


SPOTLIGHT

A WORD ABOUT KNEES

Do stairs intimidate you? Is it difficult to walk? Is picking up something from the ground a bit of everyday hell? Is it because your knees hurt?

World wide, knee pain is the fourth leading cause of disability, causing significant loss to quality of life for thousands of people. It is perhaps among the most common and chronic health issues to affect the South Asian population as well, especially the more elderly, although age is just one of factors contributing to cartilage degradation.

Other factors can include, inherited genes, activities which cause undue pressure on joints, prior injuries and conditions like osteoarthritis and osteoporosis.

Another contributor to knee pain is obesity, but being slightly overweight is really not a cause, as Dr Jeffrey Chew, an orthopaedic surgeon with Singapore's Mount Elizabeth Hospital, said. He has more than 130 successful procedures in a 20 plus year career under his belt.

We talked to Dr Chew for some information about what is new in knee health while he was in Dhaka on a short visit. He said all over the world women seem more afflicted by knee pain problems, particularly after menopause.

Knee troubles can manifest in a number of forms, all indicative of symptoms which need explorations. The first step is being aware of changes in your body, to check for any issues in their early stages. As Dr Chew puts it, "Three to four days of constant pain regardless of rest and exercise should be seen by a doctor."

The symptoms of knee problems can include:

- continuous pain in the knee joint
- knee stiffness, especially after some rest or early in the morning

- swelling or feeling hot to touch
- grinding noise with mobility
- reduced mobility and function

The large portion of knee joint troubles are caused by wear and tear of the cartilage, which is typically an age aggravated issue related to osteoarthritis and osteoporosis, which can manifest concurrently. Some activities like training with a 'stepper' or 'stairmaster' on a long term basis can also be horrible for the knee, Dr Chew said.

Dr Chew is a specialist surgeon, and most of his patients are usually well-advanced in their damage to the knee. Yet, he says he follows a system. The first step to any good treatment is correct and swift diagnosis. It is the same with knee problems, and diagnosis is typically assisted by X-rays and MRIs. However, physical examination by a specialist is also mandatory. "A doctor must physically examine every patient, because pain in one joint can actually be caused or influenced by problems in other areas, for example, the hip."

"It is a cardinal sin to diagnose based on X-rays and MRIs alone," the doctor said.

Once diagnosed, Dr Chew says he prefers to follow a system of three Rs - Restore, Repair, Replace. Which R to start with is determined by the range of the injury or tear in the cartilage. If it is small, then restorative steps like medication, injections and exercise are recommended.

Injections like steroids are sometimes used to control severe pain, but are not suitable for repetitive use for their side effects, Dr Chew said.

Another option, a much costlier but very effective and suitable for repetitive action, is the injection of synvisc, which can provide additional lubrication and cushioning to the knee joint, curbing pain. Some patients also receive injections of glucosamine to control

pain, but these options do not help regenerate degraded cartilage, and are of temporary nature in their provision of relief.

So what is next? Dr Chew says the second step is repair, which requires some sort of surgery, the level of which is determined by the severity of each individual's condition. If there is a small tear, a very minor pinhole surgery can be used to correct or remove the dead tissue.

Here is where the option for Makoplasty, or use of the robotic surgery instrument comes in as superbly beneficial. It is a 'partial knee resurfacing' procedure, with minimally invasive surgical treatment technique for early to mid-stages osteoarthritis of the knee.

It can be used to specifically target any of the three main components of the knee when damaged. The robotic system can, through inputs of various explorations of the condition through X-rays, MRIs and CT scans, help a specialist devise and carry out a perfectly coordinated and informed partial resurfacing procedure.

Due to its minimally invasive nature, many of the 'repair' stage surgeries take only about 30-45 minutes, with very little post-operative downtime needed by patients. "There is no need for a hospital stay for this kind of procedure, and patients are back on their feet the very next day," Dr Chew said.

For slightly bigger tears in the cartilage, the doctor uses the robotic system for precise identification and implementation to first clear away the dead tissue, and then coat the area with Cartifil, or in a bit more severe cases, use a hylofast membrane, both of which once in contact with human blood help it to grow cartilage tissue, completely healing the knee to full function, Dr Chew said.

For further bigger tears, the Makoplasty system can help the doctor to device and place implants correctly, almost completely removing the margin for human error, and increasing the functional lifespan of the natural knee by 15-20 years. If needed, a transplant of the knee can then be performed later.

The advantage of the robotic system is in its precision, and reproducibility. Also, research reveals that half knee surgeries lead to correction of the other parts of the knee as well. This allows for addition of about 20 years of normal kinematic function of the knee.

"If needed, there is no difficulty in revising a partial knee procedure into a full replacement of the total knee," Dr Chew said. "Partial knee surgery is like changing a tyre," he said, to explain the ease of surgery with the robotic system. In contrast, a total replacement is like changing the axle."

The robotic system is so effective, that it has reversed some important statistics. Previously, about 90 percent of knee patients ended up with knee replacements for effective results, as partials did to give good results. But now only 10 percent have to do that, as the rest 90 percent can have great results and full function with partial procedures. Also, this system allows for better results for the younger generation, as they put much more load on their knees and demand more of their bodies for a longer time period.

So what is next on the horizon for knee health? "Introduction of full robotic hip and knee systems that will be launched sometime this year," Dr Chew said.

By Sania Aiman
Photo courtesy: Parkway Hospitals Singapore Pte Ltd, Dhaka Office
Helpline: 01736000000