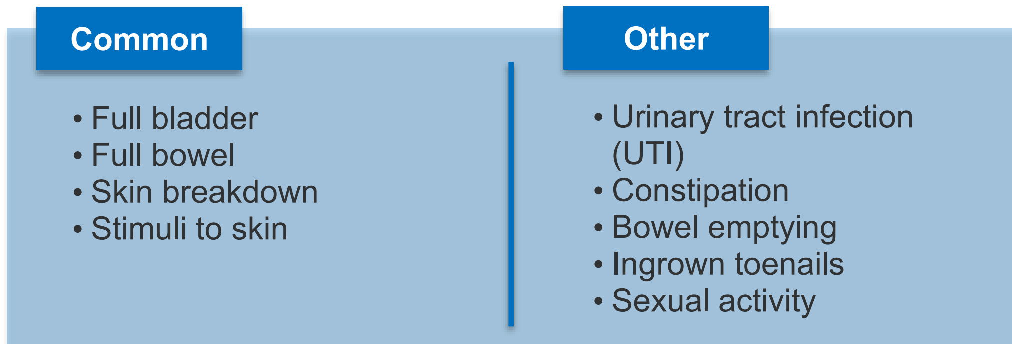
SCI-KidsCAN
Growing pediatric spinal cord injury knowledge

Spinal Cord Injury: Autonomic Dysreflexia

What is it?

Autonomic dysreflexia (AD) is a dangerous rise in blood pressure that occurs because of the body's inability to respond to pain or discomfort in the areas of the body that have no feeling. It commonly affects clients with spinal cord injuries at level T6 or above.

Causes of AD



Other Causes of AD

Reproductive system: Other causes can come from menstrual cramps and child birth

Medical conditions can also cause AD. These include stomach ulcers, heart attack, asthma, lung infections, and blood clots in your legs. If you cannot find the source of AD, seek medical attention right away.

Symptoms of AD

AD is a sudden rise in blood pressure. If systolic blood pressure continues to be at or above 120 mmHg in children under 5 years old, 130 mmHg in children 6-12 years old, and 140 mmHg in adolescents and 150 mmHg in adults.

Symptoms can include:

- Pounding head
- Sweating and flushing of the face
- Goosebumps below the injury
- Increased muscle spasms
- Metallic taste in your mouth
- Blurred vision
- Seeing spots
- Nausea
- Difficulty breathing
- Slow heart rate

Important note

Check your blood pressure right away if you have any of these symptoms!

Some children and youths may not show any symptoms, despite a significantly elevated blood pressure.

Holland Bloorview
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Autonomic Dysreflexia (AD) Kit

- Ensure your child has an AD kit with them at all times

What is an AD Kit?

It is a good idea for your child and your care team to have supplies and information on how to manage the symptoms of AD. This kit should include:

- AD Identification Wallet Card: downloadable online from Christopher & Dana Reeve Foundation
- Portable blood pressure device
- Urinary catheters for CIC
- Lubricant
- Gloves
- Nifedipine as per medical prescription
- Lidocaine gel
- 50cc Irrigation syringe
- Normal Saline solution
- An AD diary from Paralyzed Veterans of America

Please carry an AD wallet card. Printable versions are available at:

- Paralyzed Veterans of America
- Christopher and Dana Reeve Foundation

Management

Steps	Comment/ Rationale

1. Remove stimuli and check blood pressure.	• Sit your child up and lower their legs if they are lying down to assist in lowering blood pressure
	• Loosen tight clothing and tight shoes
	• Remove abdominal binders, tensors, orthotics, and/or compression stockings
	• Assess blood pressure.
	  • For children (less than 13 years of age), blood pressure increase by 15mmhg above baseline is a medical emergency
	  • For adolescents (greater or equal to 13 years of age), blood pressure increase by 15-20mmhg above baseline is a medical emergency
	
	***If blood pressure does not resolve within 5mins, proceed to step 2

2. Check and empty bladder.	1. **Indwelling catheter:** ensure there are no kinks, folds, or obstructions along the tubing
	  ○ If catheter is blocked, irrigate the bladder with Normal Saline
	    • Irrigate with 5-10ml for children under 2 years old and 10-15ml for children and adolscents until urine is clear
	  ○ If a leg bag is used, consider loosening the straps

	◦ Avoid manually compressing or tapping the bladder at this time ◦ Assess urine for cloudiness, sediment, and foul smell, and check your child's temperature for possible urinary tract infection (UTI) 2. **Condom catheter:** ensure it is not tight 3. **No catheter:** catheterize and lubricate the catheter with Lidocaine gel ***If blood pressure unresolved, proceed to step 3
3. Check and empty bowel.	• Check the rectum for stool • If stool is present in the bowel, with a gloved hand, instill Lidocaine gel, generously into the rectum. • Wait 2 minutes if possible for sensation in the area to decrease. Then, with a gloved hand, insert a lubricated finger into the rectum and check for the presence of stool. If present, gently remove, if possible. • If autonomic dysreflexia becomes worse, stop removing the stool. Instill additional Lidocaine and recheck the rectum for the presence of stool after approximately 20 minutes ***If blood pressure unresolved, proceed to step 4
4. Check skin.	• Check for blisters and ingrown toenails • Remove hard or sharp objects • Ensure your child's skin is alleviated from any excessive temperature changes, pressure, or tightness. ***If blood pressure unresolved, proceed to step 5
5. If symptoms persist, call 911 and give Nifedipine as per order; bite and swallow STAT q15mins x3 times	• If AD resolves without administration of Nifedipine, continue to monitor symptoms and blood pressure for at least 2 hours after symptoms resolve to ensure it does not reoccur • Record AD episode in your AD Diary and notify primary care physician of the episode.

Education

Education on AD is essential. This should include:

- Ensure Individualized Education Plan (IEP) is completed with AD protocol in place
- Identifying the signs and symptoms of AD
- Prevention of AD
- Equipment needed to manage AD eg. AD Kit, changing area that is private, ability to change position of wheelchair to facilitate a CIC.
- Additional teaching resources available for education of community providers eg. school, camp- https://www.abcofad.ca/
- Immediate actions to take if they suspect an AD episode
  - Follow AD protocol specific to the child
  - Notify parents if child experiencing AD episode

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