Research Assessment #1

Date: September 12, 2024

Subject: Anesthesia Risks

MLA Citation: "Made for This Moment | Anesthesia, Pain Management & Surgery." Made for This Moment | Anesthesia, Pain Management & Surgery, 2024, madeforthismoment.asahq.org/anesthesia-101/effects-of-anesthesia/#:~:text=Postoperative%20delirium%20or%20cognitive%20dysfunction. Accessed 12 Sept. 2024.

Assessment:

Now that I know I am interested in anesthesia, I am excited to continue my research in the field. With so much responsibility in an anesthesiologist's hands, it can be overwhelming. I felt it was imperative to become familiar with anesthesia's side effects and know how much trust is placed in the anesthesiologist. In addition, I thought that it would aid in opening more pathways to specialties in anesthesia.

Overall, anesthesia before surgery is generally safe, but a few complications can come following anesthesia. The more common side effects are headaches, soreness, and nausea. The more severe but rare side effects are temporary memory loss, such as postoperative delirium or cognitive dysfunction. All these side effects depend on the patient's past medical history, age, and the type of anesthesia administered. However, the anesthesiologist must be aware of all these complications and the patient's medical history. Therefore, the anesthesiologist will meet/call with the patient beforehand to take note of background history that can lead to possible complications.

This information can allow me to further my research into other anesthesia-related topics. Knowing these side effects can allow me to do more research on the technological side and use that technology to mitigate possible complications. It can allow me to produce intensive research on specific diseases that can increase a patient's resistance/complications to anesthesia. By having this knowledge of side effects circulate in my head it can allow me to mitigate complications that may arise in the future. It can allow me to prepare in advance and reduce the possible stress of dealing with complications.

On the flip side, the article constantly mentions that many side effects of anesthesia are not as common as people think. It is reassuring to an aspiring anesthesiologist such as myself that anesthesia is a controlled setting where complications do not constantly arise. It allows me to see a stable career in anesthesia. However, these complications occur less often due to all the training and schooling anesthesiologists undergo. It serves as a form of motivation that going through all this hard work to become an anesthesiologist does pay off in the end. Being confident in yourself that the patient trusts you with their life takes many years, and all the schooling proves that the

anesthesiologist has a right to believe in themselves. Personally, this information allows me to constantly be motivated, knowing that the years in the future spent studying will pay off.

I can also analyze different career aspects based on the risk factors. I could do more research on the role of a local anesthesiologist and what risks are associated with that job. I could do extensive research on the responsibilities of a general anesthesiologist or obstetric anesthesiologist. Having the opportunity to learn about the risks in each field can allow me to pick a field that I know I want to do while also mitigating the risks associated with each.

Article Transcript:

Note: All annotations will be in red, italicized, and in Times New Roman font. Key ideas will also be highlighted.

Effects of Anesthesia

Ease your mind and feel more comfortable by understanding what side effects to expect from anesthesia and how to prepare for them. Most are minor and temporary.

Effects of Anesthesia

If you're having surgery, you most likely will have some type of anesthesia to keep you from feeling pain during the procedure *Not all anesthesia is done while patients are unconscious, depending on the anesthesiologist's specialty*. While anesthesia is very safe, it can cause side effects both during and after the procedure. Most side effects of anesthesia are minor and temporary, though there are some more serious effects to be aware of and prepare for in advance.

How can you lower your risk of side effects?

The most important thing you can do to prevent anesthesia side effects is make sure an anesthesiologist *with all the training an anesthesiologist goes through, they are fully capable of keeping the patient safe* is involved in your care. An anesthesiologist is a medical doctor who specializes in anesthesia, pain management *the two are very closely related/work together*, and critical care medicine.

> The most important thing you can do to prevent anesthesia side effects is make sure an anesthesiologist is involved in your care.

Before your surgery, meet with the anesthesiologist to discuss your medical history, health habits, and lifestyle. This information will help the anesthesiologist know how you might react to anesthesia and take steps to lower your risk of side effects *very precise*

medicine for each patient according to allergies, symptoms, etc. This meeting is also a good time for you to ask questions and learn what to expect.

What are the types of anesthesia and their side effects?

There are four main types of anesthesia used during medical procedures and surgery, and the potential risks vary with each. The types of anesthesia include the following:

General anesthesia. General anesthesia causes you to lose consciousness. ***Refer back to Career Industry and Forecast, where in-depth it states what specialties work with patients' unconsciousness and vice versa.*** This type of anesthesia, while very safe, is the type most likely to cause side effects. If you're having general anesthesia, an anesthesiologist

should monitor you during and after your procedure to address any side effects and watch for the possibility of more serious complications.

