Patient Information Booklet

VERTEBRAL BODY TETHERING SCOLIOSIS SURGERY

Queensland Government

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Briz Brain & Spine

All information contained in this booklet has been supplied by qualified professionals as a guideline for care only. Seek advice from your specialist for specific concerns regarding your child's health or surgery.

VERTEBRAL TETHERING SURGERY

This booklet aims to provide you and your family with some general information about your child's stay at the Mater Hospital, expectations when they are discharged, and to help answer any questions or concerns you or your child may have.

What is vertebral body tethering (VBT) scoliosis surgery?

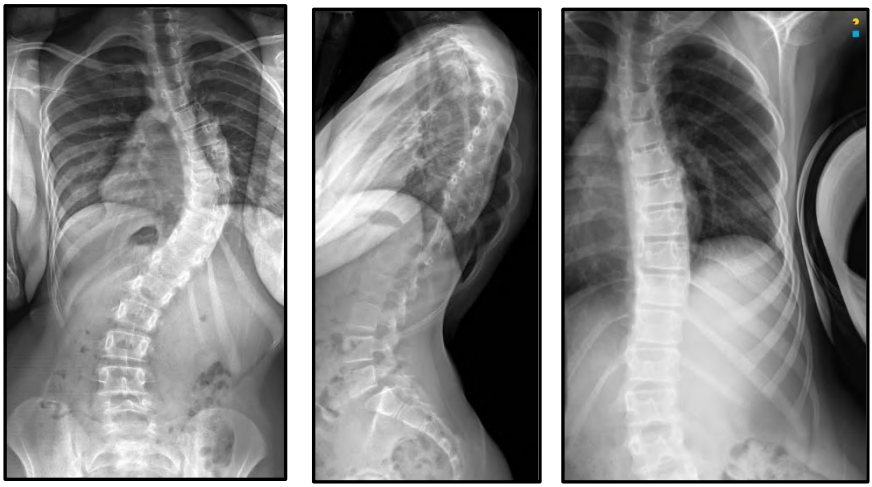
Vertebral body tethering is a procedure that is offered to children before their pubescent growth spurt, who have a significant scoliosis that is not amenable to any other treatment.

It is a growth modulation technique that is aimed at restraining growth on one side (the convex side) of the spine while allowing growth on the other side (the concave shorter side) to continue as normal. The aim of this guided, growth friendly intervention is that it will result in some correction of the scoliosis curvature as the spine continues to grow and therefore not require any further intervention in the future.

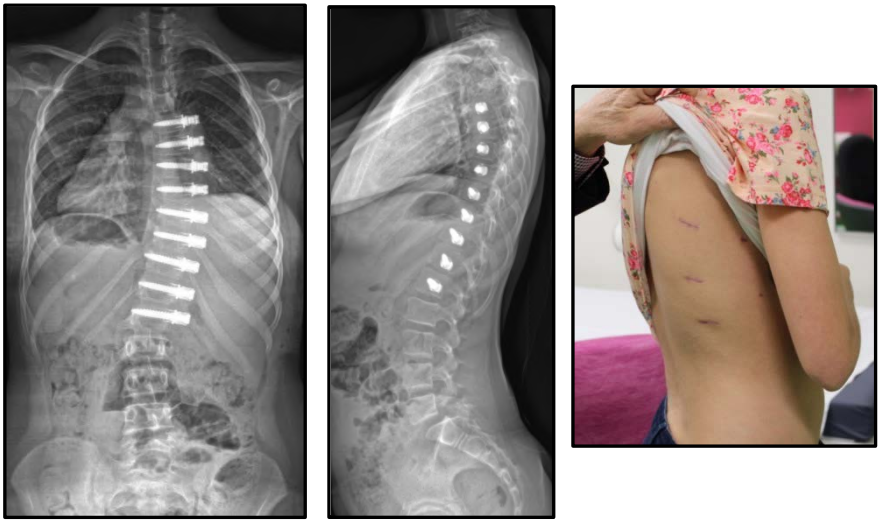
The surgery is performed as a minimally invasive or keyhole procedure under a special anaesthetic that permits one of the lungs to be deflated temporarily to expose the spine inside the chest cavity. While asleep lying on your side, special telescopic instruments allow the surgeon to enter the chest cavity through 3 or 4 small incisions made between the ribs - each about 2cm long. A single screw is placed in each vertebra bone (usually 6-8 screws) involved in the scoliosis curve. A strong polyethylene strap is then attached to the screws which corrects the deformity to some degree and stabilises the curve in the hope that growth over subsequent years will slowly correct the remaining deformity.

No fusion of the spine is performed in this procedure and generally no brace is required afterwards either.

This procedure is not guaranteed to work and if the scoliosis continues to progresses then it may require further surgery or in some cases a definitive spinal fusion at a later date.



X-Rays before surgery; standing & side views & bending over a roll to assess the curve's flexibility



X-Rays after surgery; standing & side views, and scars at 2 months

Preop appointment with your doctor:

• The doctor will give you detailed information about the surgical plan and you will sign consent forms

• You may ask any questions or raise concerns you have regarding the surgery or hospital stay

• The doctor and practice staff will explain your planned care in hospital from admission through until discharge.

