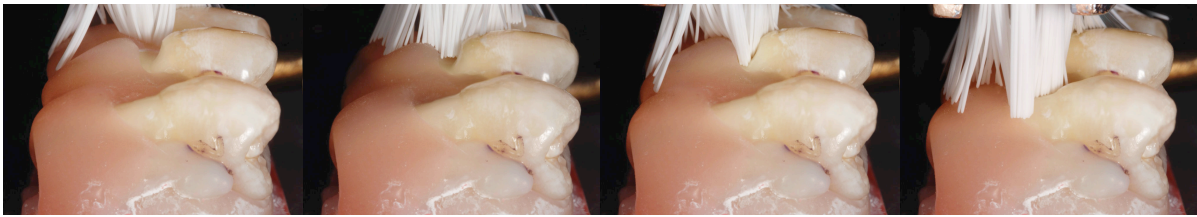


# ***In Vitro Reproduction of the Non-Carious Cervical Lesion***

by

John J. Dzakovich, D.D.S., F.A.G.D.

Thomas C. Abrahamsen, D.D.S., M.S., F.A.C.P.



## **CONCLUSIONS**

1. Modern-Day toothpastes carried by the toothbrush create the NCCL
2. Modern-Day toothbrushes without toothpaste do not create the NCCL
3. There is no visually significant correlation between the abrasive index and the size of the NCCL
4. There is no visually significant correlation between firmness of toothbrush and the size of the NCCL
5. The various shapes of the NCCL are due to toothbrush filament deflection
6. The amount and direction of filament deflection is affected by stiffness, juxtaposition of teeth, contours of gingiva and teeth, and pressure
7. Creation of the NCCL occurs with horizontal brushing with toothpaste

## **References:**

Miller W D, Experiments and observations on the wasting of tooth tissue variously designated as erosion, abrasion, chemical abrasion, denudation, etc.  
Dental Cosmos 1907 49: 1-23, 109-24, 225-47.

Abrahamsen T C, The worn dentition - pathognomonic patterns of abrasion and erosion.  
Int Dent J 2005 55: 268-76.

Dzakovich J J, Oslak R R, In vitro reproduction of noncarious cervical lesions.  
J Pros Dent 2008 100: 1-10.

## ***NCCL Literature Summary***

1728 – Hunter – *Observation Only*

1906 – Black – *Confirms Miller's Conclusion of Toothpaste*

1907 – Miller – *Laboratory Proof: Etiology is Toothpaste*

1908 – Black – *Closed-mindedly Discounts Simplicity of Toothpaste*

1977 – Abrahamsen – *Pathognomonic Patterns Revealed – Claims Toothpaste*

1979 – McCoy – *Tensile/Flexure Theory*

1983 – McCoy – *Pronounces Black to be Expert on Subject*

1984 – Lee, Eakle – *Tensile/Flexure Schematic Paradigm*

1987 – Grippo – *Ca<sup>++</sup> Ion Transfer Theory*

1988 – McCoy - *Dental Compression Syndrome*

1991 – Grippo – *Term "Abfraction" Introduced*

1995 – Grippo – *Claims Acid Corrosion Reproduction*

1996 – Lee, Eakle – *Literature Review of "Abfraction Hypothesis Reveals No Reproduction by Anyone*

2006 – Dzakovich, Abrahamsen – *Laboratory Proof using Modern Materials: Etiology is Toothpaste*

2008 – Dzakovich, Oslak – *In Vitro Reproduction of Noncarious Cervical Lesions*

## ***Debunking “Abfractions”***

The scientific literature dates back almost 300 years on this subject. The best evidence reveals that the non-carious loss of tooth structure at the cervix of teeth is singularly caused by abrasion from toothpaste delivered horizontally via a toothbrush. The toothbrush itself is **not** a factor in the amount of loss, only the shape. This lesion has been reproduced by scientific experimentation only twice in the history of dental science: first by Dr. W.D. Miller (1907) and then again by Dr. John Dzakovich and myself with modern materials (2006). The popular belief that there is a mechanical component from the flexure of teeth is an unproven hypothesis with no bioengineering logic to ever have a chance to be reproduced. Yet, intelligent people blindly hold fast to it's validity without examining the lineage of their belief; this nonsensical hypothesis keeps dentistry hostage for the correct treatment of this very common pathological lesion which is dramatically increasing in number as dentistry and toothpaste companies promote the use of this damaging product!

# The Toothpaste Heresy

**Definition:** Heresy is the modification of any system of affirmation in physics, mathematics, philosophy, religion, healthcare, or what-not, by the introduction of a novel denial or change of some essential part therein. Heresies with examination and time always prove to be a distraction from the truth and are false.

– The Great Heresies, by Helaire Belloc

Not using toothpaste to clean our teeth sounds like a heresy, but it is not. The doctrine(dogma): “we must use a toothbrush and toothpaste to clean our teeth daily” is false. The true doctrine(principle) is: “we must