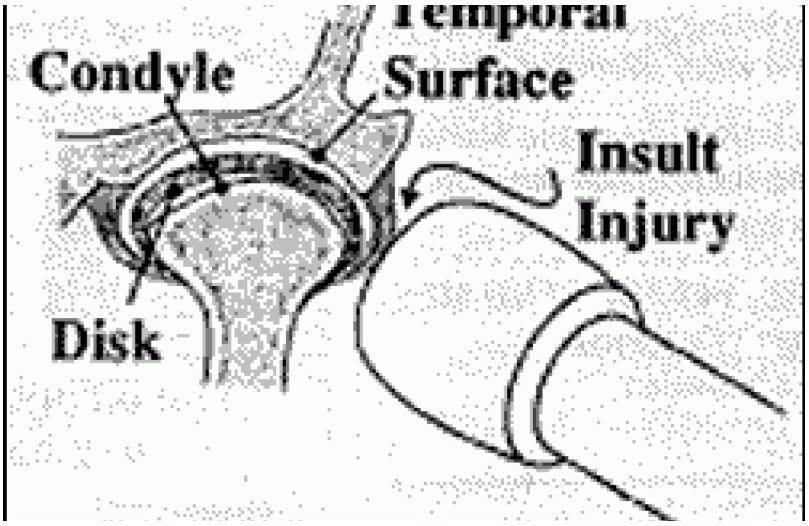
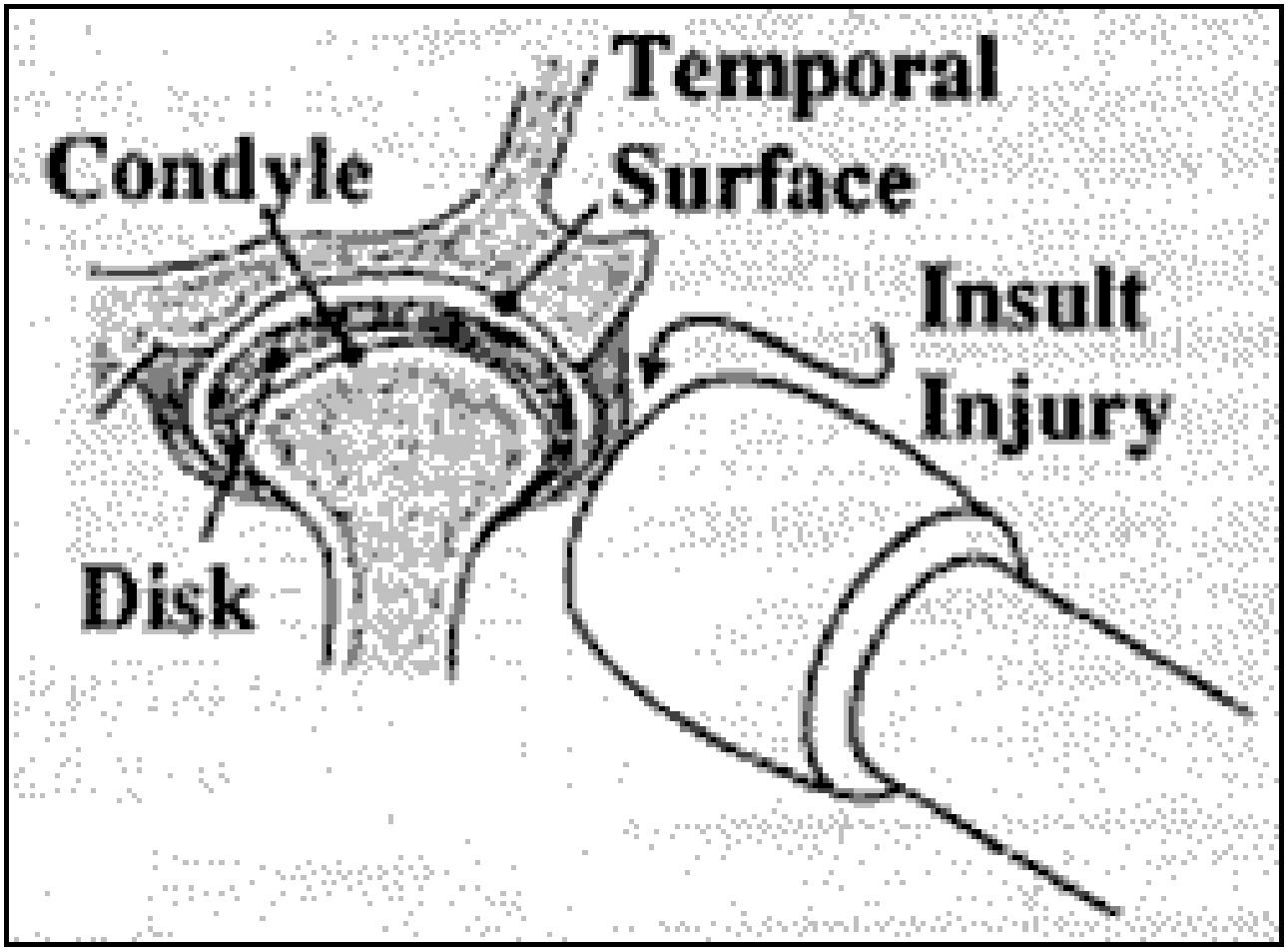
Dynamic Chiropractic



