

The background of the entire page is a photograph of a ceiling. The ceiling consists of a grid of metal beams. Attached to these beams are numerous oval-shaped panels, each with a diagonal ribbed texture. The panels alternate in color between a vibrant blue and a deep red, creating a repeating pattern across the ceiling. The lighting is bright, suggesting an indoor space with large windows or skylights.

GET SET

Foundational Knowledge for Recreational
Distance Runners

Tim Karajas

Get Set

Table Of Contents

Hello From The Author	2
HOW TO RUN – MASTERING PROPER TECHNIQUE	4
HOW TO TRAIN - DEVELOPING SPEED ENDURANCE	9
Energy Systems	9
How To Train	10
Session 1	11
Session 2	11
Session 3	12
Easy Running	12
Hard Running	14
5K Hard Training Session	16
Marathon Hard Training Session	16
Other Training Considerations	17
Get To Know Your Gears	18
Strength Training And Running Alternatives (Cross Training)	20
Getting Strong	20
Cross Training for Distance Running	22
Injury Prevention Fundamentals	26
Other Injury Prevention Considerations	29
EQUIPMENT	33
Selecting Running Shoes	33
Tech Fundamentals	34
Afterword: Get Set and Go!	37

Get Set

Hello From The Author

Welcome to my little ebook on getting started (or re-started) in the sport of distance running!

This book is for everyday runners and ordinary athletes: those who wish to run purely as a fitness pursuit, and those who want to become recreational competitive distance runners. I hope I can help you to “get set” in your running journey with some foundational knowledge.

Personally, running has been very good to me. It has been a way for me to de-stress, get fit and enjoy pushing my limits. I find it rewarding to compete against myself and achieve improvement. I hope this ebook helps you to do that, too.

This little volume was developed out of a course I ran in conjunction with Say Yes Fitness in Bayswater. Thanks to Renee Cabassi for hosting me to offer that course to her community of wonderful women!

My goal in writing this ebook was to equip the new distance runner with the know-how to get started in distance running. Of course, there's much more to say than I can fit in to this book. But what's in here are the essentials which you either need to know, or are extremely useful to know. I've focussed on what I believe are the really big ticket items that matter a lot.

Get Set

What qualifies me to write this book? Why should you listen to me? My credentials are as follows:

1. I'm an experienced runner, having run year in, year out for many years. I know how to train sensibly and make progress, which is perhaps the most satisfying element of the sport for recreational athletes.
2. I hold a Bachelor of Science in Physiotherapy and have 5 years of work experience in musculoskeletal private practice (2001-5). This gives me unique insight into injury prevention and also a comprehensive grounding in physiology and biomechanics. Additionally, I have experience coaching runners to improve technique and performance through my work as a Strength and Conditioning Coach.
3. I'm passionately interested in endurance sport. I've spent countless hours of personal time reading books and articles about many facets of endurance training.

If you'd like my help, feel free to shoot me an email at hello@extensionfitness.com.au. I'm happy to be of service.

Best regards,

Tim Karajas

DISCLAIMER:

Nothing in this book is intended as an express or implied warranty of the suitability or fitness of any product, service or design. The reader wishing to use a product, service or design discussed in this book should first consult a specialist or professional to ensure suitability and fitness for the readers particular lifestyle and environmental needs.

Get Set

HOW TO RUN – MASTERING PROPER TECHNIQUE

Let's kick off by discussing how to run with sound technique.

Technique is somewhat important. It's not everything, but it is something! Some people are able to optimise their technique with no attention to the way they move; their body simply makes adjustments to improve efficiency over time. For others, sub-optimal technique is a barrier to their progress – normally because their technique is contributing to pain or injury. These people need to focus on their form so they can reduce pain and unlock the capability to train consistently without injury or excessive discomfort. For both groups, this general effect occurs: good technique and running fitness exist in a symbiotic, interdependent relationship. They can elevate or lower each other.

It's important to note that good technique looks different on different runners. Just as different people can wear the same item of clothing differently and still look appealing! This is due to different factors like body proportions: long-legged people tend to run with fewer steps per minute in a loping style and shorter-legged people tend to have a more rapid turnover with a low-to-the-ground, gliding style. Whether you're long-legged or short-legged, loping or gliding, you can run well or poorly.

