

Autonomic Dysreflexia

Autonomic Dysreflexia (AD) is a condition that commonly affects people with a spinal cord injury at or above T6. This condition can be distressing and dangerous.

It is important to be aware of the signs and symptoms of AD so that management of this condition can be started immediately. Quick management will commonly lead to a quick resolution of AD. In most cases, AD can be managed so that it does not interfere with your day-to-day activities and lifestyle.

What is it?

Autonomic dysreflexia (AD) can be caused by stimulation below the level of the spinal cord injury. This stimulation is generally in the form of pain. The pain can start an autonomic dysreflexic episode, causing constriction of blood vessels and a rapid rise in blood pressure.

If the cause of AD is not found and managed, blood pressure can rise to dangerously high levels which, if untreated, can lead to stroke and death.

Autonomic dysreflexia is a medical emergency that requires immediate attention.

Who gets it?

It can occur in people with spinal cord injury at or above the sixth thoracic level (T6). AD does not usually affect people with a spinal cord injury below T6.

What are the signs and symptoms?

A sudden rise in blood pressure is always present. Other than this, each person will show different signs and symptoms. Some of the things you may notice are:

- A pounding headache
- Flushing/blotching of skin above the level of injury
- Sweating above the level of injury

- Goosebumps
- Shortness of breath or a feeling of anxiety
- Nasal stuffiness
- A slow pulse
- Blurred vision or seeing spots

What are some of the common causes?

- **Bladder:** The pain of having a full bladder can commonly cause AD. This can be due to a full leg bag, delaying intermittent catheterisation, a blocked or kinked catheter, or a urinary tract infection. Kidney stones can also be a cause.
- **Bowel:** Constipation, a full bowel, haemorrhoids or other rectal irritations.
- **Skin:** Pressure ulcers, burns, in-grown toenails, or tight clothing.
- **Other:** Some other causes may be fractures, sexual activity, pregnancy, period pain, distended stomach, stretching or a peptic ulcer.

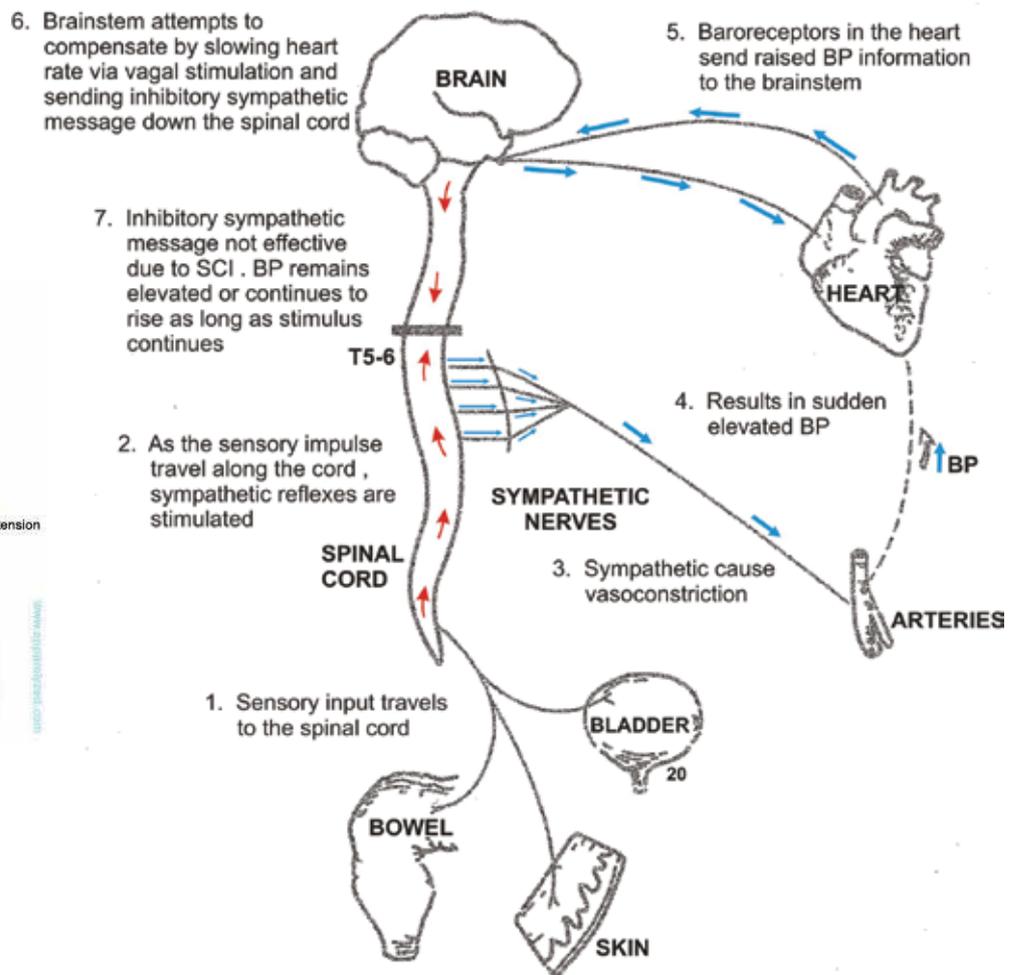
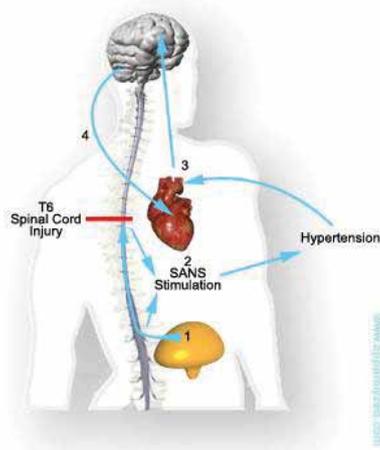
What is the treatment?

