

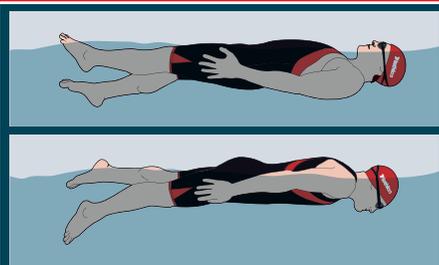
TOP SWIMMERS ALWAYS TALK ABOUT HOW IMPORTANT YOUR 'FEEL FOR THE WATER' IS, AND THIS IS SOMETHING YOU CAN MAINTAIN WHEN YOU'RE INJURED

SWIM

Top swimmers always talk about how important your 'feel for the water' is, and this is something you can maintain when you're injured. This means getting in the pool regularly and practising the skill of swimming, rather than just thinking about your fitness.

You can start by using swim toys that let you isolate different areas of your body, so that you can rest the injured ones. A kick float means you can work your legs only, while adding a pair of fins adds extra speed and resistance. There are even some good breathing and rotation drills that don't use your arms (see body position drill below).

BODY POSITION DRILL



Kick on your back with arms by your side (fins optional) and experiment with your head position. Your head is a huge weight you can use to counteract poor body position. Experiment with where you look and the effect it has on your position in the water. You'll find a sweet spot that will enable your hips to float to the top of the water and you'll start moving. Once mastered on your back, repeat this drill on your front. Do the drill for as long as you can before taking a breath. Get your breath back and continue when ready.

If your legs are the problem, a pull buoy allows you to swim without moving them, and just focus on your arms. A swim snorkel might help, as you'll be able to swim without twisting your neck to breathe to the side.

Injuries related to swimming are usually due to poor technique. By having your stroke analysed you can identify the aspect of your stroke causing your injury and draw up a programme with your physio or coach, where you are purely practising the drills to correct this flaw without stressing the injury itself. When you return to full swim training, not only will you have maintained your feel for the water, but your stroke

mechanics will have improved. The injury may even end up being an opportunity to improve – not the curse it could have been.

BIKE

On the bike, other than crashes, injuries are usually because of a bad bike set up. So if you've developed an injury, the first thing to do is check your fit. You can manage ITB problems by lowering the saddle by up to 6mm and adding a washer (no more than 2mm thick) between the pedal and crank arm to widen the stance. This position can reduce the strain on the ITB while you are rehabilitating it, and you can readjust the position.

Tendon problems of the patella (below the knee cap) or quads (above the knee cap) usually develop after periods of high-intensity training, such as increased hill work or higher gearing if you haven't rested properly, causing a breakdown of the tendon fibres. Try riding a higher cadence and lower gearing, so there is less strain through the tendon, and alter the angle of force by raising the saddle by 2-3mm. Remember, you are looking to make these changes to maintain your fitness, not progress it, so any rides should be kept easy.

Even if you can't exercise an injured limb, you can train the opposite uninjured limb. By training the opposite limb, you can make slight strength gains in the untrained injured limb through cross-transfer. Cross transferance is when your brain stimulates nerves in both limbs, even though only one is being used. So if you can't exercise one leg on the bike, do some low intensity one-legged drills for the opposite leg on an indoor trainer to keep things ticking over.

RUN

Running is the most difficult discipline to manage when injured because of the impact it puts on the body. With some injuries such as plantar fasciitis it is possible to tape the foot for support so you can still run while it's healing. Get your physio to show you how.

Injury of the iliotibial band (ITB, a thick band of tissue running down the outside of the thigh) are common in triathletes and usually caused by running. Often, sufferers can tolerate fast running better than slow, steady runs. So it may be possible to do run drills with a few strides to maintain run form and technique without aggravating the injury.

IF YOU CAN'T RUN AT ALL

One of the best ways to maintain run-form-specific-fitness is by aqua jogging in the pool with a flotation belt. Then add these simple exercises on at the end of your set:

- Cycle with your legs while holding on to a float
- Squats
- Heel raises
- Walking lunges
- Flutter kicks with a kick board
- And deep-water high-knee jogging

As you recover you can do a more comprehensive exercise routine that mimics running in the pool, such as the one below (see 'Lower extremity aquatic exercises', bottom of page). This routine is based on a study that used athletes training three times per week at an intensity of 63 to 82% of their maximal HR on land, for 16 to 36 minutes per session, and found it was sufficient to stimulate cardiovascular training.

When you are strong enough, run from the shallow end into the deep water to keep proper running form, leaning slightly forward. The elbows should be at 90° with the hands open, avoiding a dog-paddling motion. To make sure you're working hard enough measure your running cadence with a wetranome (which beeps regularly to help you find a rhythm) or monitor your heart rate. As you recover, progress the training in both weight-bearing and non-weightbearing modes with a cross-trainer, stepper, hand bike, rowing machine.

The final stage is returning from functional training, back into full training and racing. However, keep a strict control over the frequency, duration and intensity of the sessions to allow the neural and muscular systems time to adapt to the training load again. Make sure that you don't rush back too quickly or try to 'test the injury' before it has fully healed as this could send you straight back to square one again, and remember to focus on maintaining strength and fitness rather than working too hard trying to gain it.

Lower-extremity aquatic exercises

Exercise	Duration	Intensity
Water running	3-5min	High
Scissor kicks	2-3min	Low
Trunk rotations	2-3min	Low
High-knee running	3-5min	High
Leg figure-of-eights	2-3min	Low
Water running	3-5min	High
Double knee to chest	2-3min	Low
Butt kicks	2-3min	Low
Total time	20-30min	