

Few of us spare much thought for our body's strongest organs – our bones – but sometimes they need a little support too. **BY RACHEL MCGREGOR**

THEM**bones**

In the world's ever-burgeoning wellness industry, our bones don't get much press compared to, say, diabetes, cardiovascular disease or cancer. Maybe it's because bone-related maladies don't result in the same shocking fatality statistics. But our bones are made up of living tissue – each one a complete organ made up of bone tissue, marrow, blood vessels, epithelium and nerves – and just like the rest of our body, their health can fail too.

Why is bone health important?

From your head to your toes, bones provide support and shape for your body. The skull protects the brain and gives structure to face; the spinal cord, a pathway for messages between the brain and the body, is protected by the vertebra of the back; the ribcage shelters the heart, lungs, liver and spleen; and the pelvis helps protect the bladder, intestines and, in women, the reproductive organs.

The two main types of osseous tissue (or bone tissue) that give rigidity to the skeleton are compact and spongy tissue. The compact variety, as the name might suggest, forms the extremely hard outer portion of the bone, while the less dense spongy (or cancellous) tissue fills the hollow interior.

Our bones constantly change throughout life, being broken down and replenished. In youth, the body makes new bone faster than it breaks down old bone, so your bone mass increases (bone mass – or bone density – is determined by the amount of minerals, usually calcium and phosphorus, the bones contain). Most of us reach our peak bone mass before the age of 30. After that, bone remodelling – the process in which our bones are completely replaced every seven years or so – continues, but we begin to lose more than we gain.

But why is bone density so important? Think of your bones as a retirement annuity – the more you store up when you're young, the greater the rewards later. The higher our peak bone mass, the more we'll have 'saved up' to

help prevent weak bones as we age.

So what can we do to encourage healthy bones? 'A balanced diet with appropriate calcium intake, coupled with exercise will influence your bone density,' says Dr Naven Naidoo, an orthopaedic surgeon based at Life Mount Edgecombe Hospital in KwaZulu-Natal. 'It is important to note that the function of bone is to provide the body with structure; load bearing is the skeleton's function. Bone is a living organ and when loading is not encouraged, as it would be during exercise, which stimulates muscle contraction, bone density will reduce. In the same way that one loses muscle bulk by stopping exercising, bone loses density if it is not used.'

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It's clearly a 'use it or lose it' situation, so here's what you can do to ensure that your bones stay stronger for longer:

Six ways to build strong bones

1 | WORK OUT In the long term, exercise is probably the most important factor in



helping to build bone density. Weight-bearing and muscle-strengthening exercises are your bones' best friends. Weight-bearing exercises make you move against gravity while upright (think dancing, hiking, jogging or climbing the stairs), whereas muscle-strengthening exercises involve working against gravity while sitting, standing or prone (like weight lifting). When stress is applied to the bones and muscles, the body stimulates bone growth.

2 | CONSUME PLENTY OF CALCIUM It's our bones' major building material and we need about 1 000mg a day (or 1 200mg a day for women over 50 and men over 70. See page 38 for the top 10 foods to help build bone density). A supplement can help if you're not getting enough from your diet.

3 | VITAMIN D is also essential for healthy bones, because it helps your skeleton remodel and promotes calcium absorption. Your body produces vitamin D when it comes into contact with sunlight, but you can also get it through food sources like tinned tuna, eggs, sardines and milk, as well as supplements.