Get Set

What is good running technique anyway? Here are the broad outlines:

1. Upright spinal posture, with forward lean appropriate to speed.

As much as you're able to, run with a very erect posture:

- Ears are over shoulders.
- Shoulders are stacked over the hips.
- Hips are over the feet with the feet under the hips.
- Imagine you're being pulled up by a string attached to the very top of your head ("run tall")

While running, the spine has its normal curves, albeit straighter than in normal standing – less lumbar lordosis, less thoracic kyphosis, less cervical lordosis.

Sternum/chest is lifted, and shoulders are back – with slight tension in the mid to upper back between the shoulder blades.

Pelvis is tilted back (backwards), using lower abdominals. Many people run with an excessive arch in their lower back, which can lead to inefficient use of the legs. You should feel some tension in your abdominals above your pubic bone and you may like to experiment with tilting your pelvis backwards, bringing your pubic bone towards your sternum and flattening out your low back. Try switching that adjustment on and off, and gauging the effect on how your running feels.

Get Set

Some people encourage a forward lean to improve efficiency. And it's true that this can help – you can generate some momentum by falling forwards. But your lean needs to match your speed. Faster speeds need more leaning.

If your lean is too aggressive, you can start to over-reach or over-stride (same phenomenon, different terms). You'll know if you're doing this by an increased heaviness when your feet hit the ground, or maybe a slapping noise.

2. Feet land under hips & hips stay over feet

Speaking of over-striding, this is something you should avoid. Overstriding or over-reaching is when the foot hits the ground far ahead of the hips. In this situation, the brakes go on, which is a waste of energy. Also, this way of moving can set up the legs to move excessively in the lateral plane in a way which may increase injury risk.

To prevent over-striding, you need to nail your upper body and spine posture (see above). Also, using the arms effectively can help a lot (see below).

3. Get the most from your hips

Your glutes and hamstrings are the powerhouse for running. They drive the pistons in your engine. By getting strong in these muscles, and focussing on driving with the butt, you can maintain a good speed.

You need good flexibility into hip extension (thigh travelling behind you) to get the most from your hips. This is one of the reasons why you hear people harping on about tight hip flexors. Tight hip flexors limit your ability to extend your hip, resulting in reduced speed and potentially excessive vertical motion.

Get Set

A Physiotherapist or Personal Trainer can help you determine whether your hip muscles are as flexible as they need to be. You may wish to look up and try “The Thomas Test” as well.

Stretching prior to running is not as important as having a good range of hip extension. It is actually probably best to stretch after a run, or in a time period totally separated from your run training. This is because prolonged stretching immediately prior to activity can decrease the spring-like properties of muscle and tendon, which may diminish run performance.

4. Use the arms and trunk/spine rotation

Good runners have a constant, gentle, rhythmic shoulder and spinal/trunk rotation. This helps them to use the stored elastic energy in the tendons of the hip and arm muscles to drive propulsion. Free energy!

Imagine you're a shish kebab (mmmm shish kebab ...) – skewered through your spine and rotating a small degree as you stride.

Accessing this rotation can be helped by emphasising shoulder extension (driving the elbows back). You can also imagine that your arms are doing a sawing motion as you run, with the hands holding the saws.

5. Run with appropriate cadence

Cadence refers to the numbers of steps you take per minute. For a few years, there was a lot of hype about 180 steps per minute as being a magical cadence for performance and injury prevention.

Get Set

The reality is that there is no magical number where your cadence is definitely right. Generally speaking, you'll have a lower cadence at lower speeds and your cadence will increase as you run faster. Also, people with short legs will naturally have a higher cadence and those with long legs will have a lower cadence.

It can be worthwhile to try to increase your cadence if someone who knows their stuff recommends it. But you need to be cautious about radical changes as too high a cadence can be very tiring. Nudge it up over a reasonable time period to allow your body to adapt.

It can also be worth your while to experiment with a faster step rate when you fatigue as this strategy can help you to maintain a good speed with less energy. Personally, I like to use this strategy towards the end of 5K races. In the fourth kilometre, when fatigue is high but the end is still far off, I focus on maintaining a high cadence. If I need to shorten my stride to do this, that's fine. As the finish draws near, I re-lengthen my stride and push to the end with what energy I have left.

Get Set

HOW TO TRAIN - DEVELOPING SPEED ENDURANCE

Energy Systems

So far in the book, I've focussed on **how to run**. This is important. But equally important is **how to train!** What I mean is that in order to improve, you need to string together periods of smart running training so that your body adapts to the stress and improves its capability to perform under these conditions in the future. This adaptation involves your cardiovascular system (a plumbing upgrade!), your nervous system (a wiring upgrade!), your muscles (a refurbished motor!) and much more.

