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ULTIMATELY WE NEED FUEL TO GET SPEED, BUT AS THE WEATHER COOLS AND OUR MOTIVATION TO HIT THE TRAIL WANES, IT IS IMPORTANT TO KEEP THE WINTER BULGE IN CHECK TO PERFORM AT A HIGH LEVEL. A RUNNER WEIGHING 73 KILOGRAMS HAS TO GENERATE 6.5 PER CENT MORE ENERGY TO RUN THE SAME PACE AS A RUNNER WEIGHING 68 KILOGRAMS. PENNY COMINS LOOKS AT SOME WAYS TO KEEP ACTIVE AND FIGHT THE FLAB.

hen I broke a bone in my foot I looked for alternatives to get me back to running faster and safely. I used an anti-gravity machine known as an 'Alter-G' which allows you to run in an air-assisted bag on a treadmill.

Feeling like Veruca Salt who ate too many sweets in Charlie and the Chocolate Factory, I realised just how much a loss in 10 per cent body weight meant to running. And running fast.

As I pumped the machine to fill the bubble I was running in with more air, I was essentially lifted off the treadmill. It became easier and easier to tick over my feet and run faster. Not only was I faster, but my technique was better as I had quick feet only lightly touching the treadmill with a fluidity that felt like magic. As I pushed the button to let air out of the bag, effectively returning me to my normal body weight, I felt heavier on my feet, striking the ground harder and with more

This experience starkly illustrated how even the slightest weight loss can effect performance, both in the physical and mental state.

Maintaining race weight isn't a healthy option all year round, though. So what is acceptable in the off-season without sabotaging your on-season?

Renowned fitness and nutrition writer Matt Fitzgerald states 'it is important to limit your weight gain to no more than eight per cent of your optimal performance weight'.

Keeping this in mind, look back over summer and work out when you had your best results. When was the last time you saw a marked improvement in your fitness? What weight were you? Say, for example, you weighed 60kg when you ran your fastest half marathon. 60kg is your optimal performance weight; your winter gain should top out at 64.8kg.

Stick to your limit
Once you have your optimum weight gain, set this as the limit and do not deviate from it. If you have a limit you are less likely to let the weight gain get out of control over winter.
Weigh yourself every week to ensure

you are below this target. If you feel you are getting perilously close to your upper limit, it is time to adjust the pie intake and lower the red wine consumption.

Build functional strength Winter often means cold mornings and wet nights that hamper our training motivation so use the time to build lean muscle instead of fat.

Functional strength is important in any endurance sport, trail running included. In the height of the season functional strength is omitted for great adventures in the sun. Use the winter to work on your weak areas. Keep the eight per cent weight gain limit in check though and don't fall trap to the common saying 'muscle weighs more than fat'.

Muscle weight gain happens slowly: if you are committed over winter you shouldn't expect to gain more than one kilogram of muscle mass. Gaining muscle mass helps to burn calories too - it takes 30 to 50 calories to maintain 500 grams of muscle, compared with only two calories per day for 500g of fat. The more muscle you have, the more calories are consumed maintaining muscles than slipping to fat.

Don't hibernate

Having time off after a heavy summer racing schedule is important. Yet if you want to avoid the winter bulge then don't go into total hibernation. Try alternative exercise that keeps you moving such as cycling, swimming, yoga or a gym class. Fitzgerald states that many athletes think if they can't go out for 60 minutes hard then they do nothing, whereas 'you can burn 300 to 400 calories during a comfortable 30-minute spin on the bike.' So stay active, even if it feels below your usual levels.

Balance your diet
Still getting close to the eight per cent weight gain? Try shifting your intake from carbohydrates to protein. While there are many theories out there including the raw/Palaeolithic way of eating, many of us love and crave a few carbs. Carbohydrates are an energy source so when energy requirements are low you should reflect this in your diet. Try boosting protein through whey-based snacks or drinks to keep you fuller for longer, especially in the afternoon when protein synthesis is at its greatest.

Avoiding the winter bulge is about lining up nutrition, training and lifestyle habits that allow you to send signals to your body that say 'I will come in to summer lean and ready to race'.

