

Why athletes find themselves needing hip surgery in midlife, and how hip resurfacing gives them a second shot at sporting glory

People who play sport intensively, especially in their teens when bodies are still growing, subject their hip joints to too much wear and may need surgery. Hip resurfacing, a procedure Britain's Andy Murray underwent, improved one keen amateur Hong Kong tennis player's game and made him a new person.

 **Pavel Toropov** + FOLLOW
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Britain's Andy Murray in action at the recent US Open. Hip resurfacing allowed him to return to the professional tennis tour and play without pain. Photo: AFP

Even the most finely engineered machines experience wear and tear over time. Our bodies are no exception.

One key joint in particular is subject to damage through overuse: the hip. As the cartilage between the ball of the thigh bone, known as the femur, and the pelvis, wears away, osteoarthritis sets in. Bone starts grinding on bone, causing pain which can eventually become unbearable.

This process usually takes place over decades, which is why most hip replacements – a surgery to replace the hip joint or resurface it – are performed on people in their seventies.

Doing sport intensively, though, increases the likelihood of developing the condition much earlier in life. Hong Kong-based orthopaedic surgeon Jason Brockwell calls hip osteoarthritis a “medical problem of affluence”, since sport is largely a privilege of wealthy societies.



Karate, taekwondo, squash, tennis – sports that involve repeated, forceful hip flexion such as lunging or kicking – smash hips

Jason Brockwell, orthopaedic surgeon

The good news is that advances in hip surgery now allow affected people to return to sport, even at the highest level.

Tennis star Andy Murray is an example: he came back to the professional tour in January, 2019, after hip resurfacing surgery – in which a metal cap is placed on the ball of the joint and a rod is inserted into the femur to keep it in place.



An X-ray of a hip that underwent Birmingham hip resurfacing surgery, in which metal caps are placed on the ball of the femur and the part of the pelvis to which it connects.

There is more good news: running, which has grown in popularity in Hong Kong and around the world during the coronavirus pandemic, does not usually cause wear in the hips. Brockwell says this is because of the low angle of hip flexion while running.

Sports in which hips are bent at angles exceeding 90 degrees – with the knee going higher than the waistline – do the most damage.

“Karate, taekwondo, squash, tennis – sports that involve repeated, forceful hip flexion such as lunging or kicking – smash hips,” says Brockwell.

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When the hip is flexed at a high angle – for example when lunging in squash or doing a high kick in karate, the femur comes into contact with the edge of the socket and the two bones pinch and grind against each other. Over time, this wears out the cartilage and deforms the bones.

If a middle-aged marathoner starts to suffer from pain and stiffness in the hips, it may be a legacy of “kicking and lunging” sports they practised before or are still practising. Also, having done sport seriously in their early teens can predispose sportspeople to osteoarthritis in later life.

“Young teens start to put on muscle and do more impactful sports, but they use pliable children’s bones that then adapt by strengthening themselves,” says Brockwell.



Orthopaedic surgeon Jason Brockwell at his clinic in Central, Hong Kong, with photos of his hip surgery patients who returned to active life and sport. Photo: Pavel Toropov

One adaptation is the thickening of the ball on the femur, creating what is known as cam deformity – in which the ball no longer fits properly into the socket. An adult with a cam deformity from doing sports as a teen runs a higher risk of developing osteoarthritis if he or she takes up “lunging and kicking sports” in adulthood.

For active people suffering from pain and stiffness in the hips, or from groin pain, Brockwell recommends getting a hip X-ray.

“Hip problems give pain in the groin, butt and inner thigh. These can be misdiagnosed as hernia, as prostatitis or gynaecological issues,” he says. “An X-ray allows the right diagnosis of the hip, which can save people money and unnecessary medical treatment.”



Daniel Ou at the Bali Grand Slam tennis tournament, where he won a men's singles trophy in 2019. Photo: Lin Qinghuan

In 2012, 40-year-old Daniel Ou came to see Brockwell. The Korean-American considered sport his vice, and taking part gave him a high, he said.

“I played tennis every day, and ice hockey in three different leagues. My life was built around sports – I wanted to act like a professional athlete,” says Ou, a product development director for sportswear producer Lululemon who now lives in Vancouver, Canada.

Even though constant hip pain was preventing Ou from leading a normal life, he continued doing sports.