A key part of how you adapt has to do with your energy systems. There are two ways your body produces energy:

1. Aerobic metabolism – long term energy (breakdown of fats and sugars in the presence of oxygen)
2. Anaerobic metabolism – short term energy (breakdown of sugars and creatine phosphate with no oxygen)

Distance running is predominantly aerobic. But anaerobic metabolism does play a role – especially over short distances or during interval training (short-ish, high intensity running with rest periods). As your speed increases, you tap into your short-term energy systems. These can function without oxygen using fast twitch muscle fibres, which have potential for greater force production and contraction speed but for a very limited time.

The by-products of anaerobic metabolism and the demanding nature of fast running mean you can only persist for limited time.

Get Set

Distance running is all about stamina - or “speed endurance”. That is, the ability to maintain a high speed over distance. Or, you can think of “work rate” - how much energy you can use under aerobic conditions.

A high amount of energy derived from aerobic metabolism per second or minute equates to a high sustainable running speed.

It follows then that training for distance running is about the long-term development of your aerobic energy system. That’s one lens among others (such as mental fortitude, strength, technique and pacing) but it is a CRITICAL lens.

How To Train

A remarkable discovery has emerged from the field of endurance sports and sports science in recent decades. In any endurance sport (where the event lasts for more than a few minutes), the top performers always train in roughly the same way. This holds true for running, swimming, rowing, cross country skiing etc.

The best athletes have this in common:

- They put in a lot of training relative to their limits
- Most of this training is done at relatively low intensities (for them) - around 80 percent of total time
- Some of their training is done at high intensities (for them) - around 20 percent of total time

Get Set

What's more, field-based research has uncovered the same phenomenon for recreational athletes – people just like you and me! This is great news because it means you do not have to run hard every training session. In fact, doing so will probably undermine your progress.

How do you implement this sort of training as a recreational athlete or fitness runner? Well, at the very least you need to be doing some hard running and lots of relatively easy or steady running.

Here's what it might look like if you could run twice per week and spare ~70 minutes for each session (in addition to a weekly strength session).

Session 1

- Warm up
- 5 x 4 minutes at 5K race pace with 60s walk then 60s jog in-between each hard interval
- 10 minutes steady running at conversational pace

Session 2

- Warm up
- 65 minutes easy running using a run walk pattern - 4 minutes run then 1 minute walk

Get Set

Session 3

Strength training - major movement patterns (squat, hinge, push, pull, trunk/spine & hip flexion) plus single leg strength and some plyometric training (jumping exercises) for intermediate to advanced strength trainers.

Easy Running

Learning to keep your easy runs easy is a critical part of “succeeding” as a runner, from the once-a-week fitness runner to the serious marathoner. Easy runs help you to build aerobic fitness with the least possible fatigue cost and stress on your joints, muscles and tendons.

Many, many runners fall into what has been called a “moderate intensity rut” where they spend too much time at medium intensities. This yields not much fitness for a high fatigue cost. Successful runners run easy a lot, but they also run hard. Finding the balance is key – about 80 percent of your total running time should be ‘easy’. Some medium paced running is certainly needed, especially those preparing for marathon or half marathon distances as their race pace will most likely fall into this intensity band. The issue with too much moderate intensity running is that the ROI is relatively low – you pay a high price in fatigue per unit of fitness gain at this intensity.

So, what do I mean by ‘easy’? Technically, this means that your effort level is below your aerobic threshold; the point at which your body starts to draw down on your short-term energy supplies and fire up your fast-twitch muscle fibres.

How do you know whether you’re running beneath this threshold? An accurate low tech, low cost method you can use is “the talk test”.

Get Set

Here's how to do the talk test:

1. Set out at what feels like an easy pace (for you). After 5 minutes or so, say a 50 syllable statement, like,

“One hundred twenty one, one hundred twenty two, one hundred twenty three, one hundred twenty four, one hundred twenty five, one hundred twenty six, one hundred twenty seven”

2. Ask yourself, “Was my breathing comfortable?”. If yes, you're in your aerobic zone, doing easy running. If no (or, if you're in doubt), it's very likely you're over your threshold.

