

Cervical Patterning

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There are many reasons why the neck may hurt on the right side. If the reason is cervical facet joint dysfunction, one can speculate that any joint complex from the occiput/C-1 to C-7/T-1 could produce right-sided neck pain. It may sound peculiar that the right or left sides of the neck are identified in such a way, indicating that sidedness is involved in pain patterns. In my experience, this holds true to some degree in spinal problems. As I have stated in previous articles, the right side of the neck tends to favor the development of anterior fixations more than the left side. These anterior fixations can express as pain and joint/muscular dysfunctions. They are particularly common in the production of right-sided headaches.

I would like to describe a common or frequently encountered situation correcting right-sided neck pain. I am referring to right posterior cervical pain, which may extend into the right upper back or into the right side of the head. It involves C-1/C-2 and C-2/C-3 joint levels. The method of functional analysis is supine motion and static palpation.

What is discovered frequently to be a "pattern" of involvement is a C-1/C-2 joint restriction on the right, where C-1 will not move easily anteriorly to posteriorly. C-1 on the left will move without significant restriction from posterior to anterior. In testing for dysfunction, I am looking for restriction to forced motion with abrupt endplay. In other words, C-1 is fixated anteriorly on the right side. This should be tested by pressing on the C-1 transverse processes alternately from the front (or anterior to posterior direction) with the head facing upward in the supine position. There is a technique for testing in this style which will be discussed in a future publication.

The second test for this anterior fixation on the right side is performed as follows. From the patient's left side (being supine), reach under the neck with your left hand and grip the right C-1 TP or TP posterior tissues with the anterior flesh pad of your third finger (distal phalanx). With your right hand on the right side of the head, turn (rotate) the head and neck to the right as far as you can, while your left hand is assisting the right rotation. The third digit of your left hand is on the posterior aspect of the right C-1 TP, and the remainder of your hand and other fingers locate where they feel comfortable. At the end of rotation right, concentrate on pulling your right C-1 tissue contact posteriorly to test resiliency or endplay. You are trying to see if C-1 on the right resists anterior to posterior motion. For comparison, check C-2 below it on the right side during rotation to the right with a right TP contact. Then, for comparison, check the C-1/C-2 articulation for A to P motion on the left side with your right hand, turning the head to the left. If there is a hypomobile restriction or fixation there will be significant restriction and loss of endplay. This means that the joint endplay, when tested, is abrupt rather than giving.

What is commonly encountered is more overall mobility on the entire right side during rotation to the left, in comparison to cervical rotation to the right.

When examining the cervical spine for P to A rotation restrictions, the procedure is utilized in the supine position. The examiner places the fleshy aspect of the second MP joint/first phalanx of the left hand on the left posterior arch of the vertebra being tested. The right hand is on the right side of the head and neck. The head and neck are turned to the right by both hands, concentrating on

the contact point. When all the tissue slack is removed, the contact hand challenges the segment and joint being tested with pressure exerted P to A in relation to the contact point at the end of rotation. You are looking for abrupt end play, which is not giving to your pressure. You can use this procedure bilaterally at all levels. In this case, I am identifying a left-sided C-2 rotation restriction P to A when rotating the head and neck to the right side.

Other common patterns creating right neck pain are:

1. C-1 fixation on the left, going P to A during right rotation, accompanied by C-1 anterior right fixation.
2. C-1 fixation on the left, going P to A during right rotation, accompanied by occiput fixation on the right. The occiput is restricted in motion P to A and/or lateral to medial. The occiput may also be palpated from the right side to show the entire head restricted in extension in a rocking type of motion.
3. C-2 fixation on the left, going P to A during right rotation, accompanied by a C-2/C-3 anterior fixation on the right side.

There is a correction for the simultaneous posterior left C-2 and anterior right C-1 fixations. The correction is done in one procedure. The correction is accomplished with the left hand as the contact hand and the right hand as the noninvolved or assisting hand. From the left side, reach under the patient's head and neck and contact the fleshy tissues of the posterior aspect of the right side of the atlas, being the posterior aspect of C-1 on the right. You may use your index or third finger for this. Take tissue slack P to A and right to left. Place the fleshy anterior pad of the proximal phalanx of the index finger (second digit) on the posterior aspect of C-2 on the left. You now have two contacts with your left hand: one on the posterior aspect of C-1 on the right and one on the posterior aspect of C-2 on the left. Take tissue slack right to left and posterior to anterior. With your right hand supporting the right side of the head and neck, rotate the head and neck to the right until all slack is removed. Thrust with your left contact hand by pushing on C-2, on the left side P to A, while pulling the C-1 contact on the right A to P. It is one fluid move, and both sides can be adjusted simultaneously. After the adjustment, go back and retest your previous findings.

In many cases, you may find a lateral flexion component of restriction on the left side at the level of rotation restriction. To take out slack during your setup and during the adjustment, you integrate a left-sided lateral to medial component force. That is, during your setup you laterally bend some with your left contact, create some left to right pressure and continue this with your thrust. The thrust will be a hybrid rotation and lateral flexion motion. The more lateral flexion involved, the less rotation is needed. You have to feel this and determine your line of drive by feeling.

Most teachers tell you not to use the noninvolved hand during the adjustment. This is unrealistic and dangerous. If you do not involve the other hand, you may end up punching the patient with your contact hand. The uninvolved hand must follow, not lead, the thrusting hand with precise timing, thereby assisting in the adjustment.

There is a trap which you may fall prey to with this pattern. The C-1/C-2 articulation on the left may feel hard, resistant, also restricted in rotation to the right. There has to be careful inspection of joint motion, comparing C-1/C-2 and C-2/C-3 articulations on the left side. Check each level with rotation and rotation combining some lateral bending. Look for abrupt endplay. The opposite of abrupt is spongy end-play. The C-1/C-2 articulation may feel stiff, but in these cases the left C-1/C-2

end-play will display an ultimate more spongy nature. If you make a mistake and correct C-1 on the left instead of C-2, then the symptoms may not improve, or they may get worse; new symptoms may develop, such as disorientation, nausea, or dizziness. If headaches were involved, this is even more prone to occur. In the final analysis, you have to do something or nothing. If you are careful and inspect properly, you will be lead more and more to do what is right.

Other symptoms associated with these right anterior fixations:

- difficulty rotating the head to the right. The patient is resistant;
- pain in the right mid to lower neck during right rotation;
- pain in the right upper back during right rotation;
- right SCM hypertonicity (swelling and becoming tender to the touch);
- nausea;
- right-sided headaches.

If, when setting up for an adjustment, the turning of the patient's head to the right causes increased pain, you will be rightfully hesitant to adjust. You may choose to use an Activator-type instrument. You can adjust C-2 supine and/or prone. To adjust the right anterior C-1 fixation, adjust in the supine position. Place your left thumb over the anterior left aspect of C-1, taking out tissue slack A to P and medial to lateral. Thrust into your thumb, allowing the force to be transmitted into C-1 with an A to P force.

There is a lot of intellectual discussion about headaches and their classifications. Differentiations include chemical imbalances. I try also to make some common sense differentiations. When unilateral headaches are involved, I am more inclined to consider dysfunctional joint problems to be contributors. Even bilateral headaches should be evaluated with consideration of joint dysfunction as a contributor.

It has been my experience that joint dysfunction of the upper cervical spine, even if part of the problem, may create pain or lower the threshold of irritability and more readily cause headaches. The examples given are great examples of conditions which may contribute to headaches and neck pain, especially on the right side.

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