

## on the bench

### Older Riders

Nicole Huxley

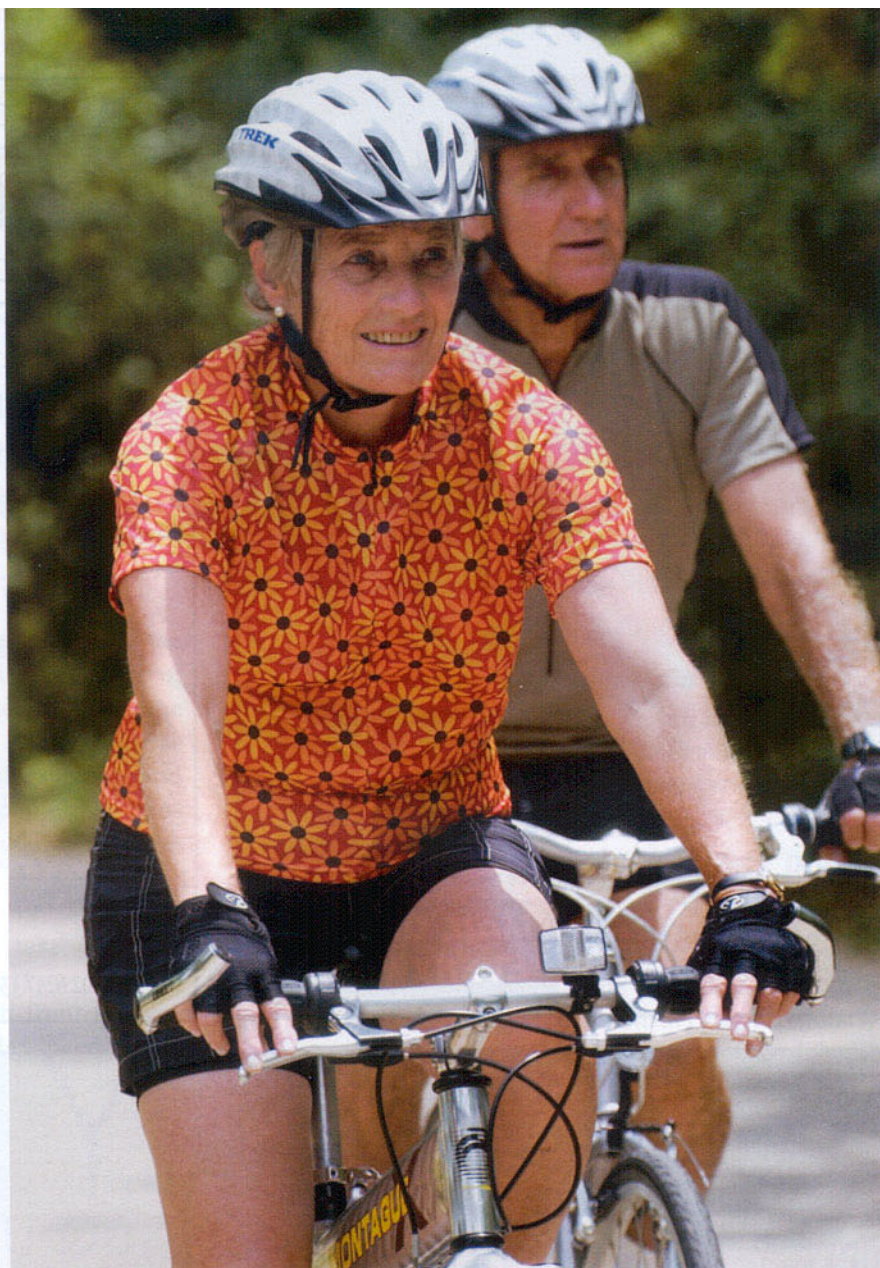
Cycling is a sport that people of all ages can participate in and enjoy. A large proportion of bikes are purchased by people in the older generation. This brings about the interesting partnership of a new bicycle and an ageing body. So how do we make this combination work? What changes occur to the body with age, how do these impact on you as a cyclist, and how can you successfully combine the two?

