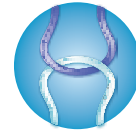




Dr. Samih Tarabichi
Consultant Orthopedics Surgery



مركز الطرايبشي لجراحة المفاصل
Dr. Tarabichi
Centre for Joint Surgery



مستشفى الزهراء دبي
AL ZAHRA HOSPITAL DUBAI
رعاية راقية
Care in Style

Patient Guide to Artificial Joint Replacement



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Contemporary expertise combined with advances in surgical techniques means that knee replacement procedures have almost become 'routine' and with an inordinate degree of accomplishment in restoring the basic functions of the joint. Dr. Samih Tarabichi, one of the Middle East's leading Emirati orthopedic surgeons who pioneered bone replacement surgery in the U.A.E and credited as the brainchild in the development of internationally-accepted custom-made patented implants for Asian and Arab patients, holds four patents in this field. He has performed over 14,000 total joint replacement procedures and has become the leading surgeon in the Middle East to perform knee replacement surgery using an innovative knee system that not only restores normal knee function but also offers enhanced durability which extends the working life of the joint for patients. Dr. Tarabichi is also the editor of The Journal of Bone & Joint Surgery - Middle East Edition.

The facility dovetails well with the Emirate's vision of being a hub for medical tourism and the rise in demand for bone and joint surgeries. Al Zahra Hospital Dubai is the regional center of excellence for advanced orthopedics treatments including joint preservation, replacement and trauma and orthopedic surgery for children and adults. Its specialists utilize latest techniques in joint replacement and treatment of bone and joint infections as they comprehensively treat acute fractures, post-traumatic complications, mal unions, non-unions, infections and other orthopedic conditions.

Having practiced advanced orthopedics in the UAE for the past 20 years, he earlier trained in orthopedics at McGill University in Canada and practiced there for over 10 years. When he returned to the UAE, knee replacement was a rare procedure. However, he worked diligently to institute a program for joint surgery in Dubai.

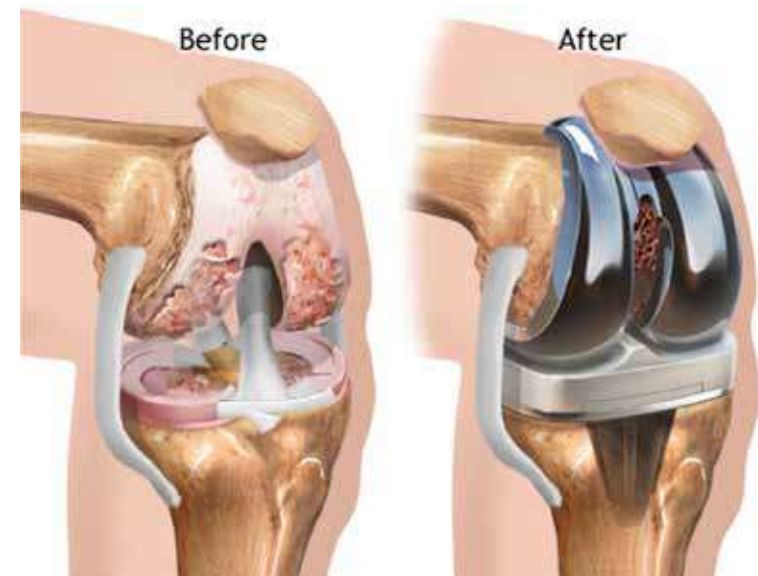
Medical Information for Joint Replacement Patients Changes Caused by Illness

Here, we will describe in general terms the changes that ultimately take place when the joint surfaces suffer from erosion.

The capability of joint cartilage for self-renewal is very limited, unlike the skin, which can heal and renew itself. Lost cartilage cannot be renewed. Therefore, the main problem with advanced cases of arthritis is that the joint loses the cartilage that covers the bone, and in turn makes joint movement rough and painful.

If we take a look inside the joint, we will find that the cartilage has become rough and the bone exposed due to constant movement, the bone itself is eroded. As a result, changes to the shape of the bone and distortion of the joint occur, which in turn affects the shape of the leg.

For example, when the knee joint suffers erosion, the leg bows. Cartilage erosion is normally accompanied by changes in the joint and the joint capsule becomes thickened, due to inflammation, causing the formation of scar tissue. These changes occur gradually, but the more advanced stages of the disease can be seen clearly on X-Ray.



Reasons for Joint Replacement

The main reason for joint replacement is the excessive pain that does not respond to conservative treatment, such as medication and physiotherapy. Such acute and intolerable pain severely affects the patient's quality of life. For the patient to benefit from such an operation, clinical and X-Ray examination must demonstrate that pain is caused by joint/ cartilage deterioration and that pain is not for other reasons such as poor blood circulation or nerve inflammation.

