



Vascular considerations

Manual therapy procedures have proven efficacy in relieving neck pain and headache, and make a significant contribution to the management of individuals with neck pain disorders as part of a multimodal management regime.

The purpose of this document is to assist physiotherapists to recognise the rare, but potentially catastrophic presentation of patients with early symptoms of cervical arterial dissection (CAD) in progress, patients at risk of CAD, and patients with vertebrobasilar insufficiency (VBI).

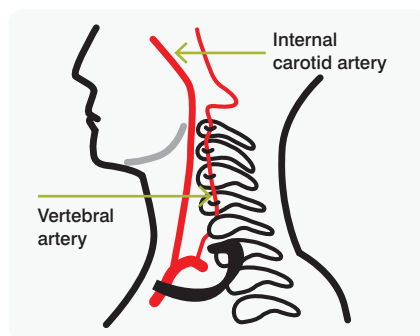
(i) Cervical arterial dissection (CAD)

The most serious adverse event associated with cervical manipulative therapy is cervical arterial dissection (CAD, a tear in the artery wall), more commonly affecting the vertebral than internal carotid artery. It is a rare condition, but can have devastating consequences (ie, stroke).

Early presenting features of CAD include acute onset neck pain and/or headache which may mimic a musculoskeletal presentation. Identifying potential CAD is critical. Risk of CAD may be increased with exposure to minor trauma, infection, genetic factors, migraine but less likely, cardiovascular risk factors.

Look out for these features:

- younger patients under 55 years
- acute, sudden onset of unfamiliar headache or neck pain
- moderate – severe pain (often progressing)



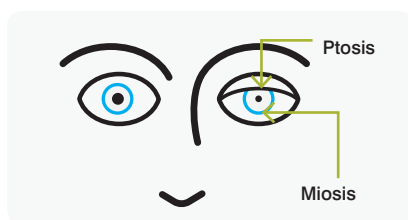
- spontaneous onset following recent exposure to minor trauma or neck strain eg, sporting injury, recent neck manipulation, jerky head movements, heavy lifting
- recent unfamiliar neurological symptoms (check 5 Ds, 3 Ns [see section ii]; any recent disturbance to balance, speech, vision; any subtle or transient neurological features; Horner's syndrome)
- recent infection (prolonged coughing/vomiting)

OR

- developing neurological symptoms and signs during or after examination or treatment

OR

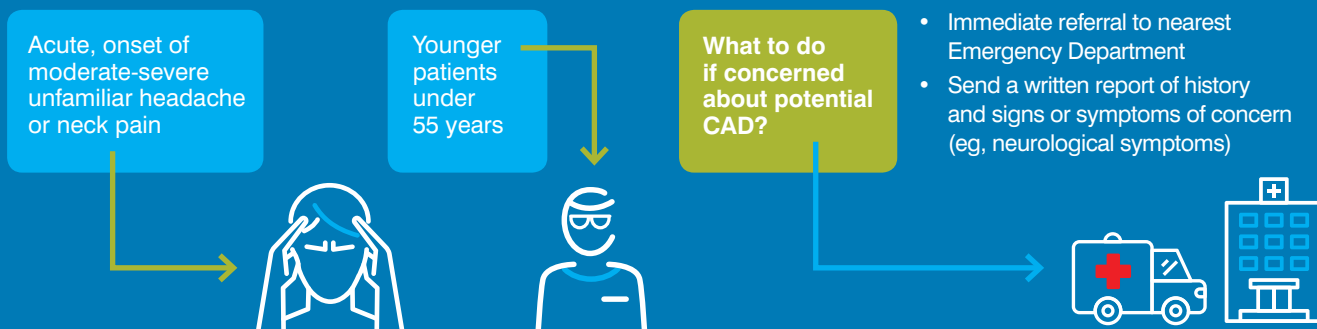
- if there is anything about the patient's presentation that makes you concerned eg, reporting atypical pain, severe pain, pain like nothing experienced previously; the patient is agitated, looks generally unwell.



If suspicions are aroused, the physiotherapist may check for:

- balance disturbances
- gait disturbances
- Horner's syndrome
- relevant cranial nerve deficits

Look out for:



- Immediate referral to nearest Emergency Department
- Send a written report of history and signs or symptoms of concern (eg, neurological symptoms)

(ii) Vertebrobasilar insufficiency (VBI)

VBI is characteristically seen in older patients over 65 years, but can occur in younger people or as a feature of vertebral artery dissection.

Symptoms eg, dizziness, 5 Ds or 3 Ns (see below) result from insufficient blood supply to the hindbrain. The patient may have cardiovascular risk factors such as hypertension, elevated cholesterol and smoking.

VBI occurs more commonly in association with longstanding neck pain and stiffness.

VBI symptoms are commonly related to movement and positions of the neck. Be aware of other common causes of dizziness.

Physical examination

The VBI positional tests are **not** indicated when the patient has clear symptoms of VBI.

The VBI positional tests **should be used** if the symptoms are unclear and the clinician is exploring the possibility of VBI in differentiating the source of any dizziness, light headedness or unsteadiness.

Positional tests

Sustained rotation in sitting

- Sustain for at least 10 secs
- Wait 10 secs in neutral between sides (latency)

If the history indicates, test other neck or treatment positions as appropriate.

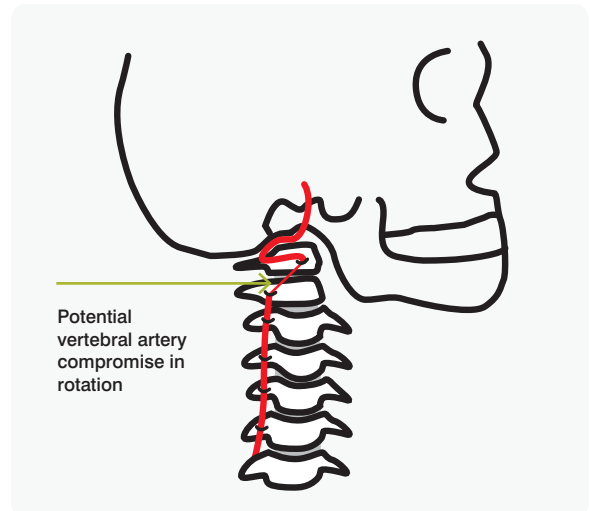
Positive test responses

- Dizziness
- Nystagmus which does not settle within a few seconds
- Pre-syncope
- Feeling 'unwell'
- Any of the 5 Ds

Cease testing if symptoms not settling within seconds and/or getting worse.

Treatment

- Never provoke dizziness or other VBI symptoms in treatment
- Avoid end range neck positions during any manipulative therapy or exercise procedure

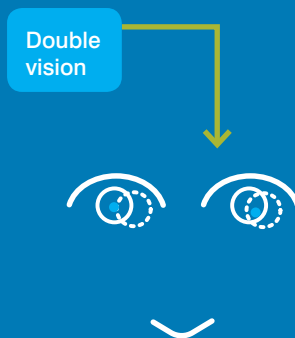


Look out for these features:

- Older patients over 65 years
- Reports of any of the following typical symptoms of VBI

5 Ds

- 1 Dizziness and/or unsteadiness
- 2 Diplopia – double vision, visual field loss
- 3 Dysarthria/dysphasia – difficulty with speech or finding words
- 4 Dysphagia – difficulty swallowing or unexplained hoarse voice
- 5 Drop attacks – sudden collapse without loss of consciousness



3 Ns

- 1 Nystagmus (spontaneous)
- 2 Nausea/vomiting
- 3 Numbness or paraesthesia (perioral)

