

Recognition of Orthostatic hypotension

Symptomatic postural drop of >20mmHg in systolic blood pressure (or >30mmHg in a patient with systolic hypertension >150)



Recheck lying & standing blood pressures

Ensure that any acute illnesses have been identified & treated - e.g. sepsis, upper GI bleed, etc.



Recheck lying & standing blood pressures

Ensure that hydration & volume status has been optimised



Recheck lying & standing blood pressures

Review Medications

Is it possible to stop, reduce doses, or alter the timing of administration of drugs associated with blood pressure drops?



Yes

Recheck lying & standing blood pressures

Ongoing symptomatic postural drop?

No



Consider whether medication change is temporary or permanent & ensure further reviews as necessary, and repeat lying & standing blood pressures weekly

Continue to monitor lying & standing blood pressures weekly

Yes



Conservative measures

Trial non-pharmacological measures (see supporting document)



Recheck lying & standing blood pressures

Ongoing symptomatic postural drop?

No



Consider underlying cause

Consider & investigate possible underlying causes for ongoing orthostatic hypotension

Consider starting medications

Under specialty clinician advice & guidance can consider starting medication specifically for orthostatic hypotension

First line will usually be midodrine 2.5mg given TDS (08:00, 12:00, 16:00)

- Last dose must be given >4hrs prior to bed to avoid supine hypertension
- Contraindications : hypertension, urinary retention, phaeochromocytoma, hyperthyroidism.

If any questions or concerns regarding patients please refer to the relevant medical specialty for advice



No



Yes

Medication review

Particular classes of medications associated with orthostatic hypotension include:

- Alpha-blockers
- Diuretics
- Nitrates
- Beta blockers

Considerations for change:

- Can medication be stopped?
- Can doses be reduced?
- Can medication timings be changed, i.e. moving medications to before bedtime

In general, antihypertensives will lower blood pressure, but typically do not exacerbate a difference between systolic & diastolic blood pressures, unlike the classes of medications listed above.

There is also little evidence to suggest nighttime doses of antihypertensives contribute to falls, and in fact can improve mortality & morbidity by more closely mimicking our natural nocturnal drop in blood pressure.

Non-pharmacological management

Education & lifestyle modification

- Optimising hydration
- Cardiac chair positioning whilst in bed & sitting out as tolerated
- Reducing caffeine & avoiding alcohol
- Increasing salt intake (in the absence of cardiac/renal failure or pre-existing hypertension)
- Avoiding constipation
- Education on avoiding triggers (overheating/dehydration)
- Slow movements when changing position

Exercise & physical counter manoeuvres (PCM)

These reduce deconditioning & sarcopenia whilst improving the function of lower limb muscle pumps

- PCM prior to movements or when symptoms occur
 - Isometric contractions of thigh & calf muscles
 - Squats
- Cardiac chair positioning whilst in bed for those unable to sit out
- Sitting out as tolerated

Considerations for PCMs:

- Cognition: can the patient incorporate PCM's into their daily routine
- Balance: is the patient physically capable of carrying out PCMs

Compression therapy

Full length compression tights (supplied by NHS) & abdominal binders (bought privately by patient/family) have the most evidence

Considerations:

- Comfort
- Dressing: can the patient get the abdominal binder/stockings on/off independently or with support
- Continence: tights may not be appropriate for patients who cannot manage their continence

Fluid bolusing

Drinking 500mL of water 5 minutes prior to getting up improves blood pressure

Considerations:

- Difficulties with swallowing
- Urinary frequency
- Concerns of fluid overload/patient on fluid restriction
- Cognition: is the patient able to manage this independently/engage with carers to fluid bolus

Possible underlying causes

Examples include, but are not limited to:

- Ongoing volume depletion, either from poor oral intake or increased losses
- Adrenal insufficiency
- Hypothyroidism
- Structural heart disease (valvular or heart failure)
- Primary autonomic failure
 - Parkinson's Disease
 - Multi-system atrophy
- Secondary autonomic failure
 - Diabetes
 - Chronic alcohol excess
 - Malignancy or paraneoplastic processes

Baseline investigations can include:

- FBC, U&Es, LFTs, Magnesium, Phosphate, CRP
- Serum glucose & HbA1c
- Thyroid function
- B12, folate, & iron studies (including transferrin saturation)
- Morning cortisol

Medications for orthostatic hypotension

If considering starting medication for orthostatic hypotension, please ensure all previous steps have been followed & addressed.

Ideally these medications should be started by specialty clinicians with experience of administration & titration to avoid patient harm & to ensure proper follow-up management. If any questions/concerns then please liaise with an appropriate specialist before starting medications.

1st line - Midodrine

- Starting dose of 2.5mg given TDS (08:00, 12:00, 16:00)
- Last dose must be given >4hrs prior to bed to avoid supine hypertension
- Contraindications : hypertension, urinary retention, phaeochromocytoma, hyperthyroidism.
- Note that some patients may struggle with the burden of taking an additional tablet 3 times a day

2nd line - Fludrocortisone

- Starting dose of 100 micrograms OD
- Contraindications : any 'failure', e.g. heart failure, renal failure

Follow-up

Patients with symptomatic orthostatic hypotension recognised in hospital should have this mentioned in their past medical history and included on their discharge summary.

If patients have been started on medication for orthostatic hypotension in hospital this currently will need titration by secondary care

Additional resources

Patient information leaflet: [GHPI0720 Orthostatic Hypotension](#)