The joy of just being able to play took away the pressure. I won five tournaments after [hip] surgery, before – it was one in 10 years

Daniel Ou, tennis player

“I was stubborn – pros deal with this,” he says, on how he knew he was playing on borrowed time but could not resist his sports fix. “On the court, adrenaline takes over, pain finds a way to go away. I knew what I was doing to myself, but there was no turning back.”

Ou had double Birmingham hip resurfacing surgery in 2014 – a procedure in which the hip joint is preserved but metal caps are placed on the ball of the femur and the part of the pelvis to which it connects.

His recovery was arduous – not only were both hips operated on at the same time, but he had to wait for a year and a half for a nerve to regenerate in his right leg. When he eventually made a full recovery, he decided to give up ice hockey – to avoid collisions and contact. But he could not resist a return to competitive tennis.

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For Hong Kong tennis coach Toby Clark, 41, osteoarthritis got so bad that “it became painful to do simple everyday things”. The former tennis professional, who started playing at the age of five, blames a “lifespan of sports activities” for his hip problems.

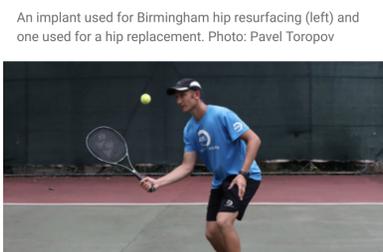
Despite the pain, he continued to play competitive tennis in the top division in Hong Kong.

Another of Brockwell’s patients, Clark’s recovery from hip surgery was much more straightforward. After his hip resurfacing surgery in January, 2019, the same month tennis superstar Murray had his procedure, Clark says he “was diligent with physio and spent three to four months off the court. In September, I started playing doubles, and towards the end of the year I competed again”.

He feels he is now ready for maximum physical effort, but needs to improve strength in the hip. “I was not diligent enough on my flexibility,” he admits. “If I had done more, I would be 100 per cent now.”



An implant used for Birmingham hip resurfacing (left) and one used for a hip replacement. Photo: Pavel Toropov

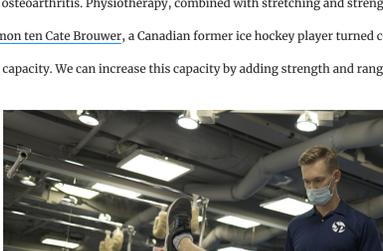


Tennis coach Toby Clark, at the Jardine's Lookout Residents' Association ATA tennis courts. Photo: Jonathan Wong

Surgery is not the only option for those diagnosed with the onset of hip osteoarthritis. Physiotherapy, combined with stretching and strengthening, can slow down joint degeneration and reduce pain.

“It is loading versus capacity,” explains Hong Kong physiotherapist Simon ten Cate Brouwer, a Canadian former ice hockey player turned competitive trail runner.

“You must make sure the load on the vulnerable hip does not exceed its capacity. We can increase this capacity by adding strength and range, and reducing biomechanical loading” – identifying optimal movement patterns to redistribute pressure.

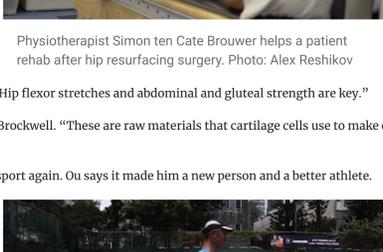


Physiotherapist Simon ten Cate Brouwer helps a patient rehab after hip resurfacing surgery. Photo: Alex Reshikov

Brockwell agrees that flexibility and core strength help with hip pain. “Hip flexor stretches and abdominal and gluteal strength are key.”

Food supplements – glucosamine and chondroitin, can also help, says Brockwell. “These are raw materials that cartilage cells use to make cartilage. Well-conducted studies have shown they reduce pain and possibly slow down arthritis.”

However, if surgery is inevitable, it will not just allow the person to do sport again. Ou says it made him a new person and a better athlete.



Clark does some stretching exercises at the Jardine's Lookout Residents' Association ATA tennis courts. Photo: Jonathan Wong

The pre-surgery “rest-is-for-the-weak” jock changed his tune. Ou’s new self is “grateful to be standing on the court again, respecting every ball, every point”.

And the new Ou started winning. “The joy of just being able to play took away the pressure,” he says. “I won five tournaments after [hip] surgery. Before, it was one in 10 years.”

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Ou’s advice to his fellow weekend warriors: “Really listen to your body. I used to push my body till I felt pain, now I don’t. Be humble. Slow down. It’s OK to take a break.”

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