CHIROPRACTIC (GENERAL)

Mechanical Force, Manually Assisted Adjustments to the Temporomandibular Joint: Are They Safe?

I was looking through the daily mail one day recently, and I ran across an interesting letter from a dentist, D.D. Sommers, who writes to me through the recommendation of his chiropractic friend, J. Schuler, D.C. Both of these fine doctors are from Minot, North Dakota. Dr. Sommers writes: "As a practicing orthodontist, I have seen several patients on referral who have been undergoing chiropractic care for the management of craniomandibular disorders. Some of these patients have undergone mandibular 'adjustments.' Others have received 'activator' [sic] adjustments ... over the lateral aspect of the temporomandibular (TM) joint. I am concerned that such blows may result in sufficient insult to the capsular tissues to elicit inflammation ... compounding or exacerbating TM pain and dysfunction.



"Having had a limited exposure to chiropractic concepts, I am not clear as to the intent of the delivery of what appears to be a traumatic blow to the lateral aspect of the TM joint. Having experience in both dentistry and chiropractic care, I am interested in knowing your thoughts relating to this matter as well."

Dr. Sommers' letter points to a subject that I find most interesting; it's also one of the subjects I'm asked most often about. The subject, in this case, can be stated: "Is there a potential for injury to the TM joint when performing mechanical force, manually assisted adjustments?