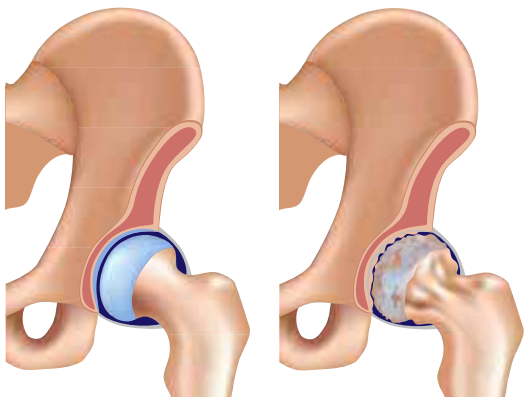
Benefits of Artificial Joints

The main benefit of joint replacement is to become pain free. The patient feels that:

- The pain has disappeared or has been substantially reduced.
- His limb has become stronger than ever before.
- His movement has become painless.
- The joint movement has improved.
- His quality of life has improved.
- He becomes self-dependent.

In the case of the artificial shoulder joint, the patient feels that he is able to comb his hair without difficulty.

Also, among the more visible benefits of artificial joints is improvement in the shape of the leg - e.g. In the acute cases of arthritis, the leg may become bow-shaped, but after surgery it goes back to its straight natural shape.



Artificial joints

The artificial joint is usually made of metal with smooth surfaces; a plastic (polyethylene) disc is placed between these metal surfaces to reduce friction. During the operation, the surgeon cuts a thin layer off the eroded bone surface, the thickness of which is carefully calculated to match the depth of the artificial metal surfaces, and the flexible plastic disc is inserted between the two surfaces.



Full Flexion Knee

The ability of patients to fully bend their knee following joint replacement surgery was one of the crucial issues that obstructed the decision of some people to undergo the operation; especially as bending the knee is extremely important to the Muslim lifestyle. It was common knowledge that patients who underwent knee replacement would not be able to bend their knees fully. Due to the modifications that have been introduced to joint design, it is now possible for the patient to fully flex his knee after the operation, provided that he was able to do so before surgery.

Partial Knee Joint

Developed only recently, this partial knee joint requires a shorter recuperation period, and is suitable for patients who have partial erosion of the knee joint. This is a recent development of its kind, as the recovery period from these operations is short, and these operations can be performed through a tiny incision of no more than 6cm, using advanced surgical equipment & tools.

Artificial Joints Used

Dr. Tarabichi is keen to use the latest artificial joints, which are produced by the world-renowned ZIMMER Company, the largest manufacturer of artificial joints in the world, and based in the United States. These artificial joints are made of materials that are accepted by the body, there are no recorded cases of an artificial joint being rejected. There are many artificial joints available on the market and the objective is to choose the joint that meets the patient's needs. This varies from one patient to another, and depends on the extent of erosion, and flexion of the knee joint. We at Al Zahra Hospital Dubai, have a diverse selection of surgical systems so that the patient is provided with the best options.

Listed below are the surgical systems for joint replacement available at Al Zahra Hospital Dubai

1- Persona Implants: this system designed by 20 surgeons in the united states Dr Samih Tarabichi one of them, the specification of this implant is the ability of full flexion, bone preserving and it is suitable for Asian patients more than other implants.

The features of persona implant:

- The variety of sizes more than any other knee implant.
- The fitting of Asian knee.
- Bone preserving.
- Considering the anatomical differences between the left and right legs
- The ability of full flexion.

2- Uni-Knee: This system is used when there is partial erosion of the joint surface, is known as Miller Glante Mis and the operation can be performed through an incision of no more than six centimeters.

3- Legacy LPS Flex: This system is offered to patients who have joint surface erosion, but still have full flexion ability. These operations are performed through a tiny incision of (12-8) cm.

4- The NEXGEN system: This system is offered to patients who have joint surface erosion, but only partial flexion of the knee joint.

5- Legacy CCK: This system is used when bone erosion reaches An advanced stage as in the case of bone cancer and repeated joint implant.

6- Versys system: Al Zahra Hospital Dubai, Dubai uses this latest artificial hip joint from the United States.

7- cement-less knee implant: this type of implants do not require cement for fixation, used mainly for the young age patients who have a good bone quality.

8- Tatum knee implant: this type of implants used for patients who have allergy to metal implants.

9- Patient specific instrumentation: this system designed for specific patients which needs MRI to designed the instruments accordingly.

10- Custom made implants by 3D printing technology: by using the system the implants and the instruments will be completely personalised and customised for the patient.

Surgical Preparations

Before the surgery, the patient will undergo comprehensive laboratory tests, cardiology, chest X-Rays, clinical examination by the internist and the anesthesia specialists to make sure that the patient is ready for the surgery.

