



Wear Have The Years Gone? Regaining Your Smile!



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The Damaging Effects On Teeth:

Grinding Your Teeth; Drinking Soda; Bulimia; And Acid Reflux

As we all know, aging affects each and every person on earth. As we age there is a natural and progressive breakdown that affects every part of our body including our skin, bones, muscles, joints, internal organs and even our brains. Unfortunately, teeth are not immune to the effects of aging.

As we age, it is perfectly normal to have a certain amount of wear occur on our teeth. After the age of thirty it is considered normal to lose about one millimeter of length of the upper front teeth, due to normal wear, for each decade of life. The average forty year old should not have more than one millimeter of wear on the edge of their front teeth, two millimeters for a fifty year old and so on.

An extremely common problem in our society today is excessive wear that occurs above and beyond expected age

related wear. More than half of the adults we see in our practice exhibit extensive wear on their teeth. The result is unattractive smiles with short teeth and spaces between the teeth. In many cases when these people smile you cannot even see that they have teeth! Having this condition makes people appear much older looking than they actually are.

Excessive wear can result in temperature sensitive teeth, difficulty in chewing, chipping and

fracturing of teeth, bite related problems such as headaches and TMJ (jaw joint) problems, and nerve exposure resulting in full blown toothaches.

Unfortunately, many people are completely unaware that they have a serious tooth wear problem. Tooth wear can occur rapidly over a short period of time, or it can occur gradually over long periods of time. For many people the wear goes unnoticed, especially if it has taken place more gradually. In addition, sadly, many dentists either do not recognize excessive tooth wear or neglect to inform their patients of the situation. Those dentists that do recognize excessive tooth wear often may not have the training to properly diagnose the type of wear that is present, and may be unsure how to treat the problem.

Excessive tooth wear has several different etiologies and identifying the specific cause is crucial in choosing the correct treatment. We have seen many patients over the years that were told by previous dentists that

they grind their teeth, are given a nightguard, and that is the extent of their treatment. That would be fine if the only cause of tooth wear was grinding that specifically occurred only during sleep. Recent studies indicate that more than 20% of the U.S. population grind their teeth during waking hours. We know a nightguard is not the appropriate treatment in every wear situation.

There are three different causes of tooth wear

Wear can be caused by attrition (grinding the teeth), abrasion (external forces on teeth) or erosion (chemical or acid destruction of teeth). In some cases it can be caused by any combination of the three. The key in the proper treatment is recognizing and identifying the true cause. For example, a dentist treating excessive wear with a nightguard because he or she thinks that grinding is the cause will result in a failed treatment if the true cause is erosion.

◆ Attrition

Attrition is the kind of tooth wear that is caused by upper and lower teeth rubbing against each other. As mentioned earlier a certain amount of wear occurs naturally as we age but excessive wear caused by opposing teeth rubbing against each other due to daily grinding of teeth can cause serious loss of tooth structure. This type of wear results in patterns on opposing teeth which are called wear facets. In a true case of attrition opposing teeth will have wear facets that match up.

Healthy teeth are covered by a layer of enamel that is approximately 1/8 of an inch thick. Enamel is the hardest substance in our bodies. Once that is worn through, the inner soft core of the tooth, the dentin, is exposed. Dentin is where the nerve endings are located. Once the dentin is exposed, wear proceeds approximately eight times more rapidly because the dentin is much softer than enamel.

Often the front teeth that are worn have thin, sharp and jagged edges. The back teeth can have flattened surfaces and worn down fillings. If there are crowns or caps present on the back teeth they often can have holes present on the biting surface from being worn thin. The wear in these cases can be on front teeth only, the back teeth only, or both. Treatment can include fabrication of a nightguard if the wear is minimal. If the wear is extensive, treatment often requires restoring the teeth back to the original height and establishing a balanced bite, which helps to eliminate the grinding habit.

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Reversing The Years!

