

German Orthopaedic Hospital Matters

Dear Valued Patient

This newsletter is aimed to inform you of the latest medical and state-of-art procedures, to discuss patient safety and to share information. In this issue, we will discuss Customized Joint Replacement.



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CUSTOMIZED JOINT REPLACEMENT

In the internet-savvy world of today, patients are more knowledgeable, and have greater expectations from total knee replacement (TKR) or total hip replacements (THR) than ever before.

This has generated improvements in the field, regarding the design, delivery or execution of the implants themselves. This development has led to beneficial advantages in patient care, for example, creating customized parts or implants to each patient's specific anatomy. This allows us, surgeons, to perform the replacement surgery more efficiently and accurately than ever before.

A recent innovative surgery performed at the German Orthopaedic Hospital is the patient specific positioning guides in TKR. These custom made guides match each patient's anatomy exactly, allowing the surgeon to perform TKR's more accurately which therefore helps improve quality and outcomes.

The technology uses 3-D scan

data to construct a knee model which will be used to produce the guides. Due to the computer-assisted surgical instrumentation, the surgeon is then able to fit the implants to the patient's knee more precisely.

This patient-specific care offers several benefits. These include reduced time in the operating room, decreased blood loss, decreased

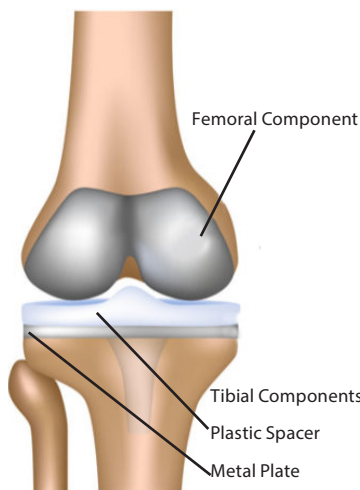
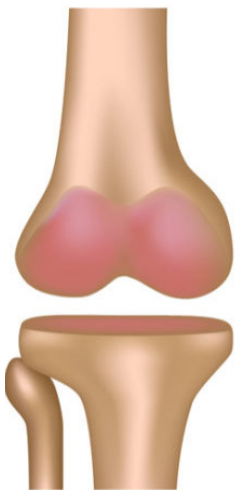
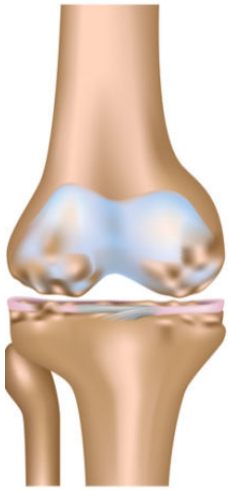
infection rates and improved outcomes regarding the functionality.

In addition, the customization leads to a more structured plan in the operating room, helping the surgeon and the OR team to perform the surgery more easily, even in more complicated cases.

The major goal of the joint replacement is to reduce pain and restore function.

Many investigations have supported the theory that alignment is a critical factor in achieving these goals.

Although the older, more traditional techniques aid in placement, studies have shown that customization is the best technology as it improves the patient's outcome and enhances the efficiency.



With regards to Total Hip Replacement (THR), most hip replacements are usually “off-the-shelf” implants.

On the whole, most patients can be served fairly well by this standard hip replacement which is currently used. Nevertheless, these implants only allow a fairly narrow range of shapes and sizes, as they are approximated to the individual’s hip geometry.

A key factor in the wear and ultimately - the length of survival - of an implant is the patient’s hip anatomy. Not everybody is the same size and shape, and hence, everybody will have a slightly different hip geometry.

This approximation can be magnified if your natural size or hip geometry is not within normal ranges due to special conditions such as, for example, congenital dislocation, inflammatory diseases, dysplasia, stature, etc.

Using a standard hip replacement in these cases, may lead to complications such as early failure, leg length discrepancy, and/or dislocation.

To solve this problem at the German Orthopaedic Hospital, we use custom-made implants, and we are currently the only hospital in the GCC which are using such custom-made implants.

As in the case of TKR, it starts with pre-operative, 3-D imaging software which allows for precise, pre-operative planning of the size, shape, angle and length of the implant.

A computer assisted program will design and manufacture it, so it will “fit” to the exact require-

ments of the patient.

The goal of custom-made stem implants is to achieve a rigid initial fix, positive bone response and thus, long-term durability.

Question: are you average? Do you think you look the same as the person next to you? Do you have an arthritic hip? Will your hip replacement be ok with a standard “off the shelf” replacement, or anatomically, could you possibly need something different from “the norm”?

These are all questions you should ask yourself, but which, no doubt, most patients who require a hip replacement, probably haven’t asked themselves.

Total knee replacement, and total hip replacement are surgeries which we perform regularly at the German Orthopaedic Hospital in Bahrain, including these new technologies described above for the planning and the implantation of customized, custom-made joints.

For more information about custom-made implants, please contact Dr. Stefan Dragulescu at the German Orthopaedic Hospital on 17 23 99 88 or email us at help@germanortho.com or info@germanortho.com

**Best regards,
Dr. Stefan Dragulescu**