Government of Western Australia
North Metropolitan Health Service

Orthostatic Hypotension Advisory Guidelines

Includes non-pharmacological and pharmaceutical treatment

OH is associated with an increased risk of falls and injuries from falls[1] and these guidelines aim to assist staff in the identification and treatment of OH

Definition:

- A fall in systolic blood pressure of at least 20 mmHg
- And/or a fall in diastolic blood pressure of at least 10 mmHg within 1 minute of standing

Symptoms:

- Falls
- Dizzy/light headed, especially when moving from lying or sitting to standing
- Weakness,
- Feeling or actually fainting
- Dimming/disturbance of vision
- Sweating and/or nausea
- Gait imbalance
- Mild momentary confusion
- Unexplained syncope
- Leg buckling

Potential Causes/Contributing Factors:

- Frailty and physical deconditioning
- Medications commonly associated with OH antihypertensive agents,
- antianginals, antidepressants, antipsychotics, anticholinergics, antiparkinsonian medications and diuretics
- Changes in medications
- Surgery
- Volume depletion
- Autonomic neuropathy (e.g., diabetes mellitus)
- Parkinsons disease[2]
- Diabetes[3]
- Lewy body dementia
- Spinal cord injuries
- Multiple system atrophy

- Aortic stenosis, pericarditis/myocarditis, arrhythmias
- Reflex syncope e.g. vasovagal, neurocardiogenic, carotid sinus hypersensitivity, and syncope associated with micturition and defecation
- Postural tachycardia syndrome
- Older adult age

Taking a Lying & Standing Blood Pressure:

Take BD for 3 days to identify those with OH. Cease if nil deficit
Identify if you are going to need assistance to stand the patient and simultaneously record a BP. It is preferable to use a manual sphygmomanometer if possible and definitely, if the automatic machine fails to record.

1. Explain procedure to the patient
2. The first BP should be taken after lying for at least five minutes
3. The second BP should be taken after standing in the first minute
4. Document the result
5. A positive result is defined by:
    a. A drop in systolic BP of 20mmHg or more (with or without symptoms)
    b. A drop to below 90mmHg on standing even if the drop is less than 20mmHg (with or without symptoms)
    c. A drop in diastolic BP of 10mmHg with symptoms (although clinically much less significant than a drop in systolic BP)
6. Advise patient of results and if the result is positive,
    a. Inform the medical and interprofessional team
    b. Take immediate actions to prevent falls and or unsteadiness.
7. Symptoms of dizziness, light-headedness, vagueness, pallor, visual disturbance, feelings of weakness and palpitations should be documented
8. If results are positive then repeat regularly or as per medical officer directives

Non – Pharmacological Treatment:

- Patients should first sit when going from a supine to a standing position
- Isometric exercises prior to going from supine to standing (lift alternate legs up and down, then move feet up and down)
- Eating frequent, small meals(post prandial hypotension can occur)
- Physical counter-manoeuvres when upright, such as marching on the spot, leg-crossing, standing on tiptoes, and muscle tensing, increases venous return to the heart and enhances orthostatic tolerance
- Full-length elastic stockings, consider abdominal binders (on surgical wards)
- Salt intake may need increasing (on medical advice only)
- 2 litres of water a day (on Medical advice and not for patients on fluid restrictions)
- Tilting the head of the bed up during the night – approx. 10 - 20^{o}
- Avoiding situations that trigger symptoms, such as standing for long periods
- Review of medication
- Life style modification- minimal alcohol

- Consumption of 250 mls of room temperature tap water can raise the BP by several mmHg, so may be advisable prior to physio or other anticipated sustained periods of being upright

Investigations to consider:

- U & Es, (?dehydration)
- Consider spot morning corticol (rule out Addison's Disease)

Pharmacological Treatment:

Doctors/ specialists may prescribe

- Fludrocortisone dose range 50mcg od to 200 mcg bd (watch for fluid retention, supine hypertension and electrolyte disturbance)
- Midodrine (Special Access Scheme only)

References

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2. Velseboera DC., de Haan RJ., Wieling W., Goldsteind DS., de BieaRMA. Prevalence of orthostatic hypotension in Parkinson's disease: A systematic review and meta-analysis. Parkinsonism & Related Disorders, 2011 December; 17(10): 724-729
3. Zhou Y., Ke SJ., Qiu XP., Liu LB. Prevalence, risk factors, and prognosis of orthostatic hypotension in diabetic patients: A systematic review and meta-analysis . Medicine (Baltimore). 2017 Sep; 96(36):e8004. doi: 10.1097/MD.0000000000008004.
4. Biaggioni I., Norcliffe-Kalufmann L., Jaugmann H. Orthostatic hypotension BMJ Best Practice. 2017 November. Available from: http://bestpractice.bmj.com/topics/en-us/972/pdf/972.pdf