

# AUTONOMIC DYSREFLEXIA

## What is it?

Autonomic Dysreflexia (AD) is an emergency situation resulting from the autonomic nervous system's over reaction to a stimuli. AD is an abnormal response when the body is experiencing pain, physical stimulation, or discomfort below the level of the spinal cord injury (SCI). As the pain or discomfort message wants to travel up the cord to the brain, it is blocked by the injury. When this message cannot reach the brain, a reflex is activated that increases the sympathetic portion of the autonomic nervous system. This causes a narrowing of the blood vessels and an abrupt and dangerous increase in blood pressure. This can be a life threatening emergency and needs to be corrected and treated immediately. If unable to find the cause and treat it, the person could experience serious complications such as a stroke, seizure, or damage to the brain, liver, kidney, or heart. All of these are life altering and can result in a brain injury, permanent health problems, or death. The three most common causes of AD for people with spinal cord injury are irritants below the level of the injury including the bladder, bowel, and skin.

## What are the symptoms?

Rising blood pressure can cause a variety of seemingly unrelated signs and symptoms. Symptoms will vary depending on the individual and can vary above and below the level of injury. Knowing baseline symptoms can help AD to be more easily identified and treated. Carrying a "wallet card" is recommended to educate people about recognizing the symptoms and safe interventions of AD.

- Increased blood pressure
- Slowed pulse
- Pounding headache
- Sweating
- White patches or goose bumps
- Nasal stuffiness
- Blurred vision
- Nausea
- Cold, clammy skin
- Feeling nervous, anxious

## What causes it?

AD is caused by an irritant below the level of the injury and most often includes the bladder, bowel, or skin. Irritation of the bladder is the most common cause and includes an overfilled bladder, blocked urinary catheter, or urinary tract infection. Bowel causes include distended bowel, constipation, hemorrhoids, or GI problems such as gallstones, stomach ulcers or gastritis. Skin conditions such as pressure positioning, tight or restrictive clothing, ingrown toenails, cuts, and bruises are triggers. AD can also be caused by extreme temperatures or quick temperature changes, sexual activity, or menstrual cramps.

## What is the treatment?

Locate and remove the offending stimulus, if possible. Keep in mind as you remove the cause that your AD may get worse before it gets better.

- Act quickly
- Notify school nurse or designated health team member
- Position student in an upright position, lower legs if possible
- Relieve pressure immediately
- Loosen any tight or wrinkled clothing, shoes, or braces
- Empty the bladder or bowel



Kennedy Krieger Institute

The Specialized Health Needs Interagency Collaboration (SHNIC) program is a collaborative partnership between the Kennedy Krieger Institute and the Maryland State Department of Education.

## Specific health issues for Individualized Healthcare Plan

- Date and level of spinal cord injury
- Current medication list, including PRN medications
- Signs and symptoms of AD specific to the child
- Baseline assessment including blood pressure parameters, body temperature
- Documentation of triggers including delay in bladder emptying, extended bus ride, sunburn
- Strategies to identify, assess, and remove stimulus
- Catheterization schedule
- Pressure relief techniques, positioning restrictions, transfer technique
- Temperature regulation considerations in school setting and transportation
- Equipment troubleshooting, using a power wheelchair, battery life, etc.
- Communicate with school staff, parents/guardian, and provider any changes or concerns about the disease
- Emergency Evacuation Plan (EEP)
- Emergency Care Plan(s) (ECP) related to medical needs in the school setting and staff education/training as appropriate for each

### Resources & Manuals

**Kennedy Krieger Institute: International Center for Spinal Cord Injury**

<https://www.kennedykrieger.org/patient-care/centers-and-programs/international-center-for-spinal-cord-injury>

**Kennedy Krieger Institute: Guide for School Personnel Working with Students with Spinal Cord Injury**

<https://www.kennedykrieger.org/sites/default/files/library/documents/community/specialized-health-needs-interagency-collaboration-shnic/guide-school-personnel-spinal-cord-injuries.pdf>

**Christopher and Dana Reeve Foundation**

<https://www.christopherreeve.org/>

**United Spinal Association**

<https://spinalcord.org/>