3. If you're under threshold, increase your pace and hold it for a couple of minutes, then ask the question again. Once you say, “my breathing is NOT comfortable”, chances are you're over your threshold.

There are other, more reliable ways to determine your threshold pace. A true determination can only be done in a lab, where blood samples can be taken or gas analysis can be performed. (And where you may need to run with an air tight seal over your mouth so that CO2 concentration in your exhalation can be measured accurately!)

But there are cheap and reliable methods which don't require a lab and can approximate the information you're seeking with a reasonably high degree of reliability. One example is a 30-minute time trial, where you ran as far as you can in a 30-minute time period. Your average heart rate over this period (measured by a GPS enabled running watch) can be used to provide a good estimate of your lactate threshold heart rate. For further information on this topic, **have a look at this great article** from Phil Mosley (founder of MyProCoach – who's running training plans I use personally):

Get Set

For the vast majority of recreational runners, the sort of tests described by Phil will adequately do the job.

An important point for new runners to note is that you may be over this threshold when you run **at any pace!** Running is a lot more demanding than walking, and at the start of your journey you may not yet have the capability to run continuously without drawing down on your short-term, anaerobic (without oxygen) energy supplies.

If this is you, don't fret. What you'll need to do first is employ a run/jog and walk strategy when you go out for training sessions. For example, you may set out for a 20-minute session, where you'll run twenty seconds out of each minute, and walk forty seconds. As you go on and your fitness increases, you'll be able to decrease the duration of the walking periods until you can do continuous running under your aerobic threshold.

Hard Running

A key aspect of distance running training is clocking up lots of distance at a relatively easy pace, so you build up a good engine – your aerobic energy system.

But, to get the best out of yourself, you need to do a judicious amount of hard running, too.

By “hard” I mean above your aerobic threshold (the point at which you begin to draw down on short-term / without-oxygen energy). And by “judicious” I mean around 20 percent of the total time you spend running.

Let's focus in on that 20 percent, now.

Get Set

There are many ways you could spend that time, and there are different gears, speeds, or intensity levels which all fall under the umbrella of “hard” – or high intensity.

The way you slice up your 20 percent of hard running really depends on what your goal is – whether you want to improve over 1500m, 5K, 10K, half-marathon, marathon, or ultra-marathon!

The training base or foundation of a competent 5K runner looks like a lot like that of a competent marathoner: lots of easy-ish running. Even though the race distances are very different! Indeed, professional 5K track athletes run A LOT of Ks – it is highly probable that it would be normal for a professional 5K runner to log over 100Ks per week.

If the base is similar, the finishing touches are different, with runners tailoring their hard running to the specific requirements of their specialty or target race. In general terms, if you have a shorter target race, like 1500m or 5K, you’ll do less total distance at a higher speed relative to your top speed. If your goal race is a half or full marathon, you’ll run further at a lower speed relative to your top speed.

These sample hard running sessions illustrate the contrasts between the hard running that can prepare you for a 5K race vs a marathon race.

Get Set

5K Hard Training Session

Warm up and running drills ~1500m

8 x 400m at 5K race pace with 60 seconds rest between reps

1600m at 10K race pace

Cool down & stretch ~1000m

Total distance = 7.3K

Marathon Hard Training Session

Warm up and running drills ~2000m

4 x 2000m at half marathon pace

5 x 400m at 10K race pace

Cool down and stretch ~1000m

Total distance = 13K

So, to recap, your hard running needs to be;

1. At the right speed and intensity to support performance in your goal distance, and
2. Of sufficient duration and frequency to support performance in your goal distance

Get Set

3. Not so hard, or for so long that it smashes you up – causing excessive fatigue and tiredness. It's normal to feel weary the morning after a hard training session. But if that feeling stretches further than 36-48 hours after the session, you may be over-extending yourself. Let the fitness come and don't force it.

Other Training Considerations

Different runners have different capabilities to absorb and adapt to hard running. Some runners can easily soak up the harder training sessions and they get a lot of benefit from pushing their limits. Others can become injured, sick, or really, really tired if they're not very careful with how hard they push themselves in harder workouts (the author falls into this category!!). Each runner needs to experiment over time to find their own sweet spot within the general boundaries of an 80/20 easy-hard split.

