The Whip That Lasts
a.k.a. Whiplash
(Cervical Hyperextension Injury)

Quick Start Guide

Background:

Start asking everyone you treat if they’ve had an auto accident or any other type of mechanism that involved their head and/or neck.

Be sure to emphasize that they need not have sought out medical care.

The symptoms they now may have could be headache, levator and other shoulder girdle muscle trigger points (we call them Nocioceptive Startle Reflexes = NSR’s).

The incident many not have elicited symptoms initially as there can be a delay of days, weeks or even longer…so as to not allow the patient to relate the injury to their delayed onset symptoms & signs.

We now know that even a 5-10 mph rear end impact can in some cases set off a cascade of pain.

If an auto accident, ask if the knee hit the dashboard as this usually creates an often unrecognized, asymptomatic yet important injury to the sacroiliac joint (SI joint).

The range of normal in the cervical lordotic curve is usually 30-35 degrees.
Some experts will allow normal to be down to 25 degrees.
A true lateral x-ray is all that’s needed to make this assessment.

Often the cervical spine is straight (called a military neck) or even has a reversed curve (kyphotic).

When the normal lordotic curve is reduced dramatically or reversed, there tends to be a more rapid development of bone spurs and facet arthritic pathology.

Ruth Jackson, M.D. wrote the now out of print, Cervical Syndrome. She was one of the first to specialize in the care and treatment of cervical trauma.
She described how the scalene group of muscles would go into a “splinting” mode akin to spasm and in doing so would limit movement of the upper 2 ribs.

She would typically inject the scalene group before cervical traction treatments were given.

Often in exam the upper trapezius gets blamed when really you’re pushing on the 1st and sometimes the 2nd rib.

Other x-ray views usually not performed:
The ondontoid view shot through the open mouth to rule out upper cervical involvement.

The flexion/extension series with an x-ray shot at max flexion and then at max extension. Looking for an abnormal translation of one vertebra upon another.
This is to rule out cervical instability that occurs where there is ligamentous damage.

**How to examine for the scalenes and upper ribs 1 & 2:**

- Patient supine
- Find the spinous process of C7, which is usually the most prominent.
- Move laterally on both sides to rule out the possibility of a cervical rib on one or both sides.
- Next, move down to the spinous process of T1 and move laterally to find the 1st rib bilaterally.
- Next, move down to the spinous process of T2 and repeat the process again.
- Attempt with both upper ribs to gently spring them, which shouldn’t create any discomfort normally.

Resistance and discomfort/pain are likely signs of restriction of the ribs at their costo-transverse joints and likely have the scalenes in a “splinting” or guarding pattern... muscle spasm as most would say.

A general rule for pain referral in the neck is that anterior and lateral structures (scalenes) can tend to refer their pain pattern posteriorly (dorsally).

Headache is another symptom, which often accompanies a reduced cervical lordotic curve.

The mandible also has the potential of a “whiplash” mechanism whereby it’s translated anterior when the head goes posterior.

**PRRT Maneuver to release the upper ribs:**

- Patient supine
- Practitioner seated at the head of the table
- Elbows flexed to 90 degrees
- Reach under the elbows bilaterally and at the same time
- Use your fingers to attempt to “flick” the elbows upward toward you
- Perform this several times quickly thereby elevating both shoulder girdles
- Return to re-palpate the upper ribs.

**Home maneuver to compliment the PRRT Maneuver**

- Ask patient to take a deep breath
- They then blow out fully so no air is left

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• Next, before breathing back in, they pinch their nose closed and keep the mouth closed too
• And blow out for 1 second as hard and fast as possible
• They will sometimes notice their ears pop.
• They are asked to repeat this maneuver several times a day until their symptoms and your physical findings are gone.

**Bonus insights not mentioned on video:**

Other muscles which may be involved and should be examined I’ve covered in other trainings:
SCM
Omohyoid—can have a bizarre pattern of symptoms in the head, neck, upper back and extremities.
Upper Trapezius

I’d be remiss if I didn’t mention research into the pathology of cervical trauma out of Australia by Twomey and his group. They did dissection of MVA persons who didn’t survive due to causes other than the cervical spine. Twomey reported that in many, if not most, there was evidence of facet capsular tearing, blood supply disruption to tissues in the c spine and fractures which didn’t show up on x-rays. Also noted were injuries to the articular surfaces of the facet joints.

The point I’m making here is that there can be and often are following cervical trauma of any cause:
• Instability of one or more cervical segments which can only be seen with flexion/extension stress x-ray
• Soft tissue trauma which won’t show up with x-rays
• Muscle spasm/guarding of the scalenes as a sequel to the lost of normal lordosis and upper 2 ribs restricted
• Injury to and thus dysfunction of the ANS via the sympathetic chain ganglia leading to a barrage of unexplained symptoms in the head, neck, face, eyes, etc.

**Notes:**