

Abnormal bladder function

Normal bladder behaviour

Infantile

Babies empty their bladder by reflex

- a full bladder initiates a bladder contraction
- these contractions are frequent but not always sustained, so the bladder does not always empty completely

Mature

There are 3 essential components to normal mature bladder behaviour. The age at which these develop varies.

1. Detrusor inhibition

If a child with a mature bladder feels the beginning of a bladder contraction at an inconvenient time or place, he or she will be able to send a message from brain to bladder that tells the bladder to cease contracting. This message is received and the bladder stops contracting, resulting in a loss of urge to void.

2. Cortical initiation

This is a brain-bladder message relay which starts a bladder contraction at a socially appropriate time / place. In a normal bladder, this will be coordinated with relaxation of the pelvic floor, to achieve smooth and complete bladder emptying.

3. Voiding to completion

In a normal bladder, bladder contraction will be coordinated with relaxation of the pelvic floor, to achieve smooth and complete bladder emptying.

These processes develop at different rates and different times in children.

Common childhood bladder problems

"Underactive" - The Infrequent Voider

These children are often distracted by events while they are playing and ignore the early signs of a full bladder. They often toilet-train easily and can "hold-on" for long periods. It is more common in girls.

Once the child has an over-full bladder, a powerful bladder contraction will occur that cannot be inhibited, and the child wets. "Holding-on" habits can lead to failure to relax completely when voiding, which in turn leads to incomplete emptying (and risk of infection: see below).

"Overactive" - The Frequent "Wetter"

Difficulty with bladder due to immaturity of brain-bladder communication, or bladder overactivity, can result in frequency and urgency of voiding.

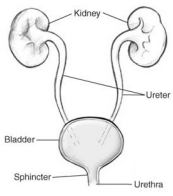
These children have often a history of difficult or prolonged toilet training. A girl may squat on her heel and a boy may grab his penis at the onset of 'urgency'.

Incomplete emptying

If there is interruption to voiding, or incomplete relaxation of the pelvic floor, the bladder does not empty completely. Normal voiding pattern will have a gradual reduction in force toward the end. Interrupted voiding can be observed by listening to the child void: if the urinary stream shuts off abruptly, then the child is likely to have closed their sphincter early and has not emptied completely.

Constipation

A child who has trouble with bladder emptying frequently also has problems with bowel emptying. Constipation often needs concurrent treatment.



Abnormal bladder function

Treatment

Motivated Child

Bladder training programmes cannot be effective without the cooperation of the child.

Incentive charts for good efforts do work, but the child needs to be motivated and involved.

Timed Voiding

Regular voiding by time, rather than sensation can improve both infrequent voiders and wetters.

5-6 times per day is a normal frequency.

Any child who has an urge to rush to the toilet has already waited too long.

Void with Relaxation

Straining can often push out some urine, even without adequate relaxation of the pelvic floor.

Without good relaxation, however, the bladder does not empty completely

Encouraging your child to sing or sigh while voiding can help them to relax their muscles, and makes it impossible for them to strain.

Learn to Void to Completion

For a child with an abruptly-ending stream (incomplete emptying suspected, you can try encouraging them to:

- sit on toilet for duration of a song or rhyme
- "double voiding": having another try a bit later
- making sure the child is seated with feet flat on a step if they cannot reach the floor

Medication

* Often necessary to treat associated constipation

* Anticholinergic agents may be used to "calm" the bladder muscle (detrusor) in the overactive or unstable group.

* All medication *is in addition to*, not a replacement for, good bladder training.

A Simple Start

Check with GP

- urinary infection?
- constipation?

Regular Voiding

Make a chart to remind your child to go to the toilet:

- before breakfast around 7am
- before morning tea around 10am
- before lunch around 1pm
- before afternoon tea around 4pm
- before dinner around 6pm
- before bed

Tips for Success

- Make sure they still drink adequate amounts of fluid, especially water – concentrated urine irritates the bladder and makes overactivity worse
- Involve your child in designing and maintaining their chart
- Use incentives of interest to your child, eg. special stickers or small rewards. Use small steps to reward: going to toilet on all 6 occasions or going without prompting.
- Applaud successes rather than criticize failures. Reward effort rather than outcome.
- Enlist teacher / childcare worker to help remind and support
- Try not to lose heart – success does not come overnight