# **Family Health Team**

# **AUTONOMIC DYSREFLEXIA**

# **OVERVIEW**:

Serious, potential life threatening condition affecting those with lesions at T6 or above (has been reported with lesions as low as T8)

☑Characterized by unopposed sympathetic activity triggered by noxious stimulus, below the spinal cord injury; characterized by increased BP and risk of seizure, stroke, death.

# SIGNS & SYMPTOMS:

# **COMMON CAUSES OF AD:**

IN PATIENTS WITH SPINAL CORD INJURIES  May involve all or some of the following:  BP elevated by 20-40 mmHg above resting BP*  Pounding headache Bradycardia (relative to patient's resting heart rate)  Flushing of the face Profuse sweating above the level of the lesion  Skin pallor, cold and piloerection below the level of the lesion  Blurred vision  Shortness of breath Anxiety  Nasocongestion	SIGNS AND SYMPTOMS OF AUTONOMIC						
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COMMON CAUSES OF AUTONOMIC						
DYSREFLEXIA						
<ul> <li>Bladder</li> </ul>	Distention					
	Urinary tract infection					
	Catheterization					
	Catheter tube kinking					
	Bladder or kidney stones					
<ul><li>Bowel</li></ul>	Constinction					
- Bowei	Constipation					
	Hemorrhoids					
	Fissures					
	Manual disimpaction					
• Skin	Pressure areas					
	Tight clothing/stockings/					
	straps					
	Ingrown toenail					
	Blisters					
<ul><li>Other</li></ul>	Sexual stimulation					
	Scrotal compression					
	Childbirth					

<sup>\*</sup>Important Note: SCI patients often have low resting BP of 90-110/60 mmHg

# MANAGEMENT OF AD:

# Figure 2. Office management of AD

Encounter patient with BP > 20 mm Hg above normal and signs and symptoms suggestive of AD



Inquire about AD susceptibility (eg, history, wallet card) Call for assistance (do not leave patient alone)



Sit patient upright and lower legs Remove restrictive clothing, socks, shoes, and straps



Monitor BP and HR every 2 to 5 minutes



Check and remove noxious stimuli:

- Bladder (catheter kink, urine change, bladder distension)
- Bowel (constipation, hemorrhoids)
- Skin (pressure ulcer, irritation, ingrown toenail)
- Other causes



If systolic BP remains >150 mm Hg or there are persistent symptoms, consider pharmacotherapy if available:

Nitroglycerin 0.4 mg/spray 1 spray every 5 minutes up to 3 times as needed\*



Captopril, 25 mg sublingually



Nifedipine, 10 mg bitten and swallowed<sup>†</sup>





BP and HR normal, noxious stimulus removed, and symptoms resolved

- · Monitor vital signs for 2 to 48 hours
- Post-care education and preventive strategies

AD persists or noxious stimulus not found



Send patient to emergency department

AD-autonomic dysreflexia, BP-blood pressure, HR-heart rate.

<sup>\*</sup>Ensure the patient has not taken phosphodiesterase 5 inhibitors in the past 24 to 48 hours.

<sup>&</sup>lt;sup>†</sup>There has been some controversy about nifedipine possibly causing hypotension, cerebrovascular accident, myocardial infarction, and death when used in hypertensive emergencies; caution with nifedipine use might therefore be necessary.

<sup>\*</sup> see below for written detailed management

#### MANAGEMENT OF AD:

- Seek assistance and do not leave the patient alone.
- Ask the patient or attendant if they have ever had AD, what they think the trigger might be, and if they have an AD wallet card or medic alert bracelet.
- ☑ Check the blood pressure and heart rate regularly, every 2-5 minutes.
- oxdot Sit the patient upright and lower the legs to reduce blood pressure.
- Remove tight clothing, straps, socks and shoes.
- Check for noxious stimuli:
  - 1.Bladder- (most common cause of AD) If there is a catheter, then check for obvious irritation, kinking, sediment or cloudiness of urine (suggestions of UTI) and amount in catheter related to intake (may give indication of retention and bladder distension).
  - 2. Bowels is there a change (especially suggestion of constipation) to determine if bowel distension is a source of the symptoms.
  - 3. Other areas check are skin for any pressure areas, ulcers or irritated areas (like ingrown toenail).
- \*\* Often AD can be resolved if the noxious stimuli can be relieved. \*\*

\*monitor vitals or patient for 2-48 hrs after AD depending on severity\*

# Pharmacological Intervention:

Not recommended initially but if BP remains elevated (150–170 systolic) consider short acting antihypertensive

- nitroglycerin 0.4mg/spray subling. 1 spray q 5-10 min X3 (ensure no PDE5 inhibitor use past 24-48 hrs)
- captopril 25mg sublingually
- nifedipine 10mg bite and swallow

\* MONITOR FOR HYPOTENSION IF PHARMACOTHERAPY USED

\*\*\*IF NOXIOUS STIMULUS CANNOT BE RELIEVED OR BP NOT CONTROLLED THEM PATIENT SHOULD GO TO ER\*\*\*

# PREVENTION OF AUTONOMIC DYSREFLEXIA:

- 1. Education of patient and providers
- 2. supplies at home: BP cuff; catheter supplies?; short acting antihypertensive
- 3. warnings in patient chart
- 4. AD wallet card (laminated cards available via Mobility Clinic)

# **REFERENCES**:

- 1.SCIRE (Spinal Cord Injury Rehabilitation Evidence) <a href="http://www.scireproject.com/rehabilitation-evidence">http://www.scireproject.com/rehabilitation-evidence</a>
- 2. Paralyzed Veterans of America. Clinical practice guidelines. <a href="http://www.pva.org/site/c.ajlRK9NJLcJ2E/b.6305831/k.986B/Guidelines\_and\_Publications.htm">http://www.pva.org/site/c.ajlRK9NJLcJ2E/b.6305831/k.986B/Guidelines\_and\_Publications.htm</a>
- 3. New South Wales Spinal Cord Injury Service. <a href="http://health.nsw.gov.au/gmct/spinal/index.asp">http://health.nsw.gov.au/gmct/spinal/index.asp</a>
- 4. Milligan J, Lee J, McMillan C. Recognizing a common serious condition in spinal cord injured patient. Canadian Family Physician. In Press.