Side effects of general anesthesia can include:

- **Nausea and vomiting –** This very common side effect can occur within the first few hours or days after surgery and can be triggered by a number of factors, such as the medication, motion, and the type of surgery. ***Each patient reacts differently to each medicine.***

- **Sore throat –** The tube that is placed in your throat to help you breathe while you're unconscious can leave you with a sore throat after it's removed. ***More of a technological issue compared to the medicinal side effects.***

- **Postoperative delirium –** Confusion when regaining consciousness after surgery is common, but for some people — particularly older patients — the confusion can come and go for about a week. You may feel disoriented and have problems remembering or focusing. This can worsen if you are staying in the hospital for a few days after the procedure, especially in intensive care, because you are in an unfamiliar place. Having a loved one with you helps, along with doing some other simple things: wearing your glasses or hearing aids as soon as you can after the procedure and making sure you have family photos, familiar objects, and a clock and calendar in your room. ***Partial amnesia can occur but is less severe, so the anesthesiologist needs to be prepared for this aspect of alerting the patient of what is happening.***

- **Muscle aches –** The medications used to relax your muscles so a breathing tube can be inserted can cause soreness.

- **Itching –** This is a common side effect of narcotics, one type of pain medication sometimes used with general anesthesia. ***On the lesser severity side of side effects.***

- **Chills and shivering (hypothermia) –** This occurs in up to half of patients as they regain consciousness after surgery, and it might be related to body temperature. ***So an ongoing theory, with no set answer or reason.***

Rarely, general anesthesia can cause more serious complications, including:

- **Postoperative delirium or cognitive dysfunction –** In some cases, confusion and memory loss can last longer than a few hours or days. A condition called postoperative cognitive dysfunction can result in long-term memory and learning problems in certain patients. It's more common in older people and those who have conditions such as heart disease (especially congestive heart failure), Parkinson's disease, or Alzheimer's disease.***So assuming the anesthesiologist is aware of medical history, they would tell the patient the risks prior to the surgery.*** People who have had a stroke in the past are also more at risk. It's important to tell the anesthesiologist if you have any of these conditions.

- **Malignant hyperthermia –** Some people inherit ***so it's genetic?*** this serious, potentially deadly reaction to anesthesia that can occur during surgery, causing a quick fever and muscle contractions. If you or a family member has ever had heat stroke or suffered from malignant hyperthermia during a previous surgery, be sure to tell the anesthesiologist.

Monitored anesthesia care or IV sedation. For some procedures, you may receive medication that makes you sleepy and keeps you from feeling pain. There are different levels of sedation — some patients are drowsy, but they are awake and can talk; others fall asleep and don't remember the procedure. Potential side effects of sedation, although there are fewer than with general anesthesia, include headache, nausea, and drowsiness. These side effects usually go away quickly. Because levels of sedation vary, it's important to be monitored during surgery to make sure you don't experience complications. ***Although some might assume an anesthesiologist has less work than a surgeon, in reality they have to closely monitor the patient for the entirety of the surgery.***

- **Headache –** This can occur a few days after the procedure if some spinal fluid leaks out when regional anesthetic is delivered through the spine, as in an epidural or spinal block for childbirth. ***So an obstetrical anesthesiologist would deal with this type.***

- **Minor back pain –** Soreness can happen at the site where the needle was inserted into the back.
- **Difficulty urinating –** If you were numbed from the waist down, it may be difficult to urinate for a little while after the procedure.
- **Hematoma –** Bleeding beneath the skin can occur where the anesthesia was injected.

More serious but rare complications include:

- **Pneumothorax –** When anesthesia is injected near the lungs, the needle may accidentally enter the lung. ***The anesthesiologist's fault?*** This could cause the lung to collapse and require a chest tube to be inserted to re-inflate the lung.
- **Nerve damage –** Although very rare, nerve damage can occur, causing temporary or permanent pain.

Local anesthesia. This is the type of anesthesia least likely to cause side effects, and any side effects that do occur are usually minor. Also called local anesthetic, this is usually a one-time injection of a medication that numbs just a small part ***(when patients is concious)*** of your body where you're having a procedure such as a skin biopsy. You may be sore or experience itching where the medication was injected. If you've had this type of reaction to local anesthesia in the past, be sure to tell your physician. You may be given a different type of anesthetic or a medication to counteract the side effects.

Regional anesthesia. Regional anesthesia is a type of pain management for surgery that numbs a large part of the body, such as from the waist down. The medication is

delivered through an injection or small tube called a catheter and is used when a simple injection of local anesthetic is not enough, and when it's better for the patient to be awake.

This type of anesthesia, including spinal blocks and epidurals ***these two have common side effects***, is often used for childbirth. In fact, an epidural is the most common type of pain control used for labor and delivery. It allows the mother to be awake and able to push when it's time to deliver the baby, but numbs the pain. Another type of regional anesthesia — a spinal block — is stronger and is used during procedures such as cesarean deliveries, also known as C-sections. Spinal blocks and epidurals allow the doctor to surgically deliver the baby without causing pain to the mother, and without subjecting the baby to sedating drugs that might be harmful.***This is something to do more research on because I didn't think of the effect on the baby.***

Regional anesthesia is very safe and doesn't involve the potential complications and side effects that can happen with sedation and general anesthesia. But it does carry some risks, and it's important that it be provided and monitored by an anesthesiologist.