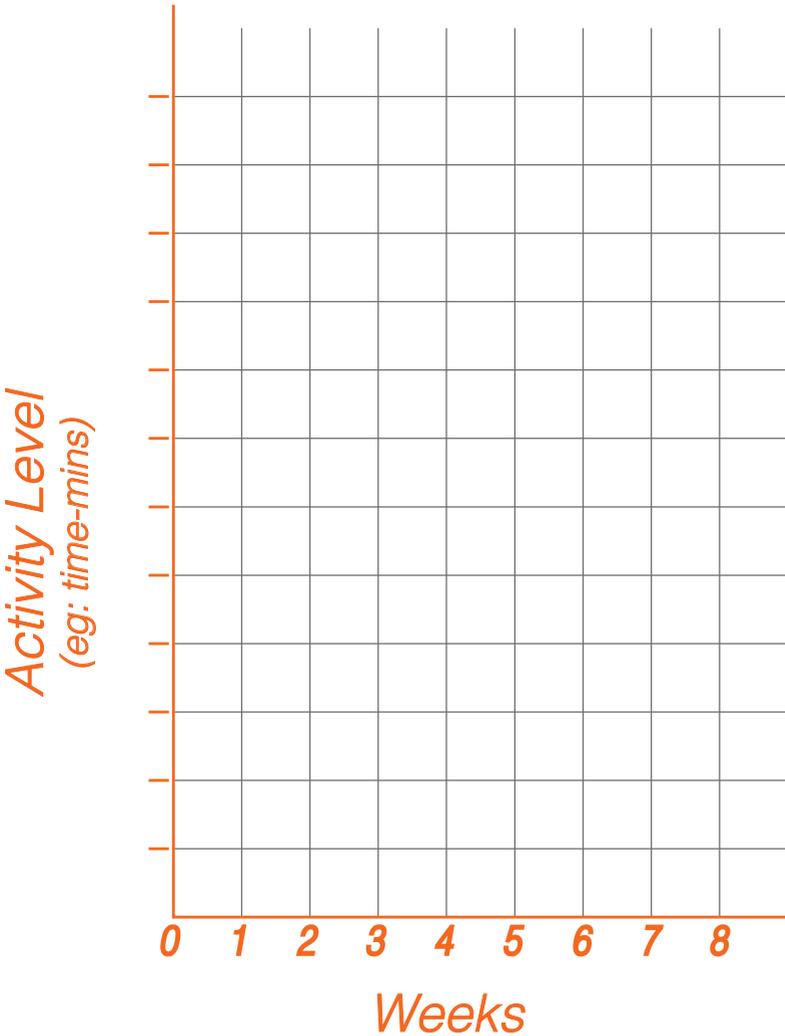
Activity: _____

Activity Level
(eg: time-mins)



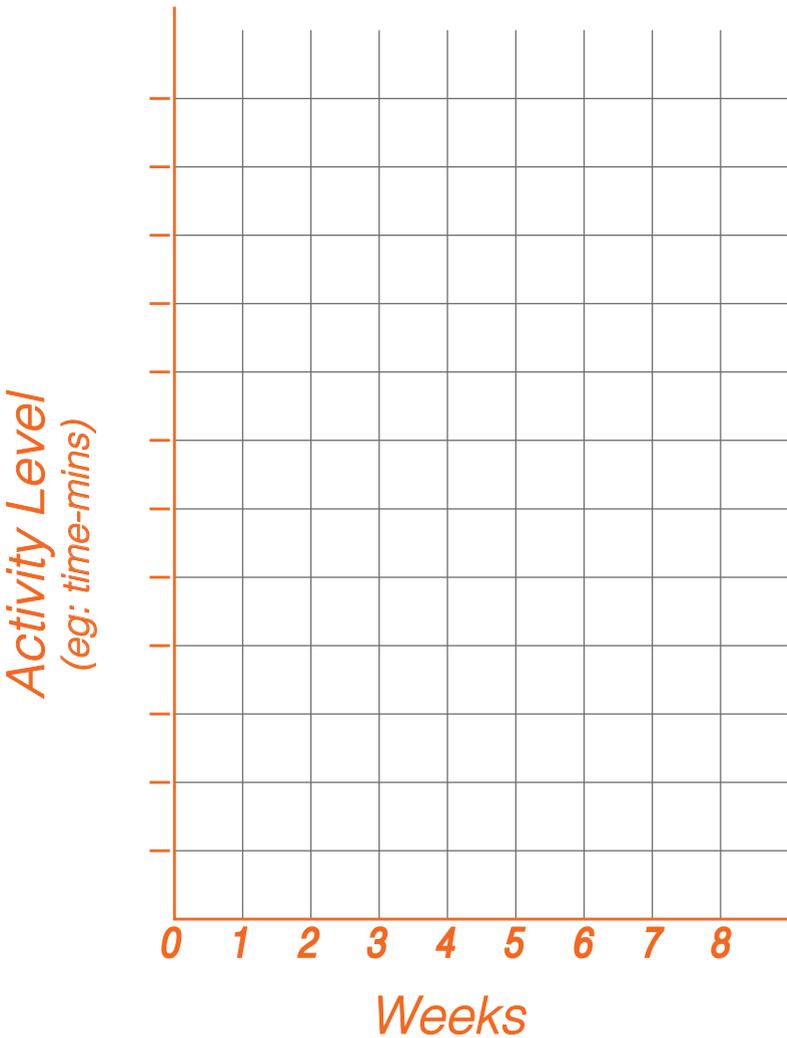
Key
Goal:
Progress:

Activity: _____



Key
Goal:
Progress:

Activity: _____



Key
Goal:
Progress:



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