



*How do you know that I am  
adequately anesthetized?*

# How do you know that I am adequately anesthetized?

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This is one of the most frequently asked questions and a source of a great deal of anxiety and concern among patients undergoing surgical procedures. This topic also has been one of the most intensely studied and debated subjects in the field of anesthesiology. As discussed in chapter one, anesthesia is a temporary loss of feeling or awareness induced by medications allowing surgery to be performed painlessly. This may be provided by blocking the sensation to a small part of the body, to total unconsciousness or general anesthesia. Depending on the type of the surgical procedure and your general medical condition, different anesthetizing choices are available.

If surgery is being performed under local anesthesia, adequacy of anesthesia is evaluated by ensuring the targeted surgical site is completely numb after injecting anesthetic medication. In the case of spinal or epidural anesthesia, the

adequacy of anesthesia is verified by the absence of perception of pin-prick sensation when a rather pointed object is applied to your skin at the surgical site.

The ultimate judge of adequacy of anesthesia in both of these circumstances is the patient who will acknowledge the presence of numbness after anesthesia is provided. In most cases, at this point, intravenous sedative medications are administered to keep the patient relaxed and sleepy while undergoing surgery. But one cannot argue the fact that once under general anesthesia, verification of adequacy and depth of anesthesia are the sole responsibilities of the anesthesiologist.

During general anesthesia, brain function and memory formation are the targets of anesthetic medications, providing you with a sleeplike state devoid of pain or the memory of the surgical procedure. To monitor the adequacy of depth of anesthesia, your anesthesiologist is equipped with a profound knowledge of human physiology and a variety of monitoring devices that directly or indirectly measure the depth and impact of anesthesia on your body and brain function.

To achieve adequate depth of general anesthesia, your body weight, age and presence of co-existing medical conditions are used to calculate the type, dosage and concentration of anesthetic medication. At the same time, the impact of these medications is monitored by fluctuations of your blood pressure, heart rate and breathing pattern, and necessary

adjustments are made continuously throughout the course of the operation.

In recent years, with the introduction of a brain wave monitoring device, the science of anesthesiology and our capability to objectively monitor the depth of general anesthesia has taken a major leap forward. Once general anesthesia is administered (either by intravenous medications or by inhaling the anesthetic agent), the impact of the medications and the depth of anesthesia are monitored by connecting you to this device using a sticky pad placed on your forehead. The numeric readout on this monitor reflects the depth of anesthesia: the smaller the number the deeper the anesthetic.

In summary, it is only by combining the information retrieved from all of the aforementioned monitoring devices and from the fluctuations of your vital signs (blood pressure, heart rate, etc.) that your anesthesiologist will have the capability to determine the depth of anesthesia with a high degree of accuracy, providing you with peace of mind and comfort during your surgical procedure.