It is recommended to always seek the latest information on treatment. Go to NSW Health's website and see: Autonomic Dysreflexia Algorithm, which is a flow chart of steps to take to resolve an episode of AD.

1. Initial action

If you think you might have AD but are not sure:

- Sit up and lower the legs – this helps to lower your blood pressure
- Look for the cause and remove or manage
- Loosen tight clothing, remove stockings, abdominal binders, shoes and belts
- If possible get assistance and have someone check your blood pressure



2. Bladder

- If you self-catheterise, pass a catheter and empty the bladder using generous amounts of lubricant
- Check that your catheter is not blocked or kinked, or that your leg bag is not over-full
- Empty your leg bag
- If necessary change the catheter, using an anaesthetic gel at the catheter site to numb the area

3. Bowel

- Gentle manual evacuation may be needed if you suspect you may be constipated
- Use an anaesthetic gel to lubricate the glove

4. Further treatment

- If your symptoms do not settle quickly or if the cause cannot be found, take the recommended dose of the medication you have been prescribed for AD such as GTN

5. If symptoms persist

- Call an ambulance (paramedic) and seek medical assistance as soon as possible

What is GTN?

Glyceryl trinitrate (GTN) is a medication that works by widening major arteries thereby reducing blood pressure. This drug is sprayed under the tongue and can be repeated after five minutes if the symptoms have not been resolved. Up to three doses can be given within 30 minutes.

GTN is available in the following forms:

1. Nitrolingual Pumpspray (GTN spray)
2. Anginine tablets: ½ tablet is given under the tongue (the tablet should be spat out when blood pressure settles)
3. Transdermal nitro patches: These are applied to skin of the chest or abdomen and should be removed as soon as the blood pressure settles

The main side effect of GTN is a dramatic lowering of the blood pressure, which can cause a headache, flushing and/or fainting.

WARNING

Before administering GTN, always check for recent use of medication for erectile dysfunction. Do not use GTN spray, tablets or patch if viagra (sildenafil) or levitra (vardenafil) has been used in the past 24 hours or cialis (tadalafil) has been taken within the past four days

Important Tips

Attempting to solve the problem has the potential to worsen the situation as it may irritate the cause, at least temporarily (e.g. unblocking a catheter or emptying the bowel) so remember to take great care when doing this.

When it is not possible to immediately resolve the cause of AD (ingrown toenail, a broken bone, a burn, etc.), pain-killing medications can help relieve pain and therefore the AD.

Keep your GTN close to you at all times and be aware of its expiry date. GTN spray should be replaced three months after first opening. It should be stored away from heat and sun.



Carry an Autonomic Dysreflexia Medical Emergency Card with you as it can be a helpful reference for other people during an emergency. Contact State Spinal Services, ParaQuad NSW or SCIA for your free card.

Remember: If symptoms persist, call an ambulance (paramedic) and seek medical assistance as soon as possible.

It is important you know what to do, as others (including some non-specialist medical professionals) may not.

Living with Autonomic Dysreflexia

Living with AD can be a worrying experience, and you may find that concerns about where and when AD may happen gets in the way of your day-to-day activities. Some of the symptoms of AD can also be very similar to anxiety symptoms. A careful assessment of your symptoms may be needed to find out if separate treatment for anxiety can be helpful for you. If you find that you become overly anxious about AD, you may consider talking to your health professional about how best to manage this.

References and Further Resources

Ambulance: 000

Your local doctor or spinal specialist

Autonomic Dysreflexia Treatment Algorithm:
www.aci.health.nsw.gov.au/__data/assets/pdf_file/0019/155143/algorithm.pdf

Treatment of Autonomic Dysreflexia for adults and adolescents with spinal cord injuries, (2002), Middleton, J, Revised 2010

Autonomic Dysreflexia Emergency Card
www.aci.health.nsw.gov.au/__data/assets/pdf_file/0020/163442/Medical-Emergency-Card.pdf

Video presentation on Autonomic Dysreflexia
www.health.nsw.gov.au/multimedia/index.asp?tab=5&page=3&id=1

Treatment of Autonomic Dysreflexia for adults and adolescents with spinal cord injuries: A MEDICAL EMERGENCY
www.health.nsw.gov.au/multimedia/index.asp?tab=5&page=3&id=1