

## Autonomic dysreflexia

### What is autonomic dysreflexia?

After some spinal cord injuries, certain types of lower-body irritation, stimulation, or pain can trigger a set of reflex symptoms called autonomic dysreflexia (**aw-toe-no-mik diss-re-flex-ee-ah**) or “AD.” It is also called “autonomic hyper-reflexia.” AD is an **emergency** that needs immediate attention.

### What causes autonomic dysreflexia?

The brain, spinal cord, and nerves act as a communication system for the body. Before an injury, messages travel freely between body and brain along these pathways. The spinal cord produces reflex responses in the body. The brain monitors and regulates these responses, controlling the body’s movement and functions.

When the spinal cord is injured at or above the thoracic (chest) vertebra, messages between the lower body and brain are blocked. The brain cannot regulate the lower-body reflex responses produced by the spinal cord. (Upper-body responses, however, can still be regulated by the brain.)

When there is an irritating stimulus or pain in the lower part of the body, the spinal cord receives the message and produces reflex responses, which are out of the person’s control. The stimulus may be caused by:

- skin irritations.
- urinary bladder retention.
- constipation, bowel compaction.
- sexual activity.

### What are the signs of AD episodes?

Signs may vary depending on the cause of irritation. The symptoms’ severity may change within one episode and from one episode to the next. Some or all of these may occur:

- sweating and warm, red, or blotching skin above the level of spinal cord injury.
- goosebumps, chills, or pale skin below the level of spinal cord injury.
- severe, pounding headache.
- stiff neck.
- unusually fast or slow heartbeat.
- stuffy or runny nose.
- blurred vision.
- nausea (upset stomach).
- trouble breathing.
- confusion.
- feeling less alert.
- loss of consciousness in extreme episodes.

### What should I do?

At the first sign of any of these symptoms, **take action!** If AD is not relieved, blood pressure will continue to rise and may cause seizures, stroke, or death.

If you are lying down, sit up right away. This will lower your blood pressure temporarily while you look for the cause. Listed below are some of the common causes of AD and the actions you should take.

| AD trigger  | What to do   |
|---|--|
| Full bladder:<br>(with indwelling catheter)   | <ul style="list-style-type: none"> <li>• If the bag is full, empty it so the urine can drain from the bladder.</li> <li>• If the bag is empty (or has less urine than expected), check for kinks in tubing. If kinked, unkink it.</li> <li>• If not kinked, irrigate it. (See the education sheet “Urinary catheter: Irrigation”.) Do not use force; let it flow in and out by gravity.</li> <li>• If the symptoms are too severe to allow time to irrigate, or if you irrigate and find the catheter plugged, remove the catheter and insert new one, using sterile technique.</li> </ul> |
| Full bladder:<br>(no indwelling catheter)   | <ul style="list-style-type: none"> <li>• Recall the amount of fluid you drank since the last time you urinated.</li> <li>• If it is time for you to urinate but you cannot, insert a catheter to drain your bladder. (See the education sheet, “Catheterizing a boy” or “Catheterizing a girl.”)</li> </ul>  |
| Bladder procedures:<br>catheterization,<br>irrigation,<br>installations,<br>bladder tests | <ul style="list-style-type: none"> <li>• Stop the procedure until symptoms ease.</li> <li>• Use sterile anesthetic ointment when inserting catheter.</li> </ul>  |
| Urinary tract problems:<br>infections,<br>kidney stones,<br>bladder stones                | <ul style="list-style-type: none"> <li>• Call your doctor.</li> </ul>  |
| Full rectum   | <ul style="list-style-type: none"> <li>• Perform your bowel program.</li> </ul> <p><b>Note:</b> While your symptoms may get worse as you do so, you must empty your bowel. If you cannot complete your bowel program, call your doctor.</p>  |
| Rectal procedures:<br>digital stimulation,<br>suppository,<br>rectal exam                 | <ul style="list-style-type: none"> <li>• If rectum is not full, stop the procedure until symptoms ease. Once symptoms ease, carefully continue.</li> <li>• Use topical anesthetic ointment such as Nupercainal® before or during your bowel program if rectal irritation is a problem.</li> </ul>  |
| Skin irritations  | <ul style="list-style-type: none"> <li>• Relieve the cause of irritation. For example, change position, remove sharp or hard object, loosen tight shoes or clothing, add or remove clothing, or relieve ingrown toenail.</li> </ul>  |
| Sexual stimulation  | <ul style="list-style-type: none"> <li>• Continue, modify, or stop the activity depending on the severity of the symptoms.</li> </ul>  |

## How do I prevent autonomic dysreflexia?

- Do not let the bladder overfill. Be especially careful if drinking more liquids than normal.
- Maintain a regular bowel program.
- Prevent bowel and bladder complications.
- Get prompt treatment of urinary infections.
- Avoid injury or irritation to parts of the body that have decreased sensations (touch, temperature, and pressure).
- Wear properly fitting clothing.
- Maintain correct alignment of body parts (for example, keep the back straight).

The more you understand your symptoms and how to control autonomic dysreflexia, the better you can prevent it.

## When should I call the clinic/doctor?

Call your clinic if:

- you cannot find the cause of the AD.
- the symptoms occur repeatedly.
- you cannot relieve the symptoms.

## Questions?

This sheet is not specific to you, but provides general information. If you have any questions, please call your clinic.

For more reading material about this and other health topics, please call or visit the Family Resource Center library, or visit our Web site: [www.childrensmn.org](http://www.childrensmn.org).

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