

## COMPLICATIONS OF ORTHOPEDIC SURGERY

All surgery has risk of complications. These are rare but do occur despite our best attempts to avoid them. Some risks are specific to certain operations or injuries and others are present for most orthopedic operations. The strangest or most unusual thing imaginable has probably happened to someone, somewhere so all possibilities cannot be discussed, but some risks that are common to most orthopedic operations are:

- Failure of the surgery
- Infection
- Joint stiffness
- Blood clots
- Injury to nerves or blood vessels

### Failure of the surgery:

This is the most common postoperative problem by far. In many cases it should probably be considered more of an expected risk than a complication. Basically this means that whatever the problem is the surgical solution does not fix it. Some examples are:

A ligament that is repaired or rebuilt may stretch out or tear again.

A fracture that is put together it may fall apart again or the bones may not heal together.

A joint may become arthritic even after an operation that is done in the hope that it will decrease the chance of arthritis.

An operation done in the hope that it will relieve pain may not relieve the pain.

### Infection:

There is 1-2% chance that you will develop an infection after your surgery. You will be given antibiotics so that they will be in your bloodstream prior to your surgery to try to keep the risk as low as possible. If an infection does develop it may be a minor superficial infection that can be treated with antibiotics alone or it may be a deeper and more serious infection extending down the bone or down to any implanted hardware (screws, joint replacements etc). Deep infections can be very difficult to get rid of and it may be necessary to operate again to drain the infection or to remove the implanted devices in order to clear the infection. The incision from your surgery may open up or may have to be opened and allowed to close "from the inside out". Life or limb threatening infections are very rare but do still occasionally occur.

### Stiffness or loss of motion of the joint or nearby joints:

Whenever an area of the body is injured, be it from an injury or disease process, or by surgery, the body responds by guarding the area and forming scar tissue. Guarding the area means that it hurts and naturally you don't want to move it. The formation of scar tissue results in thickening and tightness of the tissues around the joint or of the muscles that move the joint.

These problems were much more severe in the past because we immobilized people in casts, braces, etc. much longer than we do today. Despite the fact that we want you to move earlier, it is still often difficult to regain your range of motion after surgery. In order to have the best result you will have to be consistent, persistent, and tolerate a reasonable amount of discomfort in order to get your motion back. Physical therapists may be able to help but you are only person who can make your motion come back. You need to work on the exercises several times a day. The goal is for you to have a functional range of motion under your own power. You cannot get that by having the movements done by someone else or by a machine.

There are certain situations and injuries where it is almost inevitable that there will be some loss of range of motion (Loss of motion is the norm after elbow fractures and fractures near the ball

of the shoulder for instance). Even in those situations you need to work hard to get the best result you can.

Some people have an unusually vigorous scar or pain response (arthrofibrosis) after surgery and despite everyone's best efforts end up with a permanent loss of motion.

#### Blood Clots:

The type of blood clots that we are concerned about are clots in the deep vessels of the legs that most commonly occur after surgery on the leg. The reason for concern is that such clots can break free and migrate up to the lungs stopping the flow of blood which can be fatal. The usual symptoms of a blood clot are: swelling of the leg, and pain in the calf. These symptoms are obviously present to some degree after most injuries and operations on a leg so it can be hard to tell if a blood clot is present. Blood clots are relatively common with some procedures such as joint replacements. They are very unusual with arthroscopic surgery. If your leg is becoming more swollen than you would reasonably expect, particularly if it is getting worse rather than better, you should call the office or go to the emergency room.

Pieces that break off and are not large enough to completely block the flow of blood in the lungs can cause chest pain and shortness of breath. If you develop these symptoms it is an urgent situation and you should go to the emergency room as soon as possible to be evaluated.

#### Injury to major nerves or blood vessels:

Whenever we do surgery the most superficial blood vessels and nerves (the ones that go to the skin where the incision is made) are injured. It is expected that right over and immediately adjacent to the incision that you will have a small area with sensation that is not quite the same as the skin in an unaffected area. That is an expected situation, not a complication.

Injury to the major nerves and blood vessels that go further down the limb is a very unusual complication. Our surgical approaches to the area are designed to minimize the risks to the major nerves and blood vessels. Directly injuring a neurovascular structure, for example by cutting it, is very unusual. Such injuries are more likely if the anatomy is abnormal for some reason such as scarring from previous surgery or injury.

It is more likely that an injury may occur by having pressure or tension on a nerve as the limb is positioned or from a tourniquet that is used during the procedure. The vast majority of such injuries are temporary, but recovery is difficult to predict in terms of how long it may take or how much recovery may occur.

Complications are unfortunately an unavoidable situation with surgery and when you decide to have an operation you have to weigh the relative risks of surgery against the benefits. People often say things like "I'm a good healer" or "I never get infections". I hope that that is the case, but the people who do develop these complications are people just like you, and the surgeons whose patients develop these complications are just like me. Unfortunately you can not bargain for a better deal.

Trying to solve very minor problem by surgery may not be worth the risk. The more severe the problem is the more risk is acceptable to try to solve it. If you develop a complication you will feel better if you can look back and say that the problem was bad enough that the risk was worthwhile.