







In regards to abnormal test findings, there is one point I wish to explain further. “One thing that is important to observe for is the change in neck movement as the test continues. Research shows that the first level 20-22mmHg correlates with 22.9% of available craniocervical flexion. This incrementally increases and in the final stages, 28-30mmHg, 76% of the range should be used” (1 pg.528). So, if your patient isn't moving further into range they are not performing the test correctly and the test should be stopped at the previous level they performed well.

1. Jull GA, O'Leary SP, Falla DL J. Clinical assessment of the deep cervical flexor muscles: the craniocervical flexion test. *Manipulative Physiol Ther.* 2008 Sep;31(7):525-33.
2. Cagnie B, Danneels L, Cools A, Dickx N, Cambier D. The influence of breathing type, expiration and cervical posture on the performance of the cranio-cervical flexion test in healthy subjects. *Man Ther* 2008;13:232-8.

Performing the CCF-T during slow expiration diminishes the activity of the SCM muscles in subjects with a predominantly upper costal breathing pattern. Using a costo-diaphragmatic breathing pattern while performing the test will optimize the performance.

3. Falla DL, Campbell CD, Fagan AE, Thompson DC, Jull GA. Relationship between cranio-cervical flexion range of motion and pressure change during the cranio-cervical flexion test. *Man Ther* 2003;8:92-6.
4. Whiplash, Headache, and Neck Pain, 1st Edition, Research-Based Directions for Physical Therapies. Gwendolen Jull Michele Sterling Deborah Falla Julia Treleaven Shaun O'Leary (2008)