Autonomic Dysreflexia 7. Brain sends messages down the spinal cord making the blood vessels open up. Cord injury stops the messages, only blood 5. Rise in blood pressure vessels above the injury is detected by sensors in dilate. Its not enough to the heart and neck called overcome constricted baroreceptors. These vessels below injury then send signals to the There are two ways level, so blood pressure brain. the brain can oppose the continues to rise. rise in blood pressure. Firstly it sends messages via the parasympathetic vagus nerve to the heart to slow it down. 3. When impulses reach level T6, 4. This causes blood sympathetic neurones vessels in the skin and become activated and abdomen to constrict. release chemicals called Blood pressure rises. norepinephrine. Catheter blockage (example), too much urine in bladder. This sudden increase in plood pressure is a medical emergency that can lead to seizures, stroke's or even death.

2. Stretched bladder sends nervous

impulses to the spinal cord.

Any person with a spinal cord injury at or above T6, after spinal shock has resolved is at risk of autonomic dysreflexia.

## Signs & Symptoms

- Flushing and sweating above the injury level
   Nasal stuffiness
- Goose bumps and paleness below injury level
   Sudden high blood pressure (hypertension)
- Pounding headache
- Slow heart rate (bradycardia)
- Blurred vision or spots in vision Irregular heart beat
- Anxiety or apprehension
- May have no symptoms (silent autonomic dysreflexia)

## **Most Likely Causes**

The most common cause for autonomic dysreflexia (AD) is bladder distension (e.g. due to blocked catheter or detrusor sphincter dyssynergia), followed by bowel distension. Other causes: Bladder or kidney stones, urinary infection, bowel impaction, fracture, heterotopic bone, surgery. Pressure injury - intense pain, sunburn, ingrown toenail. Reproductive - sex, ejaculation, menstruation, pregnancy/labour.

## Treatment

- Recognise the signs and symptoms of AD
- Check blood pressure and monitor frequently
  - NB Patients with SCI above T6 have (low systolic blood pressure of 90-110mmHg)
- Sit the person up, lower the legs Loosen any clothing or constrictive devices
- Survey the patient looking for the underlying cause and correct if found:
  - Bladder
  - Insert a catheter if patient does not have one,
  - using lignocaine jelly Check existing catheters for kinks, folds,

  - obstructions and correct placement If catheter is blocked irrigate the bladder with 10-15ml of
- saline. If catheter is not draining remove and replace it.

   If systolic blood pressure (top reading) is raised above
- 150mmHg, consider giving medication to lower it e.g.
  Glyceryl Trinitrate (GTN) spray, and pain relief e.g. morphine
  Note if the patient has been on PDE5 Inhibitors (Viagra, Cialis,
  Levitra) in the last 24 hours, see Health Pathways, Spinal Cord
  Impairment, Autonomic Dysreflexia (Hypertensive crisis) for further information.
- Continue looking for a cause
  - Bowel
  - Faecal impaction-insert lignocaine gel, wait 2 minutes, then insert a lubricated gloved finger into rectum to
- Look for other causes of AD (as above)
- Monitor blood pressure for at least two hours after episode has resolved
- Document episode in medical records
- Review precipitating cause to look for preventative strategies

For a detailed medical professional treatment flowchart refer:

https://www.nzspinaltrust.org.nz/adflowchart



Supporting Positive **Futures** 

If not resolved call 111 and tell operator it is autonomic dysreflexia (AD) or spinal hypertensive crisis