A talk on Orthopaedics

Nasty falls, unfortunate stair-slips and sprained ankles do not make you run to an orthopaedic doctor right off the bat. After all, sprains and spasms can just be shaken off and you may well pride yourself on being built of titanium. What you may not realize is Dhaka's fast-moving life means 29.5% of all injuries in 2015 recorded by Bangladesh Medical Research Council was due to falling. And 39% of those injuries required urgent medical intervention with 1.4% of that number being severe enough to even cause deaths.

But for a simple fall to cause death, it's got to be head and shoulders above the rest. And this is where a number of factors come into play.

"If something is going to break a bone easily, your bone mineral density has to be poor. Generally, a fall from standing height should not cause a fracture in an otherwise healthy individual with their bones in good quality," specifies Dr. SS Sathappan, Senior Consultant of Orthopedic Surgery at Farrer Park Hospital in Singapore. "Only with a fall from a high velocity or a great height beyond standing height, do we have a possibility of a fracture,"

When it comes to characterising good bone health, the equation is pretty simple. An appropriate amount of calcium and phosphorous along with a low bone porosity i.e. number of holes in the bone are what basically equal it. But to achieve this, you need optimal genetics, healthy lifestyle and bone/joint exercise and also stimulating to ensure your muscles are working with a good sweat.

"Bone tumours and arthritis can be affected by genetics. But even these risks can be optimised by keeping a healthy lifestyle. Eating a balanced diet supplemented with calcium and protein, both of which are important matrices for bone and cartilage is needed. Conditions

like degeneration of joints and hip arthritis are easily avoidable with good muscle strength and strong quadriceps and hamstrings," elaborates Dr. Sathappan.

Whether it's a two-step fall or blunt traumas, a little observation after any injury will tell you exactly what you need to do.

"If after an injury, you can get up to walk and you notice the pain subsiding with the swelling getting lesser and lesser, a simple icepack should do the trick. Falls in other patients, however, could lead to a persistently worse pain with mobility dropping as the weeks go by. In such cases, the swelling of the limbs may be associated with occult fractures and this is when the patient is advised to immediately get an x-ray," specifies Dr. Sathappan. "Such fractures can even lead to displacement of the bone which may then require surgery," he cautions.

Speaking of orthopaedic surgery, the most common procedures are arguably knee and hip replacement surgeries. But how do you conclude if you really need one?

If your hip has been damaged due to an accident or worn out owing to advanced age to the point where mobility is drastically reduced and you are at pain even while resting, you could be a prime candidate for a replacement. The most common causes for hip replacement are osteoarthritis and hip fractures.

Similarly, if any of your ailing joints is constricting your life when it comes to movement or medical tests show significant joint damage, your doctor may suggest a joint replacement surgery.

In any case, duly weighing the risks and benefits before opting for such a routine but major procedure will have you returning back to all normal duties. Speaking in favour of hip replacement surgeries, Dr. Sathappan reassures, "Hip replacement surgeries have dramatically changed over the decade with increasing utilisation of better technology starting from conventional techniques which have now progressed onto computer and robotic technology. This has improved precision and outcome and gives better range of motion."

"In terms of materials, the materials that would previously last 10 years now have stretched out to last for over a 20-30 year period," he continues.

The amazing technology in question that's shifting the world of replacements are customisable and robotic joint replacement surgery. Let's elaborate.

"Customised joint replacement utilises 3D printing technology. By using 3D printing, moulds are used, which are equivalent to the patient's knee dimensions. This allows the exact implant to be made for each patient," defines Dr. Sathappan. "Patients whose bone size is significantly abnormal or those who won't do well with a mass-produced implants, or a patient who is very small or large, will benefit with customisable joint replacements. Moreover, patients with previous implants with IM nails inside them will have difficulty in undergoing regular knee replacement surgery," he clarifies. However, with robotic procedure in such patients, knee replacement can be easily done with good outcome

Currently, robotics are also becoming increasingly popular. This is due to improving surgical techniques and minimising soft tissue trauma and, more importantly, optimising precision. And the choice out of the two hangs on a few factors.

"The choice is determined by evaluating the x-rays and looking at the alignment of the bone to assess if the patient's overall deformity and flexibility can be better optimised by robotics," specifies the doctor.

Farrer Park Hospital in Singapore has bagged the title of 'First Private Hospital to introduce Robotic-Arm Assisted surgery for Full Hip and Knee replacement procedures,' and is fully equipped especially when it comes to orthopaedics. Going local, you may look to Dhaka Orthopaedic Hospital and the National Institute of Traumatology and Orthopaedic Rehabilitation.

After orthopaedic surgery, however, certain activities like squatting and cross-legged sitting maybe restricted till the limbs or joints recover. And this is where physical therapy helps.

What may also help is acupuncture. Acupuncture is the insertion of needles at specific points in the body to release endorphins and serotonin, hormones affecting pain and mood. But there is a downside to this method.

"When you burn your finger in the stove, you impulsively wave your hand. But the right thing to do is to put your finger under water to cool it down. Waving is, therefore, a sensory overload that makes you feel better. Similarly, needles inserted during acupuncture cause a physical stimulation that makes the patient feel better. But this is only for a short period of time and specifically for pain management in patients for whom painkillers aren't working anymore. Acupuncture can improve the pain but cannot cure a deformity of any sort," clears Dr. Sathappan.

With the bare bones of orthopaedics duly dissected, it may be a good time to acknowledge you are only human, made of flesh and bones, and not steel. Eating right and working out means adhering to the sage saying of prevention being better than treatment. But when the need arises, treatment is of utmost importance.

By Ramisa Haque