Lifestyle factors such as sleep, work stress and family commitments have a bearing on how much hard running you can tolerate. Generally speaking, the more recovery time you can access, the more you can push yourself in hard sessions. But if for some reason you find yourself in a situation where you have little to do but run and rest, bear in mind that it can still be counterproductive to push too hard with high-speed running. After all, the name of the game is distance running and the physical property you're developing is speed endurance, or stamina. You're cultivating the ability to maintain a high aerobic work rate, to be able to run fast for a (relatively) long time. You don't need to be a sprinter! Indeed, if you spend too many resources on near-sprinting, you may undermine your speed-endurance.

Get Set

Get To Know Your Gears

One of the things which can help you to do your hard running well is to develop a sense for the different “gears” available to you; the different paces you can run at. I’m making an analogy to the gears on a bike or car – with a limited number of harder/faster gears.

Why? Because you begin to develop an accurate sense of what’s fast for you, as well as an appreciation for how your different fast gears feel. With this sense for the differentiation of your faster paces, you can develop your ability to “run by feel”, which is an important part of doing hard training well. It’s also a critical aspect of racing, where how you pace a race matters a great deal. Learning how hard to push; what gears to use for how long; is critical to getting the most from yourself in a race. This skill is referred to as pacing.

The table on the next page gives you an idea of what I’m talking about.

Get Set

Pace Description	Max Sustainable Time	Effort Level & Description of "Feel"
Brisk Walking	Indefinite / Ages	1/10 – Very Easy
Jogging	Varies depending on runner	2/10 - Easy
Steady State	Varies depending on runner	3/10 - Steady
Marathon Pace	Max Average Pace For 180-240 Minutes	4/10 - Brisk But Within Limits
Threshold / Half Marathon Pace	Max Average Pace For 90-120 Minutes	5/10 - Quite Brisk & Comfortably Uncomfortable
10K Race Pace	Max Average Pace For 40-50 Minutes	6/10 - Hard Pace Medium Mental Effort
Critical Velocity	Max Average Pace For 30 Minutes	7/10 - Strong Effort High Mental Effort
5K Race Pace	Max Average Pace For 17-25 Minutes	8/10 Very Intense Running Feelings of Desperation
1500m Race Pace	Max Average Pace For 5-6 Minutes	9/10 Extreme Effort Short-lived Despair
400m Race Pace	Max Average Pace For 90-120 Seconds	10/10 Highest Non-Sprinting Pace

Get Set

Strength Training And Running Alternatives (Cross Training)

Getting Strong

Running requires a relatively high baseline level of athleticism in order to reduce the likelihood of excessive discomfort, pain or injury. You need to gain or maintain strong legs, a strong core and strong arms (yes, arms too!) to run long distances comfortably. Resistance training also improves running economy – the energy needed to run at a given speed. That means a choice to avoid strength work is a choice to leave speed on the table! Or, if a weak person gets strong, they become more efficient and this will translate to faster racing.

How is this done? What it takes is resistance training – lifting with weights on weekly basis (minimum).

What exercises are best? I advocate that you think about movements, not muscles. Using this framework, you identify the movements which are foundational to human movement (including running) and add a load to these. You can find lots of great examples at my YouTube Channel. [Check it out here.](#)

Get Set

Here are some examples of foundational movements:

- Squatting
- Lunging (or stepping up onto a high surface)
- Pushing
- Pulling
- Sitting Up
- Spinal Rotation

A great template to follow for everyday runners seeking to improve their resilience to running loads is to do an exercise from each of these movement patterns in each session: squat, lunge, push, pull & trunk/hip flexion.

Here's a post from my blog about why to engage in resistance training.

Here's a different post with information about how to do it.

There are different schools of thought about this question: how heavy should runners lift? Some advocate low loads with high reps (e.g. 2-3 sets of 15 per exercise) and others think low reps with heavy weight is best (e.g. 3-5 sets of 5 per exercise). If you're new to resistance training, you should definitely start out with lighter weight until you've accumulated some experience with this activity. Soreness can be an issue when you start lifting weights and high muscular fatigue may interfere with your running training.

Get Set

So, a great starting point would be to do something like 3 sets of 12 reps per exercise. You should finish each set with good form and the resistance level should be somewhat heavy after the last rep – feeling like as though you could do around about 5 more reps with good technique.

Going into more advanced strength training for running performance (e.g. single leg exercises & plyometric/jumping work) is beyond the scope of this ebook. A good resource for more advanced guidance is the [Strength Running YouTube Channel](#).