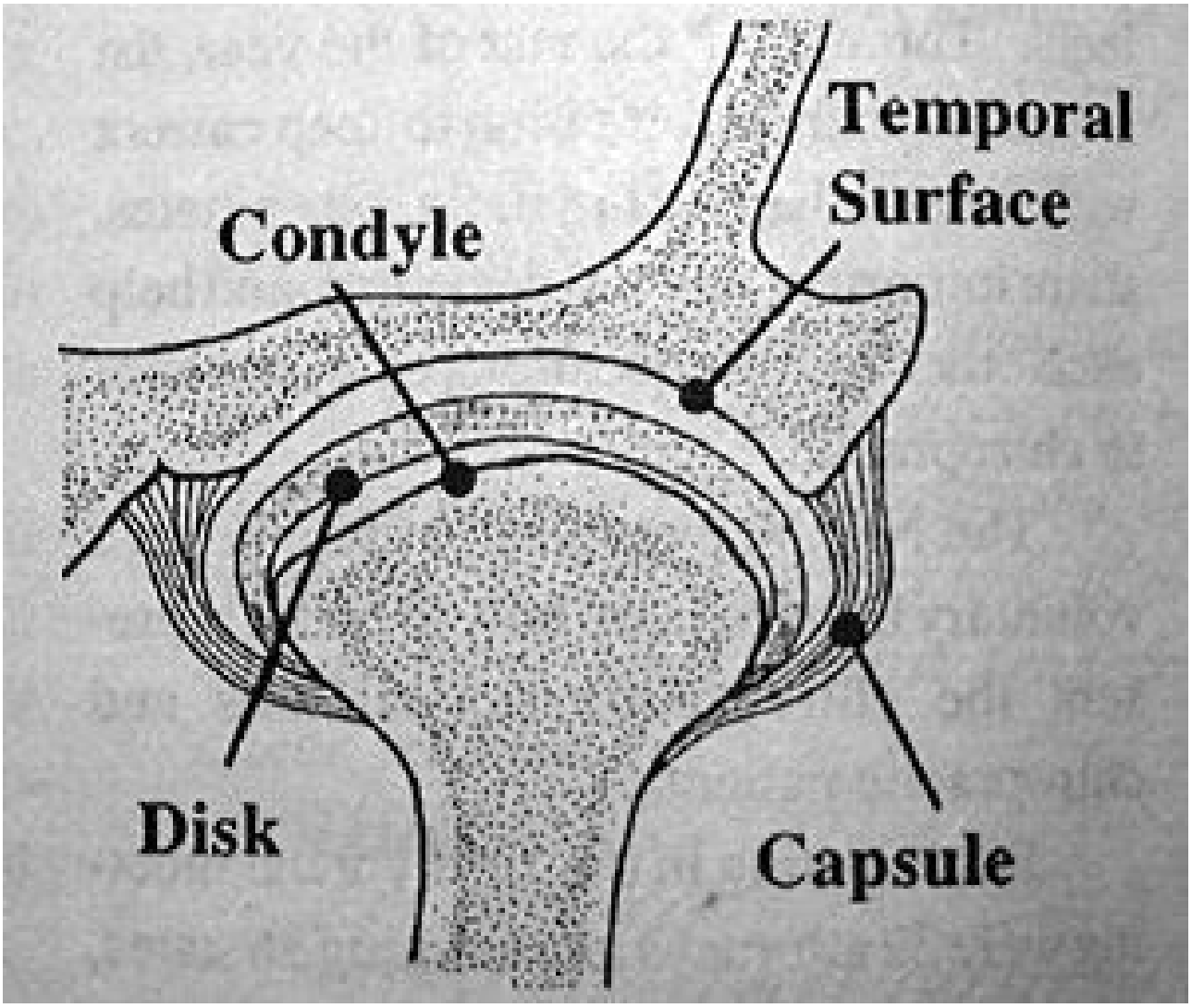
The Delivery

First of all, we need to define the type of delivery of the adjustment being used in this situation. Dr. K.M. Bartol developed a model for the categorization of chiropractic treatment procedures used within the chiropractic profession.[1] In this model, which was used in the June 1991 Consensus Conference in Monterey, California, we find that there is a category for the chiropractic procedure that uses the piston device which Dr. Sommers refers to (i.e., an adjustment assisted by some form of mechanical device). This procedural category is titled, Mechanical Force, Manually Assisted.

The Anatomy

Before we can begin to address Dr. Sommers' estimable concern we need to establish some anatomical boundaries. In order to do so we will take the position of the tip of the mechanical piston as being over the lateral aspect of the TM joint. When this position is taken, it is important to ask, "What are all the tissues that are being impacted when the force from the mechanical

device is delivered through the piston?



For the sake of brevity, let us leave out all those structures which may lie under the piston (e.g., preauricular lymph nodes, auriculotemporal nerve, portions of the facial nerve, and the superficial temporal artery and vein) and go directly to the joint itself. Here we can see that the lateral and second-most superficial structure is the articular capsule. (The most superficial structure is the TM ligament; not shown.) The fact that the capsule is situated as it is means that it is not designed to withstand "point-blank" insults.

Improperly delivered procedures, no matter what kind, always increase the patient's exposure to potential injury. This is particularly true for the TM joint when a mechanical device is used on it. Of particular concern is a crushing type injury to the lateral portion of the articular capsule as it crosses the lateral pole of the mandibular condyle.

Dr. Sommers' concern for insult injury to the capsular tissues is quite correct. The inflammation and edema he refers to are just two of the physiologic events that occur in capsulitis. Capsulitis has many causes (we saw one last month -- remember?) with one of the more common being trauma. Capsulitis can be a serious condition in-and-of itself and is formally classified as one of the many types of TM disorders. If a TM disorder was already present, capsulitis can compound the difficulty in treatment, and at a minimum it will exacerbate the symptom of pain and the signs of dysfunction.

The Prevention of Injury

Whenever possible, insult injury to the TM joint must be avoided during the deliver of mandibular adjustments. This is particularly true when a piston device is used over the joint. Fortunately, there are many ways in which the doctor can safeguard against crushing type injuries when using a piston device over the TM joint. In order to keep our discussion from getting too long, let's confine the safeguards for when the placement of the piston's tip is to the lateral aspect of the TM joint.

Insult injury to the tissues covering the TM joint can be prevented by using one of the following procedures: 1) Use a very soft tip on the end of the piston, preferably one that has a large flat surface. When using this method, the doctor should set the piston device to the lower amplitude setting. High settings or small tips should not be used when placing the piston in direct contact with the TM joint. 2) When a higher amplitude is needed, the piston should never be placed in direct contact over the TM joint. Instead, the doctor can place his thumb over the joint and then place the piston over the thumbnail. The piston's force is then delivered through the doctor's thumb.

Reference:

1. Bartol KM: A model for the categorization of chiropractic treatment procedures. J Chiro Tech., 3(2):78-80, May 1991.

With each article I encourage you to write the questions you may have, commentaries on patient care subsequent to attending the TM seminars, or thoughts to share with your colleagues, to me:

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Please enclose your return addressed, stamped envelope.

Editor's Note:

Dr. Curl will be teaching MPI's Temporomandibular ("TM") seminar on February 1-2, 1992, in Davenport, Iowa. You may register for the seminar by dialing 1-800-327-2289.