

JEFFREY E. FELLNER DDS
DUSTIN PUTNAM, DMD
RONALD K. SHELLEY DMD MAGD

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Arrowhead Lakes Dentistry Newsletter

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Confusion erupts when terms are used that are poorly defined or explained. We have many patients visit our office stating that they have TMJ. TMJ refers to the Temporal-Mandibular Joint. If you think about it, everyone has TMJ! Well, two to be precise. These are of the joints of the lower jaw. The TMJ is a vital joint of the body; it is not a disease.

TMD

The correct term would be [TMD](#). Even there, there is some confusion. To some in dentistry, TMD means Temporal-Mandibular Disorder. We believe the best term should be Trigeminal-Mediated Disorders meaning disorders found in the area of the body controlled by the Trigeminal Nerve, the fifth cranial nerve that exits the brain. However, the various terms refer to many different disorders that can cause:

- head and neck pain
- limited range of opening and functioning of the jaw
- popping, clicking, or other noise generated by the joints
- headaches
- extreme tooth wear
- sensitive teeth
- and so forth.

Parafunctional Activity

There are many factors and causes of TMD. However, a major cause of TMD is parafunctional activity-- also known as grinding, clenching, and bruxism (so many different, confusing terms!) We still do not know precisely why, but we do know it is controlled by the brain thru the Trigeminal nerve. (That is why we like the term: Trigeminal-Mediated Disorder)

Imagine the flow of
parafunctional activity

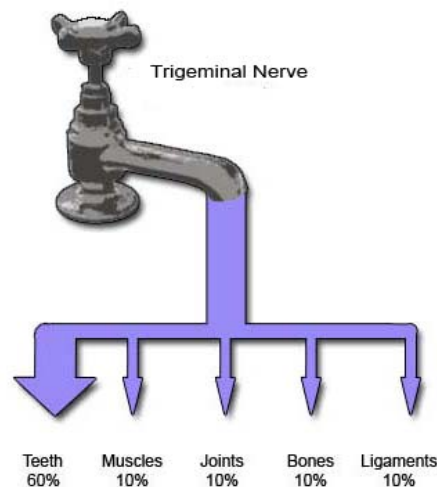
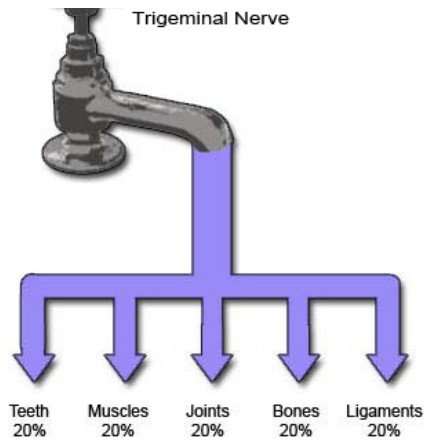


Trigeminal Nerve

from the trigeminal like the flow of water from a tap. In the context of TMD, there are five primary tissues that can absorb the forces of the trigeminal nerve:

teeth, muscles, joints, bones and ligaments. In some cases, this force may be distributed evenly

between all five tissues. In reality, most patients don't distribute the force evenly to all five tissues. There are many subtle differences in patient anatomy and physiology that result in uneven distribution of parafunctional force. Some tissues may bear much more than 1/5 of the force.



Distribution of force isn't the only factor. The trigeminal nerve doesn't always have the same output: some patients have a great deal of parafunctional activity (wide open tap) that may be a major source of damage for all of the tissues. Others may have a very small

amount of activity (a minor drip), that isn't enough to cause damage regardless of the distribution.

Further down in the system, we can also look at each tissue's ability to handle force. The human body and its tissues have an incredible ability to adapt to pressures. We call this the tissue's *adaptive capacity*. As long as applied forces are within the tissues adaptive capacity, the tissue has no resultant damage. Once the forces exceed the tissue's adaptive capacity the tissue begins to suffer damage (seen as pain or dysfunction). Adaptive capacity is not a static function of tissue. It can be altered for better or for worse. A balanced diet and an active healthy lifestyle may increase adaptive

capacity, while systemic disease or chronic injury may lower the tissue's adaptive capacity.

Control of Parafunctional Activity

Parafunctional forces can be control in most patients in a very conservative manner by use of a niteguard. Examples include the [NTI](#) and the [B-splint](#). These simple devices can changes the intensity and distribution of forces. Then the body can heal or adapt.

Arrowhead Lakes Dentistry will continue its quest to provide the finest dental care as comfortable as possible. If you have any concerns for yourself or a family member about TMD, please contact our office. Some of this discussion is courtesy of Dr. Barry Glassman. If you have any further questions about the information of this article or any other dental concerns, please visit our [website](#) or give our office a call at 623-362-9616. We would love to answer any questions.

We wish you good health,
Sincerely,

Ronald Shelley DMD
Arrowhead Lakes Dentistry PC

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