Case Report: Upper Cervical Adjusting for Knee Pain

Mary Brown, D.C. and Paul Vaillancourt, B.S.

ABSTRACT

Management of a case of knee pan is described. The condition responded favorably to specific upper cervical adjustments as determined by both subjective and objective outcome measuring standards.

INTRODUCTION

Following is a case study of a patient suffering from chronic knee pain after dislocating his knee playing football in 1968. The patient was adjusted using The Grostic Technique, a method of Upper Cervical Analysis and atlas adjusting. Adjusting atlas only, the patient was relieved from his chronic knee pain.

Upper cervical adjusting was used on this patient because of the effect the atlas adjustment has on the entire nervous system via its effect on joint mechanoreceptors. Clinically, it has become apparent for years that upper cervical subluxations cause spastic contracture of the extensor (anti-gravity) muscles of the spinal column, which produces a functional short leg.[1]

The functional short leg is measured in either the prone or supine position, and is a measurement of leg length symmetry in a non-weight bearing position. The symmetry is dependent on anatomical growth (an anatomical short leg), and differences in bilateral muscle tone (manifesting a functional short leg). [2]

Pelvic tilt created by a functional short leg can in turn create bilateral unequal stresses in the hip and the knee joints during upright posture.[3] A study done by Kujala found a significantly higher number of individuals with a functional short leg in athletes with patellar chondropathy, than in controls with no knee symptoms.[4]

In short, the atlas subluxation can cause a functional short leg which in turn can affect the function of a knee joint.

CASE HISTORY

A 35-year old male presented to the Sid E. Williams Research Center on March 10, 1992 with a chief complaint of right knee pain. This problem started suddenly when the patient dislocated his knee years ago while playing football. The injury was exacerbated on another occasion when he slipped on a rock while fishing. After the accident, the dislocation was reduced by a chiropractor, and it remained essentially asymptomatic until 1982. In 1982, he received chiropractic care in the form of a full spine adjustment including a pelvic side posture adjustment to the ilium. This provided relief, and the patient remained mostly symptom-free for 9 years.

In June of 1991, the patient was in a car accident which resulted in a whiplash injury. The patient was treated chiropractically, and his knee remained asymptomatic until 6 months after the accident. At that time, the knee progressively began to swell and lose range of motion, stability and strength. Pain is now described to be a chronic, sharp and deep stabbing knee pain that is tender when palpated. The pain is exacerbated when lifting and carrying heavy objects or when extending the knee, as when lying down.

The problem has progressively worsened over the last year and has interfered with his daily work schedule. In early 1992, the patient consulted with an orthopedic doctor. X-rays were taken of his knee and joint mice were noted in the medial aspect of the knee joint. Arthroscopic Surgery was considered at that point.

Previous Medical History: The patient's past medical history includes headaches two to three times per week. He has experienced thoracic pain at the T-2 and T-3 area since the car accident in June of 1991.

Current Medical History: The physical exam revealed no abnormalities and vital signs were within normal limits. The following orthopedic tests were positive: Cervical Foraminal Compression, Foraminal Distraction, Leg Lower-

ing, Kemps, Fabere Patrick and Bounce Home test. Cervical Ranges of Motion were actively performed revealing hyperflexion and hypoextension. Right and left cervical rotation were decreased. The patient had cervical pain at the C-7 level with flexion and pain at the C-1/C-2 level with extension. Pain was also noted at the C-6/C-7 level with right lateral flexion. Dorsolumbar Range of Motion indicated decreased left lateral flexion and right rotation with pain at the L-1/L-2 area during extension and left and right lateral flexion. Range of motion at the right knee was limited to 10 degrees of flexion, starting from 5 degrees, since the patient was unable to fully extend the right knee. A-P Postural Analysis showed a right head tilt, high left ear, right head rotation, high left shoulder, high right ilium, with externally rotated right foot. Lateral postural analysis revealed a head jut. Muscle testing found biceps femoris to be weak.

An x-ray examination, including views of the nasium, vertex and lateral cervicals, was done and revealed a mild discogenic spondylosis of C-5 through C-7 and a cervical hypolordosis.

CHIROPRACTIC CARE & METHODS

The patient was given upper cervical adjustments using vectors derived by Grostic analysis.[5] The adjustments were delivered using a Laney instrument. He was adjusted a total of 7 times over a period of 6 months. Leg length deficiency was used as a primary indicator that an adjustment was required at any one visit.

Both pre and post adjustment leg checks were monitored at each visit by an independent assessor blinded to the prior assessor's findings. Leg checks were confirmed with cervical palpation.[5,6] At each visit, range of motion and orthopedic tests were performed whether the patient was adjusted or not. Range of Motion for left and right knee flexion and deep knee bends were measured using a goniometer.

RESULTS

Range of Motion in the affected knee flexion changed from an average of 100 degrees before the study to an average of 135 degrees by the end of the study.

Orthopedic Tests - Improvement was seen in all objective orthopedic exams. (See Table 1) By the end of the study, all orthopedic tests the patient had previously tested positive to, had turned negative. Specifically, the Bounce Home test changed from a constant positive on the effected knee before the study, to a constant negative by the end of the study. Foraminal Compression was positive on both the left and right at the beginning of the study. It was negative bilaterally by the end of the study. Leg Lowering was positive at the beginning of the study. It was consistently negative by the end of the study. Fabere Patrick was positive on the right side before the study. During the study, it turned positive bilaterally and finally turned negative and stayed that way. Kemp's test behaved in a similar fashion, and turned consistently negative by the end of the study.

DISCUSSION

The hypothesis at the outset of this patient's care was that leg length inequality (LLI) was responsible for his knee problem. LLI is often addressed via foundation principle techniques such as Gonstead or SOT, or by Upper Cervical techniques designed to reduce dural tension which creates muscle imbalance and subsequent LLI.

Each time the patient presented with supine leg length inequality, the Grostic Technique

indicator assumes the need for Atlas adjusting and the patient's atlas was adjusted. Post leg checks were done after each visit showing the legs had evened.

The intervals of time between when the patient had a LLI and was adjusted increased in duration. In the Grostic Technique, this means the Atlas is holding its adjustment. The patient could predict with accuracy whether or not his atlas would be found to be in adjustment or not based on symptomatology in his knee. In other words, his knee was frequently symptomatic immediately prior to his atlas going out of alignment.

CONCLUSIONS

A case study is presented in which a patient suffering from knee pain received positive results from an Upper Cervical technique when medical treatment would have demanded surgery. Atlas misalignment was hypothesized to be the greatest contributing cause of the patient's pain symptoms. The patient showed improvement in both subjective and objective measurements after starting treatment. The success of the treatment supports the hypothesis, and further suggests that upper cervical adjustments be considered when conservative treatment of knee pain is required.

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Table 1

TESTS	Dates 3/4	3/6	3/16	3/23	4/1	4/8	4/15	5/12	5/28	6/8	7/8	7/24	8/21
Bounce Home	+	+	-	-	-	-	-	-	-	-	-	-	-
L ForaminalComp	+	-	+	+	+	+	-	-	-	-	-	-	-
R Foraminal Comp	+	-	-	-	-	+	-	-	-	-	-	-	-
Leg Lowering	+	+	-	-	-	-	-	-	+	-	-	-	-
Fabere Patrick	R+	R+	R+	-	R+L+	R+	-	-	-	-	-	-	-
Kemps	R+	R+L+	-	-	R+	-	-	-	-	-	-	-	-