#### BODY CHANGES

As we get older a number of changes occur within the body. Muscle mass decreases as does muscular performance and the ability to maintain and improve muscular strength. Evidence indicates that this process may begin as early as age 25!

Spinal degeneration is also a normal part of ageing. This usually involves decreased water content of the nucleus pulposus (centre of the disc) causing a loss of disc height and thinning of the fibres of the annulus fibrosis (lining of the disc). Another factor is that the cellular activity of ageing discs slows, resulting in a decreased ability to heal.

The facet joints (small joints either side of the spine) degenerate secondary to reduced lubrication and poor alignment. Spinal ligaments become lax and spinal muscles can lose strength, and spasm to protect the worn out areas. Eventually wear and tear of the joint surfaces leads to various kinds of arthritic changes. This form of degeneration also occurs in weight-bearing joints such as the knees and hips. To make matters more interesting our reaction times and balance capabilities also decrease.



#### CYCLING ABILITY

Decreased spinal length and flexibility means that the so-called “ideal” bike set-up may not be ideal for the older cyclist. A more upright riding position will reduce the stress to the older spine, maintaining its natural curves. Also, as muscle flexibility decreases, your stem length and seat height may need adjustment.

In addition, as disc heights reduce and muscle flexibility decreases so does your body’s natural shock absorption mechanism. Therefore, it is important to consider things such as seat type, mechanical shock absorption options and tyre inflation to reduce the load on your spine. It is also

important to note that as reaction times and balance decreases, slicks and rapid downhill may not be the safest choice. In these situations common sense should prevail.

#### SUCCESSFUL COMBINATIONS

##### Maintain Flexibility

It is important to maintain flexibility in the major muscle groups of the lower limbs. These include the quadriceps, hamstrings, hip flexors and iliotibial band. Flexibility in these muscles will allow optimal alignment of the spine secondary to their attachments to the pelvis.

##### Warm-up and cool down

Flexibility in isolation is not enough. A consistent warm-up

regime is paramount in reducing the risk of injury as it allows the muscles to loosen in preparation for the task ahead. When setting out on a ride it is important to choose a flat surface. Initially, change through the easier gears until you have worked up a light sweat. This will allow for the hip, knee and ankle joints to be well lubricated. At this point it should be safer to gradually increase the intensity.

### **Heart and lungs**

So how far can older cyclists push themselves? It is a difficult question to answer as each individual has a different constitution. In the absence of lung disease, heart rate is generally a good monitor of cardiovascular fitness. As a guide, the equation (220 minus your age) is useful when calculating your maximal heart rate. When cycling you should aim not to exceed 80 per cent of this figure, otherwise you will be pushing your cardiovascular limit too far. Note that certain medications such as beta blockers will alter the heart rate and distort this equation. Therefore, it is essential to consult your doctor if you have any pre-existing conditions or are taking medications.

### **Bones and muscles**

It is important to listen to what your body is telling you. Any painful clicking, locking or decreased range of motion should be further investigated. When training you should consider the frequency, intensity and specificity of your sessions. Do not suddenly increase any of these factors or you will put yourself at risk of an overuse injury. Finally, be aware of any pre-existing injuries and ask your treating therapist how these will impact on your ability to cycle.

## **GOOD NEWS**

Don't Despair! Despite what you have just read, becoming an older cyclist isn't all downhill! Cycling is one of the best means to maintain muscle mass and cardiovascular fitness. The real advantage of cycling over other activities is that it is non-impact. Non-impact exercise means that weight is not taken through the load-bearing joints such as the hips, knees and ankles, and in turn preserves the joint surface and function.

If you are new to cycling it is advisable to contact your local physiotherapist to get screened for predisposing factors to injury and advice on bike set-up. If you have cycled for many years, all the better, you probably have maintained good muscle mass, cardiovascular fitness and flexibility. However, do take notice of warning signs and regularly reassess not only your bike's performance but your body's. That way you should be able to safely cycle for many years to come, whatever your age.

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