

Pacing

Many injuries require the right balance of activity to ensure adequate recovery and progress over time. Finding this balance can be difficult, especially when the goalposts change depending on the tissue involved. This blog aims to help you find the right level of activity to get you back to normal again. It does not replace an assessment and advice given to you by a healthcare professional but may supplement what you discuss in an appointment.

What is pacing?

Pacing is the process of breaking tasks, activities, or time into portions and keeping symptoms at a sustainable level throughout. If you've ever gone a long walk for the first time in a while, hiked up a mountain in North Wales, or ran a marathon, you're likely already familiar with this concept. You may have 'hit a wall' on a long walk or run where maybe your feet start to hurt too much, you're starving, or in need of some water. Taking planned breaks *before* you get to that stage would be pacing yourself; not waiting until you *need* to take a break. It is often hard for your body to recover properly once you've already gone over the tolerance threshold. You'll likely feel ready again after the break, but you'll need another break sooner than if you'd stopped before reaching your limit. When we have an injury, we'll need to look at our daily life and determine what we need to pace to manage our symptoms. We use other analogies to better understand how we can apply it day to day with common injuries.

Traffic lights, smoke alarms, and tanning

Traffic lights

Most of us are familiar with traffic lights and what they mean. The body has similar laws it follows, although the body is far more complex because it is a living system. This is also why we've drifted away from thinking of the body as a car in out-dated analogies. We are always calculating whether it is fine to continue whenever we come up to an intersection and traffic lights clearly make that easier. We can use them in the same way when we're doing any activity where there might be a bit of pain.

- Green – generally, you are good to continue with consideration as normal. Keep assessing and if the light or environment changes, make the appropriate adjustments. In the context of pain, this would mean you are pain-free and have no awareness of your usual symptoms. You can continue carrying out the movement as you are.
- Amber – slow down and stop before the line. This is where it becomes more nuanced. If the light *just* turned amber and you are already in the intersection or too close to stop safely without slamming on the brakes, then you may

continue. Otherwise, you should slow down steadily and come to a stop until green again. In the context of pain, this would mean you start to feel your symptoms coming on, but they are mild and manageable. If these *just* 'turned on' at this tolerable level, then you may continue. You should otherwise slow down, stop, and allow your symptoms to settle before continuing. The aim is not to push into the 'red.' Some may slam on the brakes at any level of discomfort (e.g. nervous about causing damage) whereas others may speed up (e.g. no pain no gain); both being unproductive but understandable. We'll come to this later.

- Red – stop and wait. This is straightforward. Once the light turns green again, you are good to continue. You should not go until the red + amber light has changed. In the context of pain, this would mean you have gone too far. Although not like driving, your pain traffic light should always be green or amber. If it does turn red, you've gone over the threshold, usually felt as *needing* to stop rather than *pre-emptively* stopping. A rough guide would be resting for 48-72 hours for your symptoms to go through the red + amber until green again, although everyone will be different.

Fortunately, the body is living and can change. Minimising red as much as feasible means your body should adapt over time where activities that would have been red, become amber, and amber eventually green.

Tanning

Being out in the sun is a great example of pacing, especially when delayed effects are involved. Many people love a good tan, in the same way that many people like to do a lot of any activity they enjoy. Sunbathing can be great but too long and you'll likely have a sunburn. The burn doesn't really come out until later, or you may look a little pink in the sun but give it a few hours and it'll be worse. This is unproductive with tanning as you need to stay out of the sun until the burn resolves. A 45-minute tan in one go leads to a burn where you can't tan again for a week. You may get a little tan afterwards, but not as efficient as taking it little by little. A 15-minute tan every day for three days will get you at least the same tan as in one go, but without the pain of a burn and much sooner given no recovery needed. After a while, you can then do 20 minutes, then 30 minutes, etc. This is pacing effectively.

Tendons, commonly injured tissues, often respond in similar ways and is something to be aware of when pacing. You may experience tendon pains as feeling good during movement but sore afterwards, especially if you've rested for a few minutes. This normally means you should be aware of how it might feel later, so you take it steady during even when feeling good. This bottom-up approach allows you to build a tolerance (a 'tan') and you can increase your activity over time. If you try to push tendons too soon and use a top-down approach, you'll always be on the back foot trying to recover. The nice part about tendons is they respond well and it is

usually very safe to be in green-amber zones of discomfort as discussed earlier. This is because you can't build tolerance without a little exposure. Staying out of the sun forever won't result in a tan.

Smoke alarms

Tanning gives us this interesting phenomenon where a burn can be incredibly sensitive. This can be overly painful even in contexts that aren't causing any harm. An easy example with a sunburn would be a cool shower or light touch. These things aren't causing any harm to your skin yet aren't very pleasant to say the least. This is like having an overactive system saying everything is harmful instead of filtering effectively. Yes, a burn is sensitive because it makes you aware of it so you can stay out of the sun again until it calms down, however, you don't need to avoid showering or stop wearing clothes because the fabric hurts!

Another way to look at this would be with smoke alarms we have at home. They have a purpose but can be easily triggered by things that aren't a concern. For example, you leave the bathroom door open when showering and the steam escapes. Enough steam and the alarm will go off even though there isn't an actual fire. The body can be just as easily tricked with injuries and pain. If you've ever had a papercut, these can be *excruciating* depending on the location, but no one will argue it is something to worry about despite the level of pain sometimes. Any injury can be the same where the body becomes more sensitive to the pain. Pain is clearly not enjoyable, and when it is heightened, we tend to avoid that movement or position – even more so if we're concerned the alarm is *truly* reacting to something urgent. This can reinforce the nervous system's protective response in the area to become more sensitive over time. This will also lead to the tissues becoming weaker and stiffer which can make them easier to strain. If we can find the right balance, provide some short-term relief, and gradually rebuild our tolerance, the injury will recover and the body will adapt. We can even train our alarms to be less sensitive.

Updating the software

Our body is like the hardware, and the nervous system is like the software. Sometimes the software may inaccurately pick up on errors that aren't as bad as the system is suggesting. Being able to update the body's software takes gradual exposure just like training a muscle. There are various ways this can be done, so it needs to be discussed with your physiotherapist. Let's explore the way it works by using another example.

Many of us have had to give a presentation at some point. Everyone's software is different, so some people might have a harder time speaking in front of a crowd than others. This might feel like excessive sweating, tremors, or inability to find the right words. Communication is a great skill to have. Gradually exposing someone with this anxiety might look like practicing at home, then in front of family or

friends, next possibly a small group, then perhaps a large room, and finally on stage. Going too fast will induce a panic attack, whereas progress usually comes from gradually expanding the comfort zone. An easy example with the body is back pain where discs especially get a bad reputation. Most episodes of back pain are not caused by serious injuries and we will always ask certain questions to make sure nothing more urgent is suspected. Nonetheless, most likely because of media, online information, and outdated medical understanding, many people get nervous whenever back pain starts or keeps reoccurring. This may lead to avoiding certain movements, but with our example above, it almost always doesn't have the same improvement you'll see if you gradually expose it over time. Again, you shouldn't go from zero to 100 suddenly, but a physiotherapist will help you determine what size of increments can be suitable.

What now?

Tendons are a useful example because they're commonly injured and fit easily into our analogies. Nonetheless, some conditions need to stay in the green (pain-free range) temporarily, such as bone injuries. This is why fractures are placed in a protective support. The stiffness a lot of people feel after being in a cast is then the soft tissue, which goes back to the above topics. This is where having an assessment may be necessary to tailor the advice to you specifically.

We can help differentiate between various diagnoses or determine which stage the tissue is in to guide where the balance should be struck exactly. Pacing can be hard and requires a methodical, reassuring approach. We'll typically recommend different ways of tracking your activities and symptoms together. None of this means your symptoms are imagined. Pain is a real experience influenced by both the body's tissues and the nervous system. Writing symptoms down or discussing them with someone else often helps reveal useful patterns. Working with a physiotherapist can be a helpful first step to untangle and understand the behaviour of your symptoms is the critical first step to know where to start.