

# Testing Critically Important in Managing TMJD Symptoms

**“Some patients present  
with so much pain,  
in so many places,  
I can hardly touch them.”**

Understanding and, when possible, relieving a patient's pain is a high priority concern in the TMJ & Sleep Therapy Centre of Raleigh-Durham, notes its founder, Dr. Charles Ferzli.

TMD is shorthand for temporomandibular joint (TMJ) disorder. If any part of the TMJ system of muscles, tissues, ligaments, and bones dislocates or becomes inflamed, the painful, sometimes disabling disorder can result.

“Pain is a universal phenomenon,” Dr. Ferzli notes. “It’s a sensation manifested by stimuli the brain interprets as actually or potentially damaging to the body. Interestingly, the experience of pain is completely subjective, felt and expressed differently by culture, age, sex, and personality type. Why is this important to note? It matters because while pain indicates some level of damage, the relative intensity and even location of pain experienced can be misleading.

“Some patients present with so much pain, in so many places, I can hardly touch them. On the other end of the spectrum, a patient who comes for evaluation of a jaw click may deny pain altogether, but as we begin to do some testing, we find these extremely tender spots that were simply out of their awareness.

“In these situations, it’s important to proceed with testing to help determine the nature of the problem. The presentation alone isn’t always reliable, because if you have no awareness of pain, but your body is screaming, clearly something is not right.”

## TESTING TO MEASURE PAIN

Initially, Dr. Ferzli has each new patient rate their level of discomfort on a scale of 0 to 3. “One thing no test can do is objectively measure pain,” he points out. “So, on a subjective scale where 0 is no pain, 1 is tenderness, 2 is pain, and 3 is a lot of pain, each patient rates their starting point. We need to record this data because once we start correcting the problem, patients forget how badly it hurt before. This is thus one important way to monitor progress.

“With this baseline established, testing then proceeds starting with strong, basic clinical evaluation, and progressing to more high-tech methods of assessment. First, we palpate—meaning we examine through touch. We palpate the jaw and all the surrounding muscles. We assess the neck muscles and those at the base of the head. Then we do a jaw joint vibration analysis. This tells us if there are soft or hard tissue vibrations that relate to clicking of the disks or bone-on-bone grinding. This is a test we will do before and after treatment. When the surfaces of the jaw joint remodel—an indication of healing—the vibration changes. This represents an objective measure of improvement in the patient’s overall condition.”

Before-and-after testing, explains Dr. Ferzli, may also include range of motion of the head, neck and jaw. “We will assess forward and backward, side to side, and up and down movements for range, ease, and level of discomfort. As inflammation decreases throughout the treatment process,



Dr. Ferzli uses a rhinometer to measure if there is nasal obstruction impeding breathing through this patient’s nose.

range of motion will improve. This test is also affected by a decrease in pain; the less it hurts, the wider the jaw will open as the muscles stop straining to keep it closed in an effort to fight against the pain.”

## THE JAW TRACKER

In conjunction with range-of-motion testing, Dr. Ferzli has in his testing arsenal a device called the jaw tracker. “This is an interesting device: It gives us information about velocity in the movement of the jaw in space, and the velocity is a reflection of the health of the joint,” he explains. “If the patient is not hurting, they can open and close quickly and easily. Thus, the jaw tracker gives us more information on the jaw joint with respect to how the patient improves over time.”

Before-and-after testing will likely also include X-rays to measure the health of the jaw joint, to see if there’s any bone loss around the joint area, the shape of the articular eminence, and the position of the joints in space. “We will look at the neck and the cervical vertebrae to see if they’re jammed,” Dr. Ferzli says. “If they are, referral to a chiropractor is an important step in combination with the treatment we provide.”

## SLEEPING THROUGH THE PAIN

Few patients realize that damaging processes can get set up during sleep just as easily as when awake, and Dr. Ferzli has a test for that, as well. Home sleep tests are used to screen patients for contributing factors to their jaw pain occurring while they sleep. “If we identify a problem, we can send them to a medical doctor to get sleep studies and evaluation of breathing problems such as sleep apnea. Then we can create oral appliances to help improve quality of sleep. Evaluating overnight oxygen levels before and after fitting and calibration of an oral appliance tells us if they are efficient and effective.”

While this relatively simple nighttime oral appliance is sufficient for some, chronic jaw joint problems may require more consistent correction, he notes. This may mean the use of two appliances, one for daytime, and the other for night. “We designed a 12-week program for the daytime splint for these patients with more serious, long-term jaw issues. After the 12 weeks of daytime wear, during which we monitor

progress weekly, we wean them off the splint so they are not dependent on this support during the day. Ninety percent of the time, once the joint has healed from the correction, there is no return of symptoms and they don’t need further daytime splinting.”

## FURTHER TESTING

Evaluation of the airway also includes checking the nasal passages and oral airway to check for obstructions during sleep such as the tongue retreating into the oropharynx.

Notes Dr. Ferzli: “A pharyngometer is a device that uses sonar technology to map the airway to see if it collapses. We can then use a bite tracker to assess for the appropriate placement of the jaw to prevent that collapse. This allows us to measure the effectiveness of the modified bite for the individual patient before we make the oral appliance for sleep.”

As with pain, the root cause of a symptom such as sleep apnea can vary from patient to patient. “Some people’s airway can collapse no matter what bite we take, and those will not respond well to oral appliance therapies. For this, we can use a rhinometer to measure if there is nasal obstruction impeding breathing through the nose.” (see photo)

The tests and technology at Dr. Ferzli’s disposal assist in his expert evaluation of patients every day. “These tools help to take the guess work out of diagnosing critical health issues. They help translate the subjective experience of pain into a localized, identifiable, and thus treatable problem, thereby greatly improving the reliability of our treatment approaches.” 

### For more information, contact:

**Charles Ferzli, DDS, FAACP, DABCP,  
DABCDMSM, DABDSM**  
**TMJ & SLEEP THERAPY CENTRE  
OF RALEIGH-DURHAM**  
**1150 NW Maynard Road, Suite 140**  
**Cary, NC 27513**  
**Telephone: (919) 323-4242**  
**RaleighTMJandSleep@gmail.com**  
**www.RaleighTMJandSleep.com**