

# Let's Talk About...

## Autonomic dysreflexia

Autonomic dysreflexia (ought-oh-NAH-mic dis-reh-FLECK-sea-ah), or AD, is the body's response to pain or discomfort after a spinal cord injury. It is also called dysreflexia or autonomic hyper-reflexia. AD happens when your child has a spinal cord injury at or above the T6 vertebra in the spine. If your child's injury is below T6, they are not at risk for AD.

### What happens during autonomic dysreflexia?

During autonomic dysreflexia, your child's blood pressure rises to a dangerous level because a spinal cord injury can stop sensations like pain or discomfort from reaching your child's brain. When the brain doesn't receive the message that your child is in pain, your child's body panics and increases blood pressure. High blood pressure is a medical emergency and can cause seizures, strokes, and even death. AD episodes may last for minutes or hours.

Many children with a spinal cord injury at or above the T6 vertebra will have an AD episode. Some teens with spinal cord injuries say AD episodes are like having a "sixth sense" that something is wrong. They have learned to recognize and respond to the new message and have kept themselves safe.

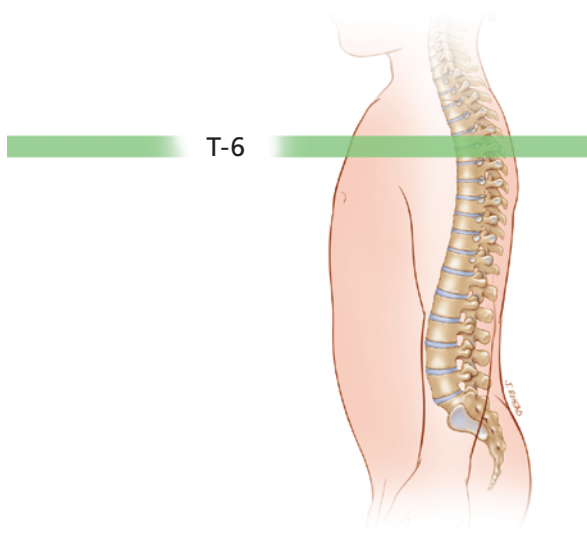
### What are the signs of autonomic dysreflexia?

- Hypertension (increased blood pressure)
  - 0–13 years old: 15mmHg or greater increase in blood pressure
  - 14 years and older: 15–20mmHg or greater increase in blood pressure
- Bradycardia (slow heart rate) or tachycardia (fast heart rate)
- Extreme headache
- Feeling nervous, worried, or scared
- Red cheeks, neck, or shoulders
- Blurry vision
- Stuffy nose
- Upset stomach
- Nausea

### Above level of injury:

- Sweating
- Goosebumps
- Tingling





#### **Below level of injury:**

- Chills without fever
- Cold and sweaty skin
- Cool skin
- Pale skin

#### **What can trigger autonomic dysreflexia?**

The most common triggers for AD are a full bladder or full bowel. Other triggers include:

- Bladder infection
- Kidney stones
- Urinary or bowel tests
- Bed sores
- Broken bones
- Ingrown toenails
- Infections
- Pain, heat, or cold below the injury level
- Uncomfortable body position
- Stomach or bowel diseases
- Pregnancy
- Sexual activity

#### **Why do I need to understand my child's blood pressure?**

Normal resting blood pressure for children with a spinal cord injury is often much lower than in children without a spinal cord injury. You need to know your child's new normal blood pressure to understand the severity of the AD episode.

The top number of the blood pressure (BP) is called the systolic BP. The bottom number is called the diastolic BP.

To determine the severity of your child's AD episode, you must see how much the systolic BP has increased from their normal blood pressure. Calculate the increase by subtracting the current systolic BP from your child's baseline systolic BP:

For example:

Current blood pressure: **120/80mmHg**

Baseline blood pressure: **90/60mmHg**

- Find the difference between the systolic pressures:  
 $120 - 90 = 30\text{mmHg}$
- Your child's BP has increased 30mmHg

#### **What should I do if my child has autonomic dysreflexia?**

- Sit your child up and lower their legs. Relieve any pressure on their body.
- Loosen your child's clothing and remove braces, socks (including compression socks), and shoes.
- Take your child's temperature. If it is higher than  $101.3^{\circ}\text{F}$ , remove blankets and try to cool your child down.
- Monitor your child's blood pressure and heart rate every 5 minutes. How you treat AD depends on your child's age and their blood pressure.

**It is important to know how to respond to your child if they are showing signs of autonomic dysreflexia. Your response will depend on your child's age and blood pressure severity. Cause**

**0–13 years old:**  
**BP is 15–30 mmHG above baseline**

**14 years and older:**  
**BP is greater than or equal to 20 mmHG above baseline**

Empty the bladder

- Catheterize with lidocaine
- Check indwelling catheter for kinks

- Check blood pressure
  - If blood pressure is normal and signs of AD have resolved, you are done
  - If blood pressure is still elevated or has increased, consider medicine (if the doctor has prescribed medicine for high BP)
- Manage bowel with lidocaine

**0–13 years old:**  
**BP is greater than 30 mmHG above baseline**

**14 years and older:**  
**BP is greater than systolic BP of 150 mmHG**

- Consider medicine (if your child's doctor has prescribed medicine for high BP)
- Empty the bladder
  - Catheterize with lidocaine
  - Check indwelling catheter for kinks
  - Put lidocaine into the rectum (bottom)
- Check blood pressure
  - If blood pressure is normal and signs of AD have resolved, you are done
  - If blood sugar is still elevated, complete the bowel program to empty the rectum
- Check vital signs again
  - If blood pressure is still elevated and you have not given your child medicine, give medicine and monitor the BP
  - If medicine is not available, take your child to the emergency room

If your child's blood pressure stays high and you can't figure out why, go to the emergency room. Tell the healthcare provider that your child is having an autonomic dysreflexia episode.

## How can I prepare for autonomic dysreflexia?

To prepare for an AD episode:

- Tell your child's teachers, family members, caregivers, and primary healthcare providers about autonomic dysreflexia. This helps them know what to do in an emergency. Many healthcare providers, including emergency room doctors, do not know what AD is.
- Print two AD wallet cards from this website: [http://s3.amazonaws.com/reeve-assets-production/AD-Guide\\_pedsweb-5-16.pdf](http://s3.amazonaws.com/reeve-assets-production/AD-Guide_pedsweb-5-16.pdf). Fill them out with your child's information and keep one in your purse or wallet. Put the other in a dysreflexia kit (see below).
- Create a dysreflexia kit, and keep it with your child at all times. It should include:

- A blood pressure cuff and stethoscope
- Numbing ointment for the rectum
- Numbing gel for the bladder
- Extra urinary catheters
- Catheterization supplies
- Gloves
- A disposable waterproof underpad
- Blood pressure medicine (if your child's healthcare provider has prescribed it)
- A syringe to deflate an indwelling catheter (if your child has one)
- An AD wallet card

Can my child avoid dysreflexia?

Your child can have fewer AD episodes if you follow their catheterizing schedule and bowel program, help them avoid urinary tract infections, and take good care of their skin.

What should I do in an emergency?

Emergency room providers may not know how to treat dysreflexia. If you need to take your child to the ER, give the healthcare provider this handout and your child’s wallet card. Ask the healthcare provider to contact the rehabilitation doctor on call at Primary Children’s Hospital at 801.662.4980.

Notes

Handout with 20 horizontal lines for notes.

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