• We will discuss the guidelines for your child's return to normal activities after the surgery (see Table on Page 11). These are general guidelines only of when you may return to these activities – please discuss any specific activities with your doctor.
Please note: Parental supervision is required at all times.

• Your child will have the following tests that will be arranged in the preadmission visit:

- ✓ blood tests
- ✓ ECG
- ✓ Spine imaging (X-Rays, EOS scans)

- Further investigations may be required after your child's surgery.
- It is very important to advise the doctor if your child is taking any medication which may thin the blood as this can result in bleeding during surgery (e.g. aspirin, nurofen, fish oil, krill oil or herbal extracts)

Before admission to hospital

If your child has any of the following symptoms, please notify the doctor's office ASAP prior to admission.

Symptoms including:

- general 'unwell' feeling
- ear infection
- cough or cold
- vomiting or diarrhoea
- contact with infectious illnesses e.g. measles, chicken pox
- any broken skin or acne
- fever

Before surgery: have you discussed the following with the doctor?

- your plans for staying with your child while they are in hospital
- your child's medical condition/s and any previous surgeries
- the expected recovery outcomes (discharge criteria) for spinal surgery
- your child's regular medicines, including herbal or homeopathic tonics
- any allergies or reactions to medicines, iodine, soap, tapes or foods
- fasting instructions before the surgery
- does your child have a bowel routine

What to bring to hospital

- pyjamas and/or clothes that are front opening for easier dressing
- toiletries, including toothbrush, toothpaste, hairbrush
- comforters (e.g. blankets, teddy bears, pillow)
- your child's regular medications & any relevant medical information
- sanitary pads or tampons as required by your child
- any special dietary requirements
- electrolyte drinks (e.g. Gatorade)
- Mobile phone, iPad, favourite DVD's (Free Wi-Fi available)

The Day of Surgery

You will be admitted to the Mater Hospital (Level 5 Welcome Lounge) the morning of the surgery in most cases. The morning of surgery, just before you leave home, your child will need to have a shower or bath and wash themselves with antibacterial wash. If your child is allergic to iodine or soap, please discuss other options at your preadmission visit.

Your child will be fasting as per the preop fasting instructions provided. This means that they cannot have anything to **drink or eat** (including water, chewing gum and/or lollies) before the surgery.

On the day of surgery, you and your child will be seen by the anaesthetist and the doctor prior to surgery. It is important to tell the doctor, anaesthetist or admitting nurse if your child is taking any medicines, including herbal or homeopathic tonics. Your child will be weighed and vital signs (temperature, pulse, respiratory rate, blood pressure) will be recorded. Your child will be asked to wear a hospital gown. Long hair should be plaited (no metal hair bands please).

The admitting nurse will apply an identification band to your child's wrist or ankle, which stays on for the duration of admission for identification and safety reasons. If the identification band falls off or is pulled off, please notify nursing staff as a new one will need to be applied. The admitting nurse will ask about your child's medical/surgical history and any particular needs your child may have while in hospital. It is important to provide staff with detailed and accurate information, so that they can properly plan to meet your child's needs.

The anaesthetist may request medicine be given to your child before surgery, which can cause drowsiness. It would be advisable to take your child to the toilet before their pre-medication. After their pre-medication, your child should remain on their bed and supervised at all times.

While your child is having their surgery, you may wait in the designated parents' lounge. If you wish to leave this area, please inform the receptionist of your contact number.

Post- operative phase

After surgery, a nurse will call you when it is possible for you to see your child. It can be distressing to see your child after surgery—they may be sleeping, crying or be quietly awake. Your presence when your child 'wakes up' is important, as they will need to see a familiar, caring face. Often children will begin to cry when they see a familiar face/parent.

If you wish to stay overnight with your child, a bed for <u>one person only</u>, is available in your child's room. Please discuss this with your doctor's office staff and the admitting nurse.

Your child can expect to have the following:

- monitoring equipment
- intravenous (IV) therapy—(a 'drip') for fluid & another for pain relieving medicines
- urinary catheter
- large dressing covering their wound
- a chest tube

The nurse will be monitoring your child regularly. This includes checking temperature, pulse, breathing rate, blood pressure, circulation, intravenous therapy, wound dressing and their level of comfort. When your child is fully awake after the surgery, they will be able to have clear fluids such as electrolyte drinks (Gatorade or Sports drinks), cordial, soup and juice. Then your child will progress to 'Fortisips' (protein drink like Sustagen) and if this is tolerated well, they may start having normal meals. Please ask the nurse before giving your child anything to drink or eat as the nursing staff must record what amounts your child is drinking and eating. Your child's IV therapy continues until they are eating and drinking normally.

It is not uncommon for your child to feel mildly sick after an anaesthetic and in the first few days following the surgery. Please inform the nurse if your child is feeling sick or vomiting. If this becomes a persistent problem, medicines may need to be given or altered.