Cross Training for Distance Running

An important element of enjoying running is finding an enjoyable and sustainable form of cross training. This is important for;

- managing training stress
- building & maintaining fitness when you're sore or injured
- providing variety and preventing staleness in the sport/activity

Get Set

Having cross training options and regularly engaging in cross training becomes more and more important as you get older and your recovery capabilities become ... less agile!

Generally speaking, the more the cross-training activity mimics running, the better. We're looking for activities which;

- are endurance-based
- are low impact
- use the legs A LOT
- are enjoyable for you

I encourage you to prioritise enjoyment in your cross-training. This will help you to keep running in its proper place as your servant and not your master. You'd be surprised how many regular people like you can become quite obsessive about running and other endurance sports.

Here's a list of cross training options which you can choose from:

Treadmill running

Running on a treadmill can be easier on your body than running on pavement. I like to use the treadmill occasionally when my legs feel sore or fatigued. It's not for everyone – many find it boring – but it can be a great supplement.

Get Set

Uphill treadmill walking

This can provide a great cardio training effect while being pretty gentle on your body. Pick an incline and speed to get you into the right intensity.

“Rucking”

Aka walking with a heavy backpack or weighted vest. This can help you develop the muscular endurance necessary to run well but without the heavy loads of running.

Cycling (including stationary cycling)

Great cardio and much easier on your body than running. Less transfer to running than uphill treadmill walking but heaps more fun.

Elliptical trainer or “elliptigo”

Like treadmill running but even less load. Some people love it; others find it very boring. Some people find it can aggravate their feet, calves or hips. Others have no issue. Be careful as it's very easy to go super easy on the elliptical – you don't want to be going so easy that you get a minimal training effect. An “elliptigo” is like a bike – but driven via pushing on pedals with an elliptical drive train. They're a steal at only ~\$4000 ...



Get Set

Water running

No load! You can get a great cardio effect and build running strength. This can be quite technical and hard on your hamstrings, though.

Anti-gravity treadmill

A treadmill that can support your weight (see image). This can be very useful in a rehab context if you're returning from serious or semi-serious injuries. The downside is the expense.



Rowing ergometer

The rowing ergometer / machine has less transfer to running than other forms of cross training but it is great for your general cardio fitness and I really like how it can teach you how to feel the difference between hip bending/straightening and spine bending/straightening.

Get Set

Swimming

Again, not much functional transference to running but excellent for cardio in a general sense. Great for your back, too, and very different from running therefore perhaps superior in terms of preventing staleness and boredom.

Injury Prevention Fundamentals

Everyone has an injury threshold, and if they push beyond it, injury will come for them.

Stress and poor sleep can lower that threshold. So can overtraining. Habitually unhealthy eating can also undermine your performance as a runner – you need good quality food to fuel your training and recovery.

Running is a contact sport that places high demands on the body. You need a baseline level of strength and athleticism to train consistently (more than once per week) to cope with the loads. It is advisable that the average adult recreational runner engage in strength training. This is especially true if you have a sedentary occupation, but it holds true for the vast majority of people – even most tradies or people with physically demanding jobs.

Get Set

Some people have vulnerabilities to injury at low loads. For example, there are certain connective tissue disorders which may make it hard for people to run without significant discomfort and/or injury. Or, it could be that there is a pre-existing injury which needs to be accommodated. In these instances, it is ideal to work with a Sports Physician – one that knows about running and, ideally, is a runner themselves.

The reason I advocate for a Sports Physician is that they have great medical knowledge in the notoriously grey area that is musculoskeletal injuries (unlike some General Practitioners), they are not invested in a particular way of helping you (unlike Physios with exercise rehab & manipulation or Surgeons with surgery), yet they are able to pick up on things which are unexpected causes of pain – for example, heel pain may be caused by plantar fasciitis, or it could be caused by rheumatoid arthritis.

A close friend of mine saw a podiatrist for many months with heel pain, bought expensive orthotics and then discovered she had Rheumatoid Arthritis. Making a Sports Physician your first port of call can ensure you get an accurate diagnosis sooner. It is a much higher cost per session but highly likely to be more cost effective in the medium to long term. Granted, a good Podiatrist may have realised something odd was up, but my point is there is a commercial interest working against that discovery. Dispensing orthotics is more lucrative and far easier than spotting a complex differential diagnosis. I contend that the commercial incentives influencing a Sports Physician are better aligned to your own, personal interests.