Post-Operative Recovery

- You may be transferred to the Intensive Care Unit should you have any predetermined medical condition, which warrants close observation following surgery.
- Medication is given to control your pain following the surgery, and this may be in the form of: • Epidural Analgesia • Patient Controlled Analgesia • Tablets • Injections
- Antibiotics are administered prophylactically for 72 hours following surgery, and are administered by means of an intravenous Infusion; this is to prevent postoperative infection.
- Injections or tablets are given daily to prevent clot formation.
- Physiotherapy starts on the second day post operatively, and you will be seen twice a day. Mobility is encouraged with the physiotherapist and with the use of aids initially such as: • High Walkers • Frames • Crutches • Walking Sticks



Surgery Complications

Complications of joints'surgery are similar to those resulting from any other surgery. These include: infections, bleeding and/or thrombosis. Recent developments have been introduced to minimize these complications. Hence, to minimize infections, special procedures are performed in the operations room to ensure proper sterilization in addition to giving the patient some ant biotics. On the other hand, to minimize thrombosis, the patient is given anticoagulants, and a special device is used after joining up the artificial knee to move the knee in an attempt to prevent thrombosis. Moreover, many methods are used to ease pain. The percentage of complications of operations performed in the center are much less than the international permitted levels.

Blood Transfusion

During the operation, you may need a blood transfusion and you can be assured that we perform the most stringent tests, before the blood is released to be transfused. Alternatively, you may donate your own blood, prior to surgery so that you may receive your own blood should a transfusion be needed, this is known as Autologous Blood Donation.

Scientific Documentation

The care of patients who replaced their joints, does not end when the patient leaves Al Zahra Hospital Dubai. In fact there will be a two-month physiotherapy program along with a periodic patient follow-up program. The first will be a week after the patient leaves the hospital, then monthly visits for a period of three months, then once annually.

During these visits, the patient will undergo clinical examination, and will be asked about his/her activities including: walking, ascending stairs, sitting on the ground, etc. Also, the patient will undergo some X-Rays to assure the condition of the new joint. All these information are documented in a special file.

Minimal Surgery Incision

It is worth mentioning that Dr. Samih Tarabichi, through his extensive experience in joint replacement, operates through a tiny incision of not more than (6-10) cm (the normal surgery incision being 25 cm).

To facilitate these operations, Dr. Tarabichi introduced some local amendments to the surgical instruments in an innovative manner, and he performed more than 700 operations with this minimal incision. This impressed the surgeons and companies interested in Joint Manufacturing. Hence, they visited Al Zahra Hospital Dubai, to witness this development, and Dr. Tarabichi was invited to many of international conferences to introduce these operations in this innovative manner.

The tiny incision is cosmetically acceptable and results in quicker recovery and with minimal infections.



My Knee Program 3D Custom Made Implants

Fingerprint is unique for everyone as well as is the anatomy of the knee, 50 years back the joints were made up of only three measurements only. As the science and research progress, the anatomical differences between the patients knees were found to be much more accurate and clear. The need to produce artificial Joints with more sizes to cover the differences had increased and later on the number of sizes reached to 21 sizes by 2 mm difference.

Studies have shown that the Asian and Arab knees differ from the European knees. The contribution of Dr. Samih Tarabichi on these studies showed that these slight differences can affect the performance of the joint, so it was necessary to modify the design to fit the anatomical differences found in the Asians and Arabs.

With the advancement of research and technology it is possible to cover the eroded surfaces in the joint more precisely by doing a CT scan for the knee to get the exact size and measurement in a 3D printing technology which enables the surgeon to perform the surgery in much more accuracy, since the artificial joint and all the instruments are fully designed for the patient and can be used only once.

My knee program "My knee is different from any other knee" at Dr. Tarabichi Center for joint replacement considering all the details and treats each patient in a very special way depending on the structure of the knee, muscles and ligaments. The consideration is not limited to the knee joint only but with excellent medical and personal service provided to the patient before and after the surgery which reflected in the success of the treatment.

Genetic tests are conducted prior to the surgery to guide the surgeon to choose the best painkillers and antibiotic for the patient, and to know if there is a chance of deep vein thrombosis formation in the leg and help in the choice of best medications to help avoid them, the rehabilitation program is modified according to the patient needs.

Frequently Asked Questions

Q. May a joint replacement surgery be performed for the two knees at the same time?

A. More than 70% of the patients have injuries in the two knees. As the problem will not be solved by replacing one joint, we make sure to perform the surgery for the two knees at the same time. The dual surgery results are excellent and save money, time and exposure to two surgeries. The only thing is that the patient stays in the operations room for another hour, and stays in the hospital for 7 days.

Q. Are there any special precautions the patient has to follow after the surgery?

A. The patient has to pay attention to infections in the first year following the surgery. Any surgeries performed shall be accompanied with wide-range antibiotics before and after the surgery, even if it was dentistry. Also, the patient has to treat any infections in the first year with wide-range antibiotics, to avoid any infection that will spread to the joints.

Q. May joint replacement be performed for elderly people?

A. Most patients are elderly, and many operations were performed for patients above 80 and 90 years successfully, while assuring their readiness to surgery before performance.

Q. May joint replacement be performed for those who suffer from chronic diseases?

A. Most patients suffer from chronic diseases such as diabetes & heart diseases with surgeries performed successfully after referring them to the specialized physician to obtain his approval on the surgery.

Q. May joint replacement be performed for obesity patients?

A. Obesity complicates surgery, yet surgeries were successfully performed for patients who are above 140-100kg. It is rather challenging to ask the patient to lose weight, as his/her weight may increase for difficulties in movement and decrease in activities.

