What to Know and Ask Before Surgery

Skeletal dysplasias increase the risks a patient faces with anesthesia and surgery.

These risks include:

- A higher risk of death and complications.
- Problems with placing the breathing tube used during surgery.
- Problems with breathing and lung function during and after surgery.
- Higher risk of nerve and spinal cord damage during surgery.

Haldar et al., 2013.

Why are the risks higher?

The shapes of the neck, windpipe, and chest are different. The neck and chest are often shorter and smaller, and joints are stiffer. This means it is more difficult to place a breathing tube and breathe during anesthesia and surgery.

It is very common to have a stiffer spine with a curvature that often has less space for the nerves and spinal cord. During surgery, the spinal cord and nerves may get compressed and damaged by lying in one position for a long time asleep. This can happen even if the surgery is not on the spine itself.

What steps can help make anesthesia and surgery safer for patients with skeletal dysplasia?

The SDMC recommends a medical evaluation before surgery, and this should always include a full body exam, including an examination of the airway and neck motion and a complete neurological exam. The pre-surgery medical evaluation should be done by a team that commonly sees patients with skeletal dysplasia. Most patients will need imaging of their spine before surgery, and this may include X-rays and MRI. Most surgeries should be performed at a center with skeletal dysplasia specialists and an ICU available.

SDMC
SKELETAL DYSPLASIA MANAGEMENT CONSORTIUM

Checklist for Skeletal Dysplasia Patients before Surgery

Question	Reason	Response
Is the hospital able to manage life-threatening surgical and/or anesthetic complications?	Patients with skeletal dysplasia have higher rates of life-threatening complications with surgery and anesthesia.	
Have I had a comprehensive neurological examination before surgery with general or regional anesthesia?	There are higher rates of neurologic injury after surgery in patients with skeletal dysplasia.	
Has the shape and stability of my spine been assessed before surgery? Do I need more imaging?	Many patients with skeletal dysplasia have a spinal deformity. Many also have instability, especially of the neck. X-rays should be done, and often MRI.	
Have my airway and lungs been adequately assessed by a lung doctor and ear/nose/throat doctor?	Patients with skeletal dysplasia commonly have differently shaped airways that may make anesthesia and breathing during surgery difficult.	
Are my anesthesia and surgery teams aware of my diagnosis and prepared for the risks associated with it? Do they have specialized equipment for difficult airways?	Patients with skeletal dysplasia are best cared for by teams experienced in their diagnosis. Special equipment and an experienced anesthesia team should be available during the start of surgery to place the breathing tube, and at the end for wake-up and removal of the breathing tube.	
Has my heart function been assessed before surgery?	Particularly for adults with skeletal dysplasia, there is increased risk of heart problems. These should be assessed before surgery occurs.	
Do I need a sleep study?	Many patients with skeletal dysplasia have breathing problems lying down and during sleep. A sleep study is very helpful to check for these and make surgery safer.	
Is my spinal cord at risk during surgery? Do I need neuromonitoring (a system that monitors nerve signals between brain, spinal cord, and limbs during surgery)?	Some patients with skeletal dysplasia have spinal curvature and less space for the spinal cord, putting them at risk for paralysis even for non-spine surgery. Neuromonitoring can help lower this risk.	