It is important your child's pain is controlled and they are comfortable. In the first few days after surgery, your child will have strong pain medicine through an intravenous (IV) line as well as local anaesthetic delivered directly onto the spine via an epidural line. The nurses will monitor your child's progress every day while strong pain medicine is required. Other pain relieving medicines may also be given by mouth. The nurse will assess your child's level of comfort using a pain assessment scale. You will be actively involved in helping the nurses monitor your child's level of comfort.

There will be a chest drain for approximately two days to allow fluid to drain from the chest cavity. The wound dressings on your child's back will be changed before you leave hospital. A waterproof dressing will be applied to allow for showering or bathing. Prior to this, your child will have a daily sponge in bed.

The urinary catheter will be taken out by nursing staff on the first or second day usually. The nurse will be recording the amount of urine that your child is passing. The nurse will also record when your child has a bowel motion. After surgery, your child may not have a bowel motion for a few days. This may be because your child is not having their normal diet and/or the pain medicines may cause constipation.

Early menstruation or break-through bleeding may occur in adolescents following surgery. This is not unusual when you have a major surgical procedure.

Your child can sit up or stand as soon as they are able to do so, usually on the first day after surgery. The physiotherapist will assist with this as well as with breathing and circulation exercises.

Each day your child is in hospital, they will be visited by their team of doctors to make sure they are recovering well. Blood tests and chest X-Rays may be needed at times during the hospital stay. If you have any concerns with your child, please speak with the nurse or the doctors caring for your child. We understand that this may be a very difficult time for your child and your family and we aim to make the following days as comfortable as we are able for you and your child.

Your child can aim to be discharged from hospital on Day 4 after surgery, or when they have met the expected discharge criteria. Please speak to your child's doctor about the discharge criteria.

Physiotherapy during your stay

A physiotherapist will visit your child each day to assist with:

- deep breathing exercises and coughing techniques
- moving about in bed while taking care of the spine
- getting in and out of bed correctly with assistance as required
- standing and walking after surgery
- stair climbing and increasing endurance
- the six-minute walk test before they go home
- providing a home program tailored to suit your child's needs.

The physiotherapist will assist your child to get out of bed correctly on the first day after surgery using a log rolling technique. Your child may sit on the edge of the bed for a short time and stand with assistance. Following surgery your child will sit out of bed at least twice a day and gradually increase the distance walked and their independence. Breathing exercises are important and your child will be encouraged to do these regularly.

Discharge phase

Your child will have X-Rays or EOS imaging before leaving hospital. Your child will be ready to go home when the doctor treating your child considers them ready for discharge, and when they:

- are walking freely and independently, including stairs or are mobilising as per preadmission
- are tolerating a well-balanced diet
- are tolerating normal daily activities
- have effective control of pain with oral tablets/medicine
- the wounds are healing well
- your child may feel slightly breathless on exertion (e.g. walking upstairs) for up to six weeks – this is normal.

At all times seek medical advice if:

- your child has a fever, chills, redness, warmth or foul smelling drainage at the wound site
- your child's pain increases/worsens
- you have any questions or concerns.

Return to activity guidelines	1 -2 weeks	8 weeks	3 months	6 months
Shower	Yes			
Walking	Yes			
Passenger in car	Yes			
Sit in swim pool (no stroking)	2 weeks			
School – start with shorter days	No	3-4 weeks		
Lifting up to 7kg	No	Yes		
Pilates session	No	Yes		
Stationary exercise bike	No	Yes		
Swimming in pool - NO diving	No	Yes		
Drive prolonged period e.g. ≥ 2 hours	No	Yes		
Carry heavy school bag (approx. 10kg)	No	No	Yes	
Bicycling	No	No	Yes	
Light jogging	No	No	Yes	
10-pin bowling	No	No	Yes	
Non-contact sports	No	No	Yes	
Tennis or Golf	No	No	Yes	
Horse-riding but NO jumps	No	No	Yes	
Basketball	No	No	No	
Routine PE class	No	No	No	Yes
Swimming in shallow surf	No	No	No	Yes
Skiing	No	No	No	Yes
Diving into pool	No	No	No	Yes
Bowling (Cricket)	No	No	No	Yes
Horse-riding with jumps	No	No	No	Yes
Lifting ≥ 20kg	No	No	No	Yes
Gymnastics	No	No	No	Yes
Playground Equipment	No	No	No	Yes
Amusement park rides	No	No	No	Yes
Contact sports	No	No	No	Yes
Rowing machine	No	No	No	Yes
Rollerblading or skating	No	No	No	Yes
Special Instructions?				

Scoliosis Comic Book

http://www.medikidz.com/Redirection/Scoliosisau/English/index.html
or
Download the App – Search 'Medikidz explain Scoliosis'

Scoliosis information websites

www.niams.nih.gov/health_info/scoliosis
www.srs.org/patients-and-families
www.iscoliosis.com
www.spineuniverse.com/conditions/scoliosis
www.scoliosis-australia.org

Contact us

For emergency medical treatment, call the Queensland Ambulance Service on 000.

For prompt general advice about your child's condition or general health, call 13 HEALTH (13 43 25 84)

For medical review of your child, please present at QCH Emergency, your local GP, or your local hospital.

Queensland Children's Hospital - (07 3068 1111)

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Still have questions?

Write down any questions here to discuss at your next appointment.