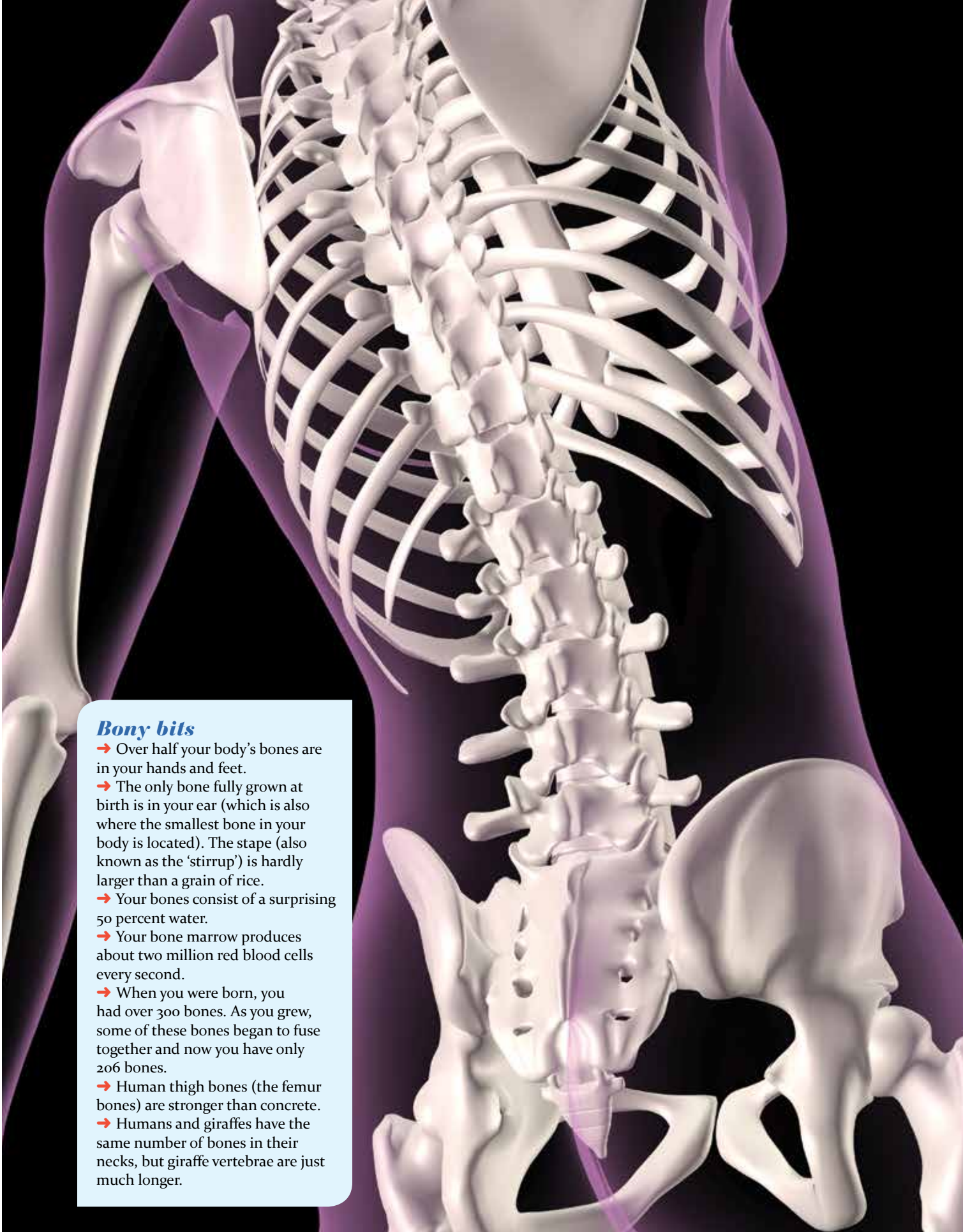
4 | STUB OUT THAT CIGGIE Smoking seriously increases your rate of bone loss.

5 | CUT BACK ON THE VINO Stick to no more than two alcoholic drinks a day for men and one drink a day for women. Anything more will interfere with your body's ability to absorb calcium.

6 | CONSIDER HORMONE THERAPY if you're female. Oestrogen, especially when started soon after menopause, can help maintain bone density. Consult your GP to discuss your options. ■

HELPING HAND

For general practitioners, orthopaedic surgeons, dieticians and other healthcare professionals based at Life Healthcare hospitals, email Janet Young at janet.young@life-healthcare.co.za or fax 086-500-7535.



Bony bits

- Over half your body's bones are in your hands and feet.
- The only bone fully grown at birth is in your ear (which is also where the smallest bone in your body is located). The stape (also known as the 'stirrup') is hardly larger than a grain of rice.
- Your bones consist of a surprising 50 percent water.
- Your bone marrow produces about two million red blood cells every second.
- When you were born, you had over 300 bones. As you grew, some of these bones began to fuse together and now you have only 206 bones.
- Human thigh bones (the femur bones) are stronger than concrete.
- Humans and giraffes have the same number of bones in their necks, but giraffe vertebrae are just much longer.