

Screening red and yellow flags and differential diagnoses in Upper Cervical Instability (UCI) in patients with symptomatic generalised hypermobility

TABLE 5 Some recommended yellow flag assessment tools.

- OSPRO-YF 10 or OSPRO-YF 17: Multidimensional assessment tools for identifying YF in physical/physiotherapy patients (30)
- Anxiety and depression questions from the spider impact scale developed specifically for patients with HSD/hEDS (31, 32)
- Tampa scale of kinesiophobia (TSK) any version (anxiety and fear of movement) (33)
- Fear avoidance beliefs questionnaire (FABQ) (anxiety and fear of movement) (34)
- Orebro musculoskeletal pain questionnaires (multidimensional) (35)

TABLE 6 Red flags (36, 42, 43).

- History and symptoms**
- Seizure-like activity, pseudo-seizures
 - Rapidly progressing neurological signs with decreasing functional status
 - Drop attacks or syncope not associated with orthostatic intolerance (e.g., HR and BP changes)
 - Altered consciousness or memory, severe or frequent changes in cognitive status
 - Increased bowel/bladder control dysfunction
 - Headache worse with Valsalva maneuver
 - Need to use a walker or wheelchair due to moderate or intermittently severe problems with coordination and balance rather than pain or weakness
 - Symptoms significantly increased after MVA, whiplash, trauma
- Physical examination**
- Abnormal central nervous system reflexes: Babinski, Hoffmann, clonus, hypertonia
 - Abnormal cranial nerve findings: Altered visual field, eye movement, unequal pupil size, amblyopia (lazy eye), facial sensory loss
 - Observed speech or swallowing dysfunction, choking, tongue dysfunction, sleep apnea (lower cranial nerves)
 - Abnormal vertebral basilar insufficiency tests with auditory and vision changes, evidence of vertigo, presyncope or syncope
 - Ataxia, gross neurogenic gait abnormalities, inability to perform tandem gait, Romberg sign present
 - Dysdiadochokinesia: e.g., rapidly alternating pronation/supination, grip release test, fast finger or foot tapping
 - Dystonia, myoclonic jerking
 - FASTER Indications of stroke: Face, Arms, Stability (standing), Talking, Eyes. R is for React.

TABLE 10 Differential diagnoses that should be considered (1, 6, 39, 40).

- Chiari malformation
- Migraine/headache
- Intracranial hypotension (cerebrospinal fluid leak)
- Idiopathic intracranial hypertension
- Tethered cord
- Eagle syndrome
- Dysautonomia unrelated to cervical instability
- Functional neurologic disorder
- Functional movement disorder
- Tarlov cysts

Russek LN, Block NP, Byrne E, Chalela S, Chan C, Comerford M, Frost N, Hennessey S, McCarthy A, Nicholson LL, Parry J. **Presentation and physical therapy management of upper cervical instability in patients with symptomatic generalized joint hypermobility: International expert consensus recommendations.** *Frontiers in Medicine.* 2023 Jan 18;9:4020.