



# Cabrini Scoliosis and Paediatric Spinal Service

## If your child needs spinal surgery

### The growing child

If a child still has substantial growth and has not responded to other treatments, it may be necessary to come up with an alternative to the definitive surgery of anterior or posterior instrumentation and fusion of the spine. Alternatives include Vertebral Body Tethering (VBT) or Non-fusion lengthening.

#### Vertebral Body Tethering (VBT)

In VBT, screws are placed into the involved vertebrae from the front, but rather than a metal rod being placed between the vertebrae, a polyester tether is inserted. This allows the vertebrae to have 'guided growth' (to straighten even further with growth) as well as have the benefit of motion. This also allows for a quicker recovery period. This approach results in an acute partial correction of the scoliosis and takes advantage of future growth to result in further correction of the scoliosis over time. The advantage of this surgery is that it preserves growth and flexibility, and may result in continuous correction of the spine over time, while not stiffening the spine.

### Children post growth spurt

#### Posterior Spinal Fusion

The most common operation for scoliosis in Australia is a posterior spinal fusion. This surgery is done 'from behind', with instrumentation realigning the spine

enabling the vertebrae to fuse together into a single, solid bone. Philosophically, surgeons at Cabrini are committed to selective position instrumentation to ensure the levels fused are kept to a minimum.

#### Anterior Spinal Fusion

Some curves (usually those located at the throacolumbar junction) lend themselves to an anterior surgical approach, which allows both a very powerful correction, but importantly a decrease in the number of vertebrae that need to be fused.

### Neuromuscular patients

#### Bipolar instrumentation

In the past, neuromuscular patients who needed instrumentation were treated with long instrumentation and fusion. But new techniques, using bipolar instrumentation, have seen excellent results. This surgery allows for very minimal spine exploration as a special 'Tanit' screw is placed from the pelvis into the spine and then joined by a rod into the upper thoracic spine. This technique results in excellent correction without exposing the child to extensive surgical injury.

**Cabrini provides the latest technology, innovative techniques and comprehensive care for your child's spinal surgery.**

## **Cabrini Paediatric Ward**

This unit is highly trained and committed to providing the best care for your child as they undergo this major procedure. The hospital has a modern ward with dedicated, experienced nurses to take care of all scoliosis patients.

## **New state-of-the-art theatre suites**

Our 2019 hospital expansion included two new spine/neuro theatres, which allow the entire surgical team to operate with the latest in innovation and technology, including:

- 'THE O-arm' – an intraoperative CT scan, which allows the surgeons to immediately confirm that all pedicle screws are placed as desired
- Intraoperative navigation to aid in placement of instrumentation in difficult cases
- 'Cell saver' which allows lost blood to be reprocessed and given back to the patient, to help decrease the need for a blood transfusion

In addition, our process of spinal cord monitoring enables the surgeon to be aware and respond to any threat of damage during surgery.

## **Paediatric Orthopaedic Anaesthetists**

### **Dr Chantal McNally**

Paediatric Anaesthetist and Director of Anaesthetics

Dr Chantal McNally is a specialist paediatric anaesthetist, having trained and worked at the Royal Children's Hospital for many years. She has a special interest in pain management of the paediatric patient.

### **Dr Ben Turner**

Paediatric Anaesthetist

Dr Ben Turner is a member of the Royal Children's Hospital orthopaedic team and is also an intensive care physician, which means he is well-equipped to deal with any issues which may arise following scoliosis surgery.