The Centre for Family Medicine
Family Health Team
Ontario

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:

SIGNS AND SYMPTOMS OF AUTONOMIC DYSREFLEXIA 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

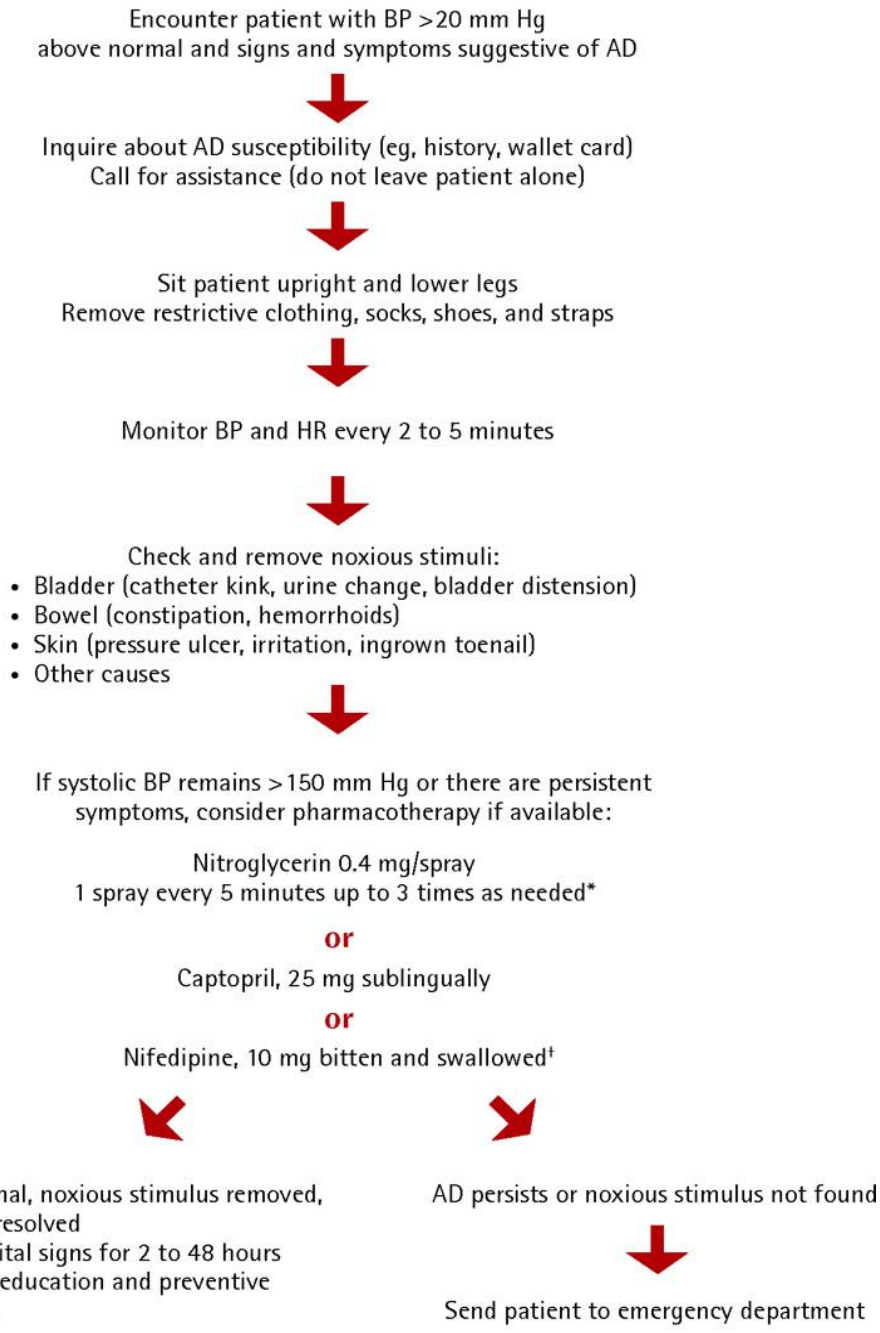
COMMON CAUSES OF AD:

COMMON CAUSES OF AUTONOMIC DYSREFLEXIA	
▪ **Bladder**	Distention Urinary tract infection Catheterization Catheter tube kinking Bladder or kidney stones
▪ **Bowel**	Constipation Hemorrhoids Fissures Manual disimpaction
▪ **Skin**	Pressure areas Tight clothing/stockings/straps Ingrown toenail Blisters
▪ **Other**	Sexual stimulation Scrotal compression Childbirth

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

MANAGEMENT OF AD:

Figure 2. Office management of AD



AD—autonomic dysreflexia, BP—blood pressure, HR—heart rate.
*Ensure the patient has not taken phosphodiesterase 5 inhibitors in the past 24 to 48 hours.
†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.

* 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.
- ☑ 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) http://www.scireproject.com/rehabilitation-evidence
2.Paralyzed Veterans of America. Clinical practice guidelines.
http://www.pva.org/site/c.ajIRK9NJLcJ2E/b.6305831/k.986B/Guidelines_and_Publications.htm
3.New South Wales Spinal Cord Injury Service. http://health.nsw.gov.au/gmct/spinal/index.asp
4. Milligan J, Lee J, McMillan C. Recognizing a common serious condition in spinal cord injured patient. Canadian Family Physician. In Press.