

# Unlocking the Non-Reducing Disc

*Jamison Spencer, DDS*

Several years ago I sat and listened intently at a meeting of the American Academy of Craniofacial Pain (formerly the Academy of Head, Neck and Facial Pain) as Dr. Clifton Simmons described how he injected the TM joint to unlock a non-reducing disc displacement (NRDD). Prior to this, I was sending patients with an NRDDs to an oral surgeon for arthrocentesis, or hoping they would unlock through splint therapy, or just treating them “off the disc.”

I was concerned with standard arthrocentesis because of the lack of attention by some surgeons to the post-surgical mandibular position. My observation was that most post-arthrocentesis patients did report less pain and improved range of motion. However, their opening was still significantly below normal and usually with deflection to the locked side. The pain relief was most likely due to the injection of a corticosteroid by the surgeon and the increased range of motion was likely due to the physical therapy, which was

initiated immediately after the surgery. It became clear to me that arthrocentesis, or at least arthrocentesis the way we were doing it, was not a predictable procedure for reducing a non-reducing disc displacement. Dr. Simmon’s procedure was predictable.

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I don’t believe there is anything exceptional about the way I do this procedure. The procedure is an integration of techniques that I’ve learned from several different doctors and adapted to my own style. I have found this procedure to be successful 70 to 80 percent of the time with

patients who have been locked for less than six months.

The following procedure synopsis is not intended to be a comprehensive guide or definitive protocol for reducing an NRDD. It assumes at least a working knowledge of diagnosis and treatment of basic internal derangements and some experience with intra-articular injections. If you do not feel you have this basic knowledge, *please seek out those courses or mentors from which you can gain proficiency.* I offer a course in conjunction with the American Academy of Craniofacial Pain in the use of diagnostic and therapeutic injections for craniofacial pain problems. This course includes hands on training in the protocol discussed here and many others. If you already perform this procedure, perhaps there is still something you may glean from this description.

Regarding the diagnosis of an NRDD, I would refer the reader to any number of excellent articles on the subject. When diagno-

sis is unclear, an accurately performed MRI can help you confirm your clinical impression. Occasionally, I am surprised by the MRI results as I see NRDDs when I didn't expect to and normal disc position when I suspected an NRDD. It is important to learn to read the films yourself as most radiologists do not read a significant number of TMJ MRI's and sometimes make errors. I have found radiologists to be very approachable and appreciative of input in reading the MR scans. As a side note, if the patient has recently had an MRI of the brain, the TM joints will usually be incidentally imaged as part of the study; this may provide useful information.

Usually the radiologist will not comment about the status of

the TM joints in the report of their impression of the brain scan, so it is up to you to view the films or review them with the radiologist.

It is also important to discuss treatment options with the patient should the procedure be unsuccessful.

**THE PROTOCOL**

Obtain written consent. The patient should be informed of possible side effects including:

partial temporary facial paralysis, bruising, pain at the site of injection, reaction to the anesthetic or one of its components, failure of the procedure, etc. Consent is usually obtained, when possible, at least a day before the patient is seen for the procedure. It is also important to discuss treatment options with the patient should the procedure be unsuccessful. These options include: repeating the procedure, arthrocentesis, arthroscopic surgery, open joint surgery with placcation, treating "off the disc" with splint therapy, physical therapy, doing nothing, etc.

Prepare the area of injection with alcohol or iodine solution wipes. Use Gebauer's Ethyl Chloride or Fluori Methane spray to provide some surface anesthesia for improved patient comfort immediately prior to injection (Figs. 1A & B).

Use a carpule of a short acting anesthetic (such as 3 percent Carbocaine without epinephrine) or 2cc of Lidocaine MPF in a Luer Lock syringe, and either a 30 gauge 1 inch (for a thin patient) or 27 gauge 1¼ inch needle. The joint space is palpated immediately anterior to the tragus with the patient's mouth open. Inject the posterior-superior joint space. The needle should trav-



FIGURE 1A



FIGURE 1B



FIGURE 2A



FIGURE 2B



FIGURE 2C



FIGURE 3A



FIGURE 3B



FIGURE 3C



FIGURE 3D

el anteriorly, medially and superiorly to approximately one inch deep, depending on the size of the patient. Contact with bone is not necessary. Prematurely injecting (while the needle goes in) will more often result in inadvertent anesthesia of the temporal and/or zygomatic branches of the facial nerve which will make it difficult for the patient to close their eye (hence the use of a short acting anesthetic).

However, inadvertent anesthesia of branches of the facial nerve may occur even if you do not inject prematurely. For more detail on this injection technique please see Dr. Jack Haden's new video/DVD on injection techniques (available from TMDData Resources 1-800-533-5121) (Figs. 2A-C).



FIGURE 5



FIGURE 6



FIGURE 7



FIGURE 8



FIGURE 9



FIGURE 10



FIGURE 11



FIGURE 12

After the injection, ask the patient, “Does that make your bite feel different?” They should respond, “Yes, now I can’t bite my teeth together on that side.” If the patient says their bite hasn’t changed, don’t despair. You have still likely anesthetized the auriculotemporal nerve, which will provide partial anesthesia of the joint.