Figure 1



Wear due to Bulimia

Figure 2



After Treatment due to Bulimia

Figure 3



Wear due to Gastric Reflux

Figure 4



After Treatment due to Gastric Reflux

Abrasion

Abrasion refers to wear that is caused by external forces. The most common is the type that is caused by hard brushing and the use of abrasive toothpastes. Also, depending upon cultural differences, certain diets can be highly abrasive. Typically, the type of abrasive wear that we see most is caused by toothbrush abrasion and it often results in notched out areas at the gum line. Treatment usually involves helping the patient to recognize the cause of the problem so that they can alter what they are doing and then restoring the worn away tooth structure. This treatment may only require a simple filling or two with composite bonding.

Erosion

Erosion is the wearing away of tooth structure that is caused by acid. This is the least recognized form of tooth wear even though it has its own unique appearance that is quite different from attrition or abrasion. There

are only two possible sources of acid in our mouths. There is the kind that we ingest, or bring in, and the kind that we regurgitate, or bring up.

The number one culprit of ingested acid are carbonated beverages or soda. Soda is highly acidic and the daily ingestion of soda can destroy enamel in a short period of time. Even acidic juice drinks like orange juice, can have a deleterious effect on enamel. Ingested acid can damage the enamel on the surface of the front teeth, especially at the gum line, and at the biting surface of the back teeth.

There are two sources of regurgitated acid. Bulimia (figure 1) (figure 2-after treatment) produces acid that always causes extreme wear of the back surfaces of the upper front teeth. That is because the head is usually postured down and forward when the acid is brought up and ejected out of the mouth. The lower front teeth are usually protected by the tongue. This type

of wear is easy to detect because it has such a distinct look to it.

The other type of regurgitated acid is that which occurs in people who suffer from gastric reflux (figure 3)(figure 4-after treatment). This usually results in wear on the biting surfaces of the back teeth and at the back of the front teeth. The wear can be more prominent on one side of the mouth than the other, which is related to the side the person usually sleeps on. The acid is brought up while the person is sleeping and will pool on one side of the mouth thereby causing more erosion to the teeth on that side.

Teeth that are worn due to acid erosion exhibit a satin like surface texture and have rolled margins as opposed to sharp jagged edges seen in attrition from grinding. Treatment for all erosion cases involves identifying the cause of the acid and eliminating it. In our office we have referred many people to a gastroenterologist if we suspect

acid reflux disease. Likewise, if bulimia is the cause we will recommend the appropriate referrals.

If soda drinking is causing the problem we will discuss and try to educate people about the harmful effects. Treatment in any case of acid erosion involves covering the exposed dentin and restoring the teeth back to their normal size and shape before any further damage can occur. In many cases the treatment

will protect the remaining tooth structure, and prevent any further damage from occurring.

Excessive tooth wear is a serious problem that should not be ignored. In any case of excessive tooth wear, the key is proper diagnosis. Informing and educating people is much easier when they are able to recognize that a problem exists so that the correct treatment can be provided.

About The Doctors . . .

• **Milt Noveck, D.M.D.**
graduated from The University of Pennsylvania School of Dental Medicine in 1980. He has since accumulated over 1500 hours of post graduate continuing dental education with special emphasis on cosmetic dentistry, esthetics, fixed and removable prosthodontics, full mouth reconstruction, and myofascial pain/occlusion. Dr. Noveck has completed the postgraduate curriculum at the world renowned Dawson Center for Advanced Dental Study in St. Petersburg, Florida. In addition, he has had extensive training by Dr. Frank Spear of Seattle, widely recognized as one of the world's finest restorative dentists and leading dental educators. Dr. Noveck is a member of the Academy of General Dentistry and the American Academy of Cosmetic Dentistry.

• **John Nosti, DMD, FAGD, FACE**
graduated from The University of Medicine and Dentistry of New Jersey in 1998 and completed his residency from Lehigh Valley Hospital in Allentown, Pa. He is Atlantic County's only Fellow of the Academy of Comprehensive Esthetics (FACE), and is a Fellow of the Academy of General Dentistry (FAGD). He has an extensive post graduate education in cosmetic dentistry, Temporomandibular Joint Dysfunction, and full mouth rehabilitations. Currently Dr. Nosti is adjunct faculty at Arizona School of Dentistry and Oral Health and lectures nationally in the field of cosmetic dentistry.

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