Get Set

The basics of preventing injury are:

- Listen to your body. Tune in for signs of going too hard: excessive soreness, excessive tiredness, low motivation, irritability etc etc. Back off from your training if you feel these. Reduce the intensity of the session, reduce the duration or have some rest from training altogether.
- Increase your Ks slowly. No more than 10% total distance increase per week is an oft-used rule of thumb.
- Spend a decent amount of time warming up. It can take 10 minutes or more before your body is prepared to run hard. Your body may not cope with the stress you subject it to if it's not properly prepared.
- Maintain a good balance between hard runs and easy runs (~80 percent of your running time should be easy)
- Run on a mixture of surfaces if at all possible. This helps to reduce the impact from pavement and can help you to be more resilient overall. Doing some of your sessions on grass can be great for this – much less impact and soreness.
- Develop some go-to cross training options that have cross-over benefit to running.

There's many other fitness activities which help with your general condition (e.g. strength training, boxing) and can be a great way to get a bit of variety if you're sick of run training.

Get Set

- As much as you can, minimise stress and maximise sleep. Life generally has other plans that will thwart this, but I think you get the gist. Control whatever you can to give yourself good rest.

Other Injury Prevention Considerations

To get faster, you need to have long stretches of sensible, consistent training uninterrupted by injury.

You should expect some pain and discomfort with running – that's par for the course. But once you push yourself beyond what your body can handle, injury is waiting for you.

Running injuries commonly affect joints, bones and tendons and not so much the actual muscle bellies. This sets it apart from more explosive sports which involve acceleration, direction changes and hard impact. These sports are more likely to yield muscle strains and ligament sprains. One good way to conceptualise the situation in running is to think of a steel cable (which can represent a tendon): small, repetitive tension loads can damage the cable. But you can set the cable up to withstand these by ensuring it is strong enough to take the tension applied and allow the cable to rest from the tension loading.

Common running injuries and injury sites include:

- Plantar fascia (sole of foot) / plantar fasciopathy
- Achilles tendon / Achilles tendinopathy
- Shin splints (anterior and/or posterior) - and the nature of these varies

Get Set

- Knee tendon injuries (patellar and quadriceps tendons)
- Patellofemoral (kneecap) joint pain
- ITB pain (tensionous structure on outside of knee)
- Lateral / outside hip pain

OK, so what do you do if you start to develop pain?

Here are some general principles to follow:

Get Set

1. Contrary to what is often said, you don't necessarily need to see someone right away for every twinge! This is common sense: lots of things get better with a tincture of time.
2. In the absence of traumatic injury, think of pain as information: you've overloaded the system and you need to reduce the demand and/or increase your capacity. This probably does not mean complete rest, although it could mean that. A good rule of thumb is to do activity that does not increase or escalate the pain beyond a small level (running included but also cross training), but you shouldn't expect to always be able to run pain free. Also, the threshold at which you may experience pain is profoundly affected by lifestyle factors such as sleep and stress.
3. Seek help if you need or want it. I think seeing a Sports Physician is the best tactic, but a Physiotherapist or General Practitioner can assist you, too. A Podiatrist can help with foot pain and lower limb biomechanical issues.
4. Rest is not necessarily your friend, but activity modification probably is - engage in cross training
5. If possible, persist in strength training using the body part which is sore or painful at a load which you can tolerate. This will help to;
 1. Prevent weakness due to pain (pain inhibition)
 2. Help your body maintain healthy movement patterns and not over-compensate for pain and injury
 3. Retain muscle strength and connective tissue resilience

NB: in some cases, such as with serious stress fractures, complete rest from loading the injured part is needed

Get Set

In a sense, injury management is simple (not easy, but simple):

Simple but not easy:

Every runner needs to be fit.

Every runner needs to be strong.

Every runner needs to be skilful and efficient.

Simple but not easy:

Every injured runner needs to be fit.

Every injured runner needs to be strong.

Every injured runner needs to be skilful and efficient.

These things need constant work when you're uninjured and injured. When you're injured, you simply change the way you're working on your strength, efficiency, and fitness.

Often, the things which make your running gait inefficient can contribute to injury. Inefficiency and injury go hand in hand. Take over-striding for example. When you overstride, you slam on the brakes (inefficient) and you expose your leg to excessive braking force (injury). By working on your gait efficiency, you improve performance and decrease the likelihood of injury.