The auriculotemporal nerve provides approximately 75 percent of the innervation of the joint capsule with additional innervation via the deep temporal and masseteric nerves. The resultant pain relief may be all you need to help the patient reduce the disc displacement. If desired, now that the patient is numb at the site of injection, you could also try again to enter the joint capsule.

At this point, having performed a successful injection, I ask the patient to start moving their jaw side to side followed by opening wide. They are told that they should continue doing this for the next few minutes while I leave the room to prepare something. *This is done to provide a psychological advantage* as the patient is normally quite anxious about the injection and unlocking procedure. Now that the injection is over and the patient starts to feel the pain in the joint subside, he/she is able to relax.

With the doctor completely out of the room and unable to throw a surprise chiropractic move on the patient, he/she can now REALLY relax. I have found that about 30 percent of my patients will unlock on their own at this time simply through gen-

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tle lateral movements and opening of their jaw. It is prudent to observe the patient for a few minutes after the injection in case they become syncopal. If the patient is unaccompanied, an assistant can stay in the room and talk to them in order to monitor their condition.

During the few minutes that I let the patient try and unlock, I prepare a thermal sensitive plastic for use as a temporary splint by placing a bowl of the plastic in the microwave for 1.5 to 2 minutes.

In the case that the patient does not unlock on their own,

generally simply helping the patient move their jaw laterally to the opposite side of the lock followed by helping them open wide using gentle pressure with the thumb and finger on the incisors, will reduce the disc displacement. When this doesn’t work I move to using dowels or tongue blades, manual distraction, or other procedures as described by Dr. Jack Haden, Dr. Brendan Stack, Dr. Clifton Simmons, and many others (this is also covered in Dr. Haden’s video/DVD) (Figs. 3A-D).

If the patient unlocks successfully, the next step is patient education. I believe that this is the most important post-unlocking step. If the patient does not feel the difference between “being locked” and “being unlocked”, it is likely that no matter what you do next, they will walk out of your office and re-lock within the next 24 hours (if not the next 24 minutes).

To educate the patient, I have them close on their back teeth and TRY TO MAKE THE DISC DISPLACE AGAIN. The reason for doing this is to help them feel the difference and to help them realize that they can unlock on their own if they discover that they have locked again.

Once we have done this exercise a few times, I show the patient that they can place three vertical fingers between their incisors if they are unlocked. I ask them to check their opening every five minutes or so until they go to bed that night. I also ask them to check their opening first thing in the morning. If they feel they are locked again, I instruct them to get in the shower, let the hot water relax their jaw, and try to unlock again. I request that the patient call me the morning after the procedure to report on their status.



After the educational session, the patient is fit with a temporary mandibular thermal-plastic splint (made from DuPont Tone Polymer 767e which is now available through the NTI-TSS company). The splint is usually made with an “end to end” incisor relationship in Class I and Class II patients. More importantly, it positions the mandible far enough anteriorly to keep the disc displacement reduced. The patient is instructed to wear this splint full time, including meals (which should obviously consist of soft foods) for the next four days and then at night for at least another week. Some doctors use an Aqualizer as a fast and effective temporary splint (Aqualizer: 1-800-Help TMD) (Figs. 4-12).

The patient returns for follow up in one week. If they have locked again, the procedure is repeated. If they are still unlocked (most of the time they are) I educate the patient once again as to the nature of their internal derangement and the likelihood of repeated locking episodes. I encourage them to enter therapy with at least a nightguard.

If several attempts at unlocking the patient are unsuccessful, I encourage the patient to proceed with arthrocentesis or arthroscopic surgery, or to begin

initial splint therapy. Recommendations are based on the patient’s diagnosis, pain, dysfunction, and quality of life issues. If I have not yet obtained an MRI, I do so at this time prior to further therapy or referral for surgery in order to confirm the diagnosis of an NRDD.

I began performing this “unlocking procedure” about three years ago. Since then it has been rare for a week to go by without at least one patient presenting

Your efforts will be greatly rewarded by the appreciation and smiles of your overjoyed unlocked patients.

with a non-reducing disc displacement. I have had as many as four patients present with NRDD’s on the same day! In the Boise, Idaho area the oral surgeons typically refer patients to me to attempt this conservative approach before they will consider doing arthrocentesis or other invasive procedures.

It is disturbing to me to consider that before I started doing

this procedure many patients were left undiagnosed and untreated. If you are not doing this procedure in your community, who is? If the answer is “no one”, I encourage you to get the education and experience necessary to do this procedure predictably. Your efforts will be greatly rewarded by the appreciation and smiles of your overjoyed unlocked patients. You will not only relieve them from their current pain and dysfunction, but save them from often unnecessary and less predictable invasive procedures.

For more information regarding any aspect of this article please contact Jamison Spencer at [drjrs@msn.com](mailto:drjrs@msn.com). If you have suggestions that would make this procedure even more predictable and successful, PLEASE email me your suggestions. There is always more to learn in the exciting and expanding field of craniofacial pain! **OH**

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*Oral Health welcomes this original article.*

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