The Running
MANUAL

RESOURCE CHEAT SHEET

This resource cheat sheet contains all of the information, resources and references you need to get started on your running journey. Keep it to hand!

Gear

This is the gear you need as a runner!

Running Watches

The best running watch should offer:

- Heartrate tracking
- GPS
- Programmed workouts
- Barometer
- Pedometer
- Music playback

Good options include: The Microsoft Band 2, Fitbit Surge, Garmin Forerunner 10, Fitbit Blaze, Tom Runner.

More information and options at this resource: http://www.runningshoesguru.com/2014/12/top-5-gps-running-watches-for-2015/

Shoes

The best running shoes will depend on your gait. You need to know whether you strike with the forefoot, midfoot or heel first. Otherwise, shoes need to fit well, be breathable and offer good energy return against the pavement. Refer to this guide from Runner's World:

http://www.runnersworld.com/shoe-guide/runners-world-2016-spring-shoe-guide

Other Gear

Other useful gear includes:

- Water bottle for running
- Running clothes – compression layer
- Nipple tape
- Sweat band
- Shades
- Headphones
- Isotonic sports drinks

Further Reading

These books and websites will help you to further your education:

Born to Run: The Hidden Tribe, the Ultra-Runners and the Greatest Race the World Has Never Seen

This book by Christopher McDougall was a key resource while writing *this* guide. It explains the natural running technique of native tribes and shows how this is actually better for the human body, particularly over long distances. It's also an inspiring and well written book!

Learn Correct Running Technique
https://posemethod.com/running/

This is an introduction to the pose method of running, which is now the method often shown to athletes.

The Painless Path to Endurance
http://fourhourworkweek.com/2011/12/06/the-painless-path-to-endurance-plus-breville-winner-and-more/

A fascinating post on Tim Ferris's' blog, explaining how to gain great endurance with minimal effort.

Run Like Sonic – Sprint Faster With Over speed Training, Speed Drills and Biomechanics
http://www.thebioneer.com/run-like-sonic-the-hedgehog/

This post looks at how to develop speed in your runs using some interesting training techniques, such as over speed training!

HIIT – Train Less for Better Results
http://www.runnersworld.co.uk/beginners/hiit-train-less-for-better-results/8604.html

This is an excellent introduction to HIIT. Like the description says, HIIT is a fantastic tool if you want to burn more calories and improve your running with shorter training sessions!

Trail Running

http://www.runnersworld.com/trail-running

This is the trail running section at Runners' World. For many, trail running will be the natural evolution of their training. Learn everything you need to know about it right here!

Common Running Injuries

Shin Splints: This is often caused by inflammation of the muscles in the shins. Padded shoes can help to prevent this, while rest is the best treatment. Try massaging the muscle.

Runners' Knee: This is actually a term for numerous different conditions. Each causes the knee cap to track incorrectly, which in turn causes pain. You can combat this by running largely uphill and by wearing knee supports. May require physio.

Blisters: Blisters are caused often by the foot moving inside the shoe, which creates friction. Thus, one of the best solutions is to wear a thick sock or to make sure your shoe is properly fitted to prevent movement inside of it.

Calculating Calories

If you want to lose weight, calculating calories is a good way to go about it – especially when combined with runs.

Start by working out your body fat percentage. Pinch some flesh at the side of your triceps and then measure its thickness. You can then work out your body fat using the table below.

Skin fold thickness in mm	Bodyfat % Men	Bodyfat % women
6	5-9	8-13
13	9-13	13-18
19	13-18	18-23
25	18-22	23-28
38	22-27	28-33

This is important because muscle is metabolically active – it burns calories. Thus, you need to know how much of your weight muscle versus fat is. Use this number and then minus that percentage from your weight in pounds to get you're LBM – Lean Body Mass. If you weigh 160 pounds and your body fat percentage is 10%, then your LBM is 144.

Next, work out your BMR. This is your basal metabolic rate – the amount of calories you burn from blinking, breathing etc. This is:

BMR = 370 + (9.79759519 x LBM(lbs))

Now multiply this number by one of the following:

- 1.2 if you're sedentary (little or no exercise)
- 1.375 if you're lightly active (you exercise 1-3 times a week)

- 1.55 if you're moderately active (you exercise or work about average)
- 1.725 if you're very active (you train hard for 6-7 days a week)
- 1.9 if you're highly active (you're a physical laborer or a professional athlete)

The resulting number is your AMR. This is how many calories you burn in an average day before your run. And if you work out how many calories you *eat* in a day, what's left over is how much you need to burn through your running!

Heartrate and Performance

Another useful form of tracking is to track your physical fitness so that you can see it improve. Some useful metrics are:

Your MHR (Max Heart Rate): This is the highest you can get your heartrate during exercise.

You're RHR (Resting Heart Rate): Your heart rate when you measure it at rest, ideally first thing in the morning.

You're VO2 Max: The amount of oxygen in liters that you can sue per minute. This can be calculated as VO2max = 15.3 x (MHR/RHR).

Lactate Threshold: The point at which lactate build-up begins to grow in the blood. This is the same as your anaerobic threshold. Work it out by running for 30 minutes as fast as you can maintain for that time, then average your heartrate. Often this is around 80-85% of your MHR.

Running Speed at Lactate Threshold: RSLT is how fast you can go before breaching your threshold. Take your best distance in that 30 minutes and then divide one by the other to get a good estimate of RSLT.

And there you go! Use this to calculate your current fitness and your goals, to find further reading and to gear up with the right equipment. The rest is down to you, so good luck and don't give up!

Remember, the longest journey starts with a single step. The same goes for the longest marathon!