



The Doctor Is In

By Dr. David Hill

Bedwetting

Busy parents are used to multitasking. Who hasn't taken a phone call while also changing a diaper and microwaving macaroni? Kids also multitask, but when children sleep and pee at the same time things get messy. In fact bedwetting (nocturnal enuresis) is the most common urinary complaint in pediatric offices.

How do we pee (void)?

Holding urine in the bladder, then releasing it voluntarily is a learned skill that requires complex developmental processes. The bladder wall includes nerve fibers that sense stretching. As the bladder fills with urine those fibers tell the brain how full it's getting. The brain has to coordinate two sets of muscles in order to hold and release urine. The urinary sphincter is a muscular ring at the bladder neck that holds urine in. The detrusor is the web of muscle around the bladder that contracts to push the urine out. Voiding requires the child to sense a full bladder, relax the urinary sphincter, and simultaneously contract the detrusor.

At what age should a child be able to stay dry all night?

Most children master voiding in the daytime by age 4. But at age 5, only 85% of children are dry at night. About 3% of kids gain this skill in each subsequent year of life so that by age 10 only 5% of children wet the bed. But even in the teenage years, 1% to 2% of kids still have trouble. Wetting is a little more common among boys than girls. Many parents become concerned about their children's wetting when their kids turn five. Children usually are bothered later, at age 6 or 7, when it may interfere with social plans. Overall up to 7 million children are affected in the US at any given time.

What about daytime wetting?

About 15% of children with nocturnal enuresis also have daytime problems (diurnal enuresis). These kids present a more complex challenge. In next month's *Wilmington Parent* we'll review daytime wetting separately.

Are bed-wetters heavy sleepers? Are they disturbed?

The theory that children with enuresis are "heavier sleepers" has been popular,

but sleep studies have failed to show any difference in sleep or arousal patterns in these kids. Another outdated concept is that bedwetting stems from psychological stress. More recent studies suggest we had this backwards: wetting may cause psychological stress, but stress doesn't cause wetting.

Then why do some kids wet the bed?

Different children have different reasons for voiding at night. Genetics play an important role. Seventy percent of children with nocturnal enuresis have at least one parent who wet the bed. Some children have small bladders or suffer from bladder spasms. Other children may have normal bladders, but their kidneys make excessive or overly dilute urine at night, overwhelming the bladder's capacity.

A small number of children (5%) develop enuresis as a sign of a more serious medical condition such as diabetes, bladder infection, or neurologic abnormality. This is more likely among children who develop enuresis after an initial period of being dry at night. The most common reason for nocturnal enuresis is simply that kids mature at different rates. Every child doesn't learn to read or ride a bike at the same age, and some take longer than others learning to sense and respond to a full bladder.

What will my child's doctor want to know?

As always, your doctor will start by asking questions. It may help to keep a diary of your child's voids and bowel movements for several days before your appointment. The doctor will also ask about associated symptoms such as painful urination, urinary urgency, alterations of the urinary stream, or constipation. Family history is important, as well as information about the child's social environment and the impact the problem is having on the child and other family members. Let your doctor know if your child snores loudly, which could be a sign of sleep apnea. Be sure to let the doctor know what medications your child is taking, including over the counter meds and dietary supplements; some medications can cause children to retain urine.

What kind of exam will the doctor do?

As always, the exam should be complete, including a look at the tonsils for signs of sleep apnea as well as a thorough abdominal and neurologic exam. You might prepare your child for a genital exam, stressing that this is something only doctors do and only in the company of parents (or guardians). The doctor may even want to see your child void, especially if there's a question of some sort of interference with the urinary stream. A urine collection will always be a part of the initial evaluation. Other labs and studies are rarely needed but may be indicated based on what the doctor finds.

What's the best therapy for bedwetting?

Step one is to avoid punishment or ridicule. Reassure the child you know he/she is not doing this on purpose and make yourself a partner in the solution, not an adversary. The child should help with morning clean-ups, but not in a punitive way. A reward system such as a star chart will help up to a quarter of children in the first three to six months of treatment.

The single most effective therapy is a bedwetting alarm. These devices have a moisture sensor placed in the underwear and a vibrating or audible alarm attached to the child's clothing to awaken him, hopefully in time to finish voiding in the toilet. Alarms and behavioral therapy require months to work, but they have a cure rate of 70%, more than any medication. The two medications that seem to help are imipramine and DDAVP. Imipramine is an older antidepressant that suppresses bladder contractions. DDAVP is a pill or nasal spray that reduces the kidneys' production of urine.

The good news is that, no matter what you do, bedwetting is likely to eventually go away. In the meantime, you can work effectively with your doctor and your child to build a bridge over troubled waters.

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