

# Autonomic Dysreflexia

Autonomic dysreflexia (AD), also known as hyperreflexia, can be a medical emergency that affects people with spinal cord injuries above T6.

## What causes AD?

AD is caused when an irritation or strong sensation below the injury sends a signal to the spinal cord. There can be many irritants that cause AD. Anything that would have been painful, uncomfortable or physically irritating before the injury may cause AD after the injury. The most common cause seems to be the overfilling of the bladder. This could be due to a blockage in the urinary drainage device, bladder infection (cystitis), inadequate bladder emptying, bladder spasms, or possibly stones in the bladder. Other causes may be a pressure sore, a broken bone, a burn, an ingrown toenail, or some other irritation below the level of the spinal cord injury.

## What happens during AD?

During AD, a signal moves up the spinal cord until blocked by the injury. The nervous system wants to report the irritation to the brain, but the signal can't get past the spinal cord injury.

Instead, the signal sets off a reflex action, below the level of injury, which constricts blood vessels and increases blood pressure. The body is still able to detect the rise in blood pressure through the heart and blood vessels. The brain picks up the indirect signal and responds by dilating the blood vessels and slowing the heart rate. The heart rate does slow, but blood pressure does not fall. The brain attempts to compensate but can't get its signal past the level of injury to the site of the problem.

This condition could lead to extremely high blood pressure or a stroke.

## What are the symptoms of AD?

AD happens very fast. Symptoms include:

- Pounding headache (caused by the elevation in blood pressure)
- Goosebumps
- Sweating above the level of injury
- Nasal congestion
- Restlessness
- Hypertension (blood pressure greater than 200/100 or > 15 mm Hg above baseline in children and adolescents)
- Flushed (reddened) face
- Red blotches on the skin above the level of spinal injury
- Nausea
- Slow pulse (< 60 beats per minute)
- Cold, clammy skin below the level of spinal injury

## What should you do?

If you experience any of the AD symptoms:

- Sit up straight to help the blood pressure fall.
- Try to determine the cause. Check first for bowel and bladder irritants.
- If you are using an indwelling catheter, make sure it is not blocked or kinked and that the bag is not above the level of the bladder.
- If the bladder is draining and seems normal, check the bowel. Sometimes rectal stimulation or a full or gassy bowel can trigger the problems.
- If AD is not caused by a bladder or bowel problem, check the entire body for irritated or red skin and any tight or constricting clothing.

If you cannot determine the cause of the increased blood pressure, and the symptoms persist, call for emergency medical help. Tell about your symptoms and that you have a spinal cord injury.

## How can I prevent AD?

To Help Prevent AD:

- Check urethral or suprapubic indwelling catheters daily for deposits in the tubing. Keep the tubing free of kinks and keep drainage collection devices empty.
- Don't let the bladder get too full if you use an intermittent catheterization program. Know your input and output levels. Carry an intermittent catheter kit when you are away from home.
- Empty the bowel regularly and avoid getting constipated.
- Check your skin regularly for irritation and redness that might be caused by a pressure sore or burn.
- Watch certain medicines such as cold medicines or decongestants that might constrict blood vessels and cause AD.
- Practice frequent pressure-relief methods in bed/wheelchair.
- Adhere to your medication schedule.
- Eat a well-balanced diet with adequate fluid intake.

Many people with spinal cord injuries will experience autonomic dysreflexia. Most do not need emergency care once they have learned to manage potential problems. Your doctor might prescribe medications that will prevent AD.

For more information about autonomic dysreflexia, contact your health care provider. If you believe your child may be experiencing AD, call Telehealth Nursing at 651-229-3890 or call 911.

Make An Appointment

[651-290-8707](tel:651-290-8707)

Refer a Patient

[651-325-2200](tel:651-325-2200)

This information is for educational purposes only. It is not intended to replace the advice of your health care providers. If you have any questions, talk with your doctor or others on your health care team.

If you are a Gillette patient with urgent questions or concerns, please contact Telehealth Nursing at [651-229-3890](tel:651-229-3890).