Get Set

Fitness, strength, and technique exist in a symbiotic, interdependent relationship. You can't isolate one from the others, but that's not to say you don't need to apply any focus to these different factors. Some runners develop a wonderfully efficient stride simply through getting fitter. Others – like the author! – cannot get faster without addressing technique issues which cause pain & injury.

EQUIPMENT

Selecting Running Shoes

It is easy to be confused by the plethora of running shoes out there. Like many things in life, this is a domain that has been made unnecessarily complicated.

The top questions to ask yourself when buying a new pair of running shoes are:

“Do these feel comfortable?” and “Do I want to run in these or not?”

If the shoes feel good on your feet, trust your intuition! If you feel a bit iffy about it, better to keep looking. It turns out your intuition is pretty reliable here, with comfort being a better predictor of any injury reduction benefit than the intent of the manufacturer.

Make sure you run – not just walk – in any pair you try on. Regrettably, few running stores have treadmills. A noticeable exception is The Running Centre in West Perth. They're the best running specialty shoe store in Perth, in my opinion. They can also guide you as to which shoes suit your training best, which is an important consideration.

Get Set

Here's some other points on shoes:

- Select a pair that is comfortable and fit your feet. If you feel rubbing or indentation, or your toes are squished, don't buy that pair.
- If you're running regularly, you will burn through shoes faster than you think (a typical distance is ~600km give or take 100Ks). NB: Running is a relatively cheap pastime, but not as cheap as many believe. Budget for shoes! It makes a really big difference to run on shoe that have intact cushioning in terms of comfort, fatigue and injury prevention.
- How to test if your cushioning is intact: the flex test. Apply a bending/flexing force to the middle of the shoe. If the midfoot flexes very easily, the cushioning is worn down. New shoes and semi-fresh shoes provide some resistance to the bending pressure.
- What about minimalist shoes? Or barefoot running? I am a fan of minimalist shoes used appropriately – as part of a balanced footwear diet. They are great for helping you strengthen your foot muscles and tune into using your feet properly when you run. But, the bottom line is you need cushioning most of the time.

Tech Fundamentals

There are some gadgets which help a lot, others which help a little and still others which are pretty useless.

Here's my opinion on which items are definitely worth forking out for.

Get Set

Definitely useful

1. A GPS running watch – Garmin, Apple, Polar etc etc.
 - Helps you tune into heart rate
 - Gives you pace feedback
 - Tells you cadence
 - Other health data can be useful in context (heart rate variability, sleep)
 - Helps you track useful training metrics (e.g. total Ks, intensity level)
2. Smartphone app associated with your watch (e.g. Garmin Connect).
3. Some running specific workout gear.
 - Running shirts (and not just gym shirts) are next level breathable which can help with comfort, dryness (and therefore staying warm) and chafing
4. Good quality running rain jacket.
5. Good quality running sun visor.
6. A Training Peaks subscription (for the serious recreational athlete)

A little bit useful

1. Running related social media (e.g. Strava)
 - A good servant but poor master
 - Can help with motivation

Get Set

- Can help you connect to a group

2. Crazy expensive self-massage equipment

- They feel nice and may help you relax but be aware the relaxation is what helps you, not the massage gun, titanium infused foam roller etc

3. Light shoes

- Having lighter shoes really can help
- But it's not worth selecting "light" over "comfortable"

Pretty much useless (but I won't judge you if you go for one of these).

1. Crazy expensive sunglasses

- If you want to make a fashion statement, knock yourself out
- These are not necessary for your running

2. Crazy expensive compression garments (comfy, but probably not necessary)

3. Running specific medical products, e.g. running ankle bandage (just get a normal one)

Get Set

Afterword: Get Set and Go!

I hope this ebook has been a useful guide for you as you set out on your running journey. My aim was to help you “Get Set!” to make distance running part of your life.

Now, as you “Go!”, please check out these destinations for further help and support:

- [Extension Fitness Running Gait Assessments](#)
- [Extension Fitness Strength Coaching](#)
- [Extension Fitness Custom Programs](#)
- [Extension Fitness Run Squad](#)
- [Extension Fitness YouTube Channel](#)

Finally, allow me to impart some wisdom: **keep running in its proper place.** Many people become very obsessive about endurance sport. You’ll be healthier, happier and probably faster (over the long term) if you embrace your constraints and limitations and be content with enjoying the sport, as opposed to being a faux professional athlete.