



## Artificial hip joints and obesity: Risk of complications rises with BMI but benefits predominate

*An increasing number of obese individuals need artificial hip joints but surgery can be difficult precisely for this patient group. Experts at the 17<sup>th</sup> EFORT Congress in Geneva discussed what can be done to reduce risk factors and to ensure successful hip replacement procedures.*

**Geneva, 2 June 2016** - Every tenth patient who receives an artificial hip joint in Europe is obese. This is a big challenge for orthopaedic surgery because a person who is overweight has to expect complications. In the meantime, there are an increasing number of ways of improving the safety and success of implanted hip prostheses in obese patients. "From a medical standpoint, it is sensible to implant an artificial hip even in an extremely obese person if he or she needs one. It is an effective way to re-establish the mobility of individuals with serious cases of arthrosis. Otherwise, the alternatives would be: chronic pain, disability and even the need for nursing care." This was the conclusion of Prof Sébastien Lustig from Croix-Rousse University Hospital in Lyon, France and Prof Sébastien Parratte from Aix Marseille University in Marseille, France, at the 17<sup>th</sup> Congress of the European Federation of National Societies for Orthopaedics and Traumatology (EFORT) in Geneva.

### The higher the BMI, the bigger the risk

According to a Swiss study, obese individuals with a body mass index (BMI) of 35kg/m<sup>2</sup> and up are candidates who risk follow-up operations and infections. An evaluation of data from 2,500 knee replacement procedures indicates that patients with a BMI from this level upward have twice as many revisional surgeries as others do and suffer from serious infections twice as often.

Prof Lustig: "Obesity is not just a biomechanical problem but also a biological one. It is true that every pound of joints bearing body weight is subject to a load of four to six pounds. Yet the effect of being overweight is much more complex and always has to be kept in mind in orthopaedic surgery." In the meantime, we know that there is a complex interplay between obesity on the one hand and metabolic syndrome and cardiovascular diseases on the other. They promote inflammatory processes and cartilage degeneration, which play a part in the origination of arthroses. Diabetes, one of the typical co-morbidities of obesity, increases the risk of infection in hip replacement surgeries by ten percent. It is therefore imperative that this condition be effectively treated prior to surgery. Other actions to avoid infection are quitting smoking prior to surgery, special preparation of the skin and the use of bone cement with antibiotics. They are especially important in the event of severe obesity.

### Preoperative counselling should address the topic of weight reduction

The information given to the patient prior to hip replacement surgery is a co-determinant of the success of that surgery. Prof Parratte: "There is no official weight limit for the implantation of prosthetic joints. Nonetheless, in cases of morbid obesity, i.e. a BMI from 40 kg/m<sup>2</sup>, it would be advisable for the patient to lose weight prior to surgery." The surgeons should therefore sit down with the patients and go through all risks that might occur if they fail to lose weight prior to surgery. Moreover, the possible ways of reducing weight should be discussed – if necessary also surgical options such as gastric banding. Prior to replacement surgery, patients must also be told what they can and cannot do with the new hip joint. Prof Lustig: "The risk of dislocation is higher for obese

#### info

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individuals in particular compared to people whose weight is in the normal range. It is also assumed that aseptic loosening of artificial hips occurs more frequently in obese patients. This condition is caused especially by abraded particles or a lack of initial stability in the implant. Prof Lustig: “The type of artificial hip joint that has proven effective for preventing hip dislocation is one with high offset, decreased cup abduction and larger head diameter.”

### **Surgical techniques must fit the situation**

Finally, the suitable surgical techniques play an important role in the success of procedures. Prof Parratte: “Surgeons operating on obese patients should select the surgical approach with which they are most familiar. Minimal invasive surgeries are not indicated in any case.” As the number of obese individuals needing joint replacement will increase in the future, special surgical techniques could become established. One recommendation, for instance, is that orthopaedic surgeons use tailor-made patient-specific templates as a guide when putting prostheses in place. This approach boosts accuracy while reducing blood loss and surgery time. It likewise helps in correctly dimensioning the incisions and implants in patients with a high BMI. With patient-specific templates, the mechanical axis can be restored more reliably as well.