

## Anaesthesia and joint replacement

Most of our patients feel anxiety about which anaesthetic procedure will be used to perform hip or knee replacement. Many patients ask if they can receive general anaesthesia as they want to sleep throughout the entire procedure. Many want to fall asleep even before they reach the operating room and want to wake up in their own bedrooms. The type of anaesthesia is a very important decision and it can have a significant impact on the patient's recovery and final outcome.

We usually take into account different factors to decide which is the best anaesthetic procedure at hand. Our decision is based on:

- **Patient's previous surgical experiences.** Have you ever been anaesthetized? What kind of anaesthesia was administered and why? Were there any adverse reactions to the procedure? Has there ever been any complications related to anaesthetic procedure with you or your direct family?
- **General health and physical condition.** Do you have any associated diseases? Do you take any medications? Do you drink or smoke? How much do you weigh and measure?, Do you practise regular exercise?
- **Allergies.** Are you allergic to something? Food? Medications? Have you ever had any adverse reactions to food or medications?

As you can see, the anaesthetic procedure requires a complete medical exam previous to the surgical procedure that includes a complete set of blood tests, urine tests, EKG, chest x-ray and a medical evaluation performed by an Internist and an Anaesthesiologist. The final decision of the type of anaesthesia depends on all these previous factors. The main reason is to diminish complications associated with type of anaesthesia.

### Types of Anaesthesia:

There are three different types of anaesthesia: Local, Regional and General.

**Local anaesthesia:** You will probably be familiarized with this type of procedure. It is directly applied on a small area of the body with a syringe. (Like the one dentists uses to numb a small part of your gums to work on your teeth.) This type of anaesthesia is not used for hip or knee replacement.

**General anaesthesia:** This procedure is done using intravenous medications that induce a state of unconsciousness followed by administration of inhaled gases to maintain this state of induced deep sleep. It requires the placement of an endotracheal tube that is hooked temporarily to a ventilator. This tube is removed at the end of the surgery and can be a source of pain, sore throat and hoarseness. Simply put, this procedure acts directly on your brain to make you fall into a type of deep sleep or coma, were sleep is so deep that your breathing will stop and the anaesthesiologist has to administer the right amount of oxygen during surgery. He also has to closely monitor your heart beat, your

blood pressure, your temperature, your glucose levels and other important bodily functions. Once you wake up from the procedure it is normal to feel cold, to have a sore throat, headache, nausea, vomiting, shivers, drowsiness and pain. All of these symptoms are related to the use of general anaesthesia and can last between 24-48 hours. Your attending physician will give you medications to try and diminish all these symptoms. It is riskier to use this type of anaesthetic procedure on patients with heart and/or respiratory conditions. This type of anaesthesia is used ONLY when it is not possible to use regional anaesthesia.

**Regional anaesthesia:** This is the ideal anaesthetic procedure for hip and knee replacement and the one we use the most in our patients. It consists in blocking all sensitivity below the waist. It doesn't interfere with brain or lung function, because you are awake during the entire procedure. The anaesthesiologist may administer a mild sedative to induce a light sleep and help you relax.

There are different techniques of regional anaesthesia used to block all sensitivity from the belly button to the tip of both of your feet, but the two most commonly used ones are: 1. Spinal blockage 2. Epidural.

**1. Spinal blockage.** Anaesthetic is injected directly into the fluid that surrounds the spinal chord in the lower part of your back. This procedure induces a quick and lasting anaesthesia to your lower limbs, which can last several hours.

**2. Epidural.** This procedure uses a small tube (catheter) inserted into your lower back to administer anaesthetic in small quantities necessary to block all sensitivity from your lower limbs during the duration of surgery.

There are numerous advantages of using regional anaesthesia over general anaesthesia. Just to mention a few of them: less blood loss during surgery, less coagulation related complications, better postoperative pain management and less complications associated with general anaesthesia.

The most frequent complications encountered with regional anaesthesia are headaches, difficulty in passing urine and allergic reaction to the anaesthetic.

### **Pain management:**

The main advantage of regional anaesthesia over general anaesthesia is pain management in the postoperative period of every hip or knee replacement patient. Thanks to regional anaesthesia, we can leave a small tube (catheter) in the lower back and administer small amounts of anaesthesia during 24 to 72 hours. This will eliminate practically all postoperative pain but you will be able to move both of your lower extremities which will help you start your exercise program a few hours after surgery has ended.

You will be very closely monitored and supervised during and after surgery and throughout the entire hospital stay to make sure that you don't have pain and to detect and promptly treat early complications associated with anaesthetic procedure. You will also receive non steroidal analgesics through an

intravenous line. Before being discharged from the hospital both the intravenous catheter and the spinal catheter will be removed you will continue with oral analgesics at home.

### **Risks and potential complications associated with anaesthesia:**

Without a doubt most medications used nowadays during anaesthesia and most of the anaesthetic procedures are very safe and we rarely see any serious complications related to the anaesthetic procedure. Even though complications are rare, there are still some patients that unfortunately can present serious complications such as: anaphylactic shock, kidney failure, hepatic failure, major bleeding, cardiac arrest, and pulmonary arrest just to mention a few. Many of these complications are closely related to pre-existing medical conditions. Your surgeon and your anaesthesiologist will let you know of potential complications related to your unique case, and they will offer the best and the safest anaesthetic procedure available for you.

### **Don't be afraid of the anaesthetic procedure and postoperative pain:**

Luckily for everybody, current medications for pain management are very safe and effective, Their proper use can quicken your recovery, they can help you gain confidence in having your knee or hip replaced and they can help your surgery become a gratifying experience . We invite you to take your time and discuss all your questions and doubts about this matter with your doctor.

Remember, we are here to help you:

Dr. Isaac Cervantes & Dr. Stefan Martinez van Gils.

**NOTE: The main reason for the above information is to aid patients. We are not responsible for the decisions made by patients without previously consulting their attending physician.**