**What is pain telling us?**

While far from pleasant, pain is biologically advantageous for humans. Without it, we wouldn’t know to pull our hand away from a hot fire, avoid walking over broken glass or avoid situations that could lead to a serious life-threatening injury. It is a signal about our homeostasis or balance.  There can be simple and complex pain.   Complex pain usually results in pain that has persisted for a long time.   Complex pain is a little trickier to get rid of it is much easier to deal with simple pain.  Simple pains are soft tissue injuries, meaning that they involve structures such as muscle, fascia, tendons, bone or bursae.  Most running injuries fall into this type of pain.   Injury occurs when the load being placed on a tissue exceeds its capacity to tolerate such a load.  Injuries are seen more frequently with large increases in training volume or intensity, as well as following long periods of training with insufficient recovery.

If you are training towards a goal or are new to the sport, running can involve pushing to  your physical and mental limits.   Regardless of whether you are novice or elite, workouts are tough and can hurt.  So how do we know the difference between “good pain” and “bad pain”?

What type of pain is just part of running?

Muscle soreness that shows up a day or so after a run is called delayed onset muscle soreness, or DOMS.   This “good pain” is a normal part of training, will usually go away after a day or two and will decrease in the next run of the same intensity.   Most people have experienced DOMS at the beginning of a training program due to the initial spike in training load.   Some will experience more toward the end of training program due cumulative or chronic training loads, which is typically described as fatigue or “dead legs”.   We typically describe DOMS as “good pain” as it suggests that your body is adapting to the load that you put on it.  That’s why it isn’t quite so bad on future runs of the same intensity; you’ve adapted to that load.

 Injury pain lives outside of this general soreness or fatigue from training.   It is that signal that something is out of balance.

One way to tell the difference between “good” DOMS related pain and injury pain is whether it is bilateral. While it is important to always remember that there are exceptions, having one achey knee following a run that theoretically placed the same load on both knees could spell injury.

Am I safe to run?

In general, runners can endure higher levels of pain than most. Coupled with the slogans of “toughing it out” and “no pain, no gain”, can often lead runners into trouble.

At the Runner’s Academy, they use a pain scale of 0-10 to help runners identify how much pain is ok to push through.  Zero represents no pain, while 10 represents the worst pain YOU have experienced.

* 0-3 is the Green Zone – Runner’s will typically refer to this as mild pain. You are generally ok to run through this discomfort with three caveats:
* Your pain should improve or remain the same during your run, never progress.
* Your pain should not increase in severity after running.
* Your pain should go away within a few days.
* 4-7 is the Yellow Zone – Most people can push through the yellow however, we don’t recommend that you run with this level of pain.
* 8-10 is the Red Zone – Most runners describe this as severe pain.  If you are running through this level of pain, you are more than likely modifying your running or walking gait through compensation. I always hope that most people won’t push to this level before resting or getting help.

\*Note, while these guidelines can be helpful, there is never any guarantee that further injury will not occur. Similar guidelines have been used to help people with knee pain see more here:

http://patellofemoral.trekeducation.org/wp-content/uploads/sites/11/2018/04/Fear-of-movement-education.png

Of course, independent of pain severity, inflammation or swelling of a joint or body part should be a definite flag to slow down or get checked out.

Fundamentally, you most listen to your body and your experience as a runner, everyone is different.

Some  elite runners will  take a  rest day  or seek advice from a chiropractor or physiotherapist even if something is bothering them that  is in the “Green Zone”, as they know that a day or two off is better than a week, or even a month.   Furthermore, we know that performance and injury prevention are closely linked.  If something feels “off” you are unlikely to run to your full potential.  Performance, especially in elite athletes, is linked with decreased time off due to illness or injury.  see more here.    <https://ylmsportscience.files.wordpress.com/2016/01/68b55-illness2bsuccess2bathletics.png>

Run Ready Checklist – A great tool to guide you

Still not sure where you fall in your decision to race? We’ve created a great tool full of run specific movements to guide you a little further – [The Run Ready Checklist](http://therunnersacademy.com/checklist/)

Running is essentially hopping from one foot to the other.   In our assessment the first test that we use is a 30 second single leg hop test. If you have pain hopping on one foot for a few seconds, it’s a pretty safe bet that you’ll struggle to last the 40,000 plus steps of a marathon.

Other considerations – Should I run?

Tolerance to high levels of pain does not exempt you from   injuring yourself.   Ultimately, you need to ask the question what does this race mean to me?   If your pain level is in the “Yellow Zone” (5-7/10) but you have a significant risk of a more serious injury that could side-line you for months, is it worth it?   This is a very individual question.  It takes a huge amount of investment, both financially and in time and dedication, to prepare for a race.  If your goal is performance or to achieve a personal best, reflect on whether you believe you will be able to achieve that goal in your current state.   Remind yourself that there will always be more races and consider what a “successful” race means to you.

As stated earlier everyone is different, you may see someone post on Instagram they are running through pain or injury and think that it that is ok or the norm – it is not.  Try to think big picture or toward your long-term goals.   Compensation in the way that you move can occur as the brain avoids pain.   Over the long term this changes the way you move and run!

Some pain with running can be ok, however, it’s important to ensure that you are safe to run.  Particularly when there is a big goal race involved, it can be difficult to separate the intellectual from the emotional.  At the end of the day, this sport is full of risk and reward, and when it comes to injury it’s best to minimize risk.

Rest is seldom the only solution to injury.  After pain or injury occurs you should ask the  question – how did this happen?    Patients often want a reductionist answer to how this happened, but pain and running injuries are complex and multifaceted- like a jigsaw puzzle.  All the pieces- mechanics, strength, flexibility, nutrition, lifestyle/training, genetics need to be assessed and discussed.  In my next article, I will dive deeper into what these are and how to start to dig yourself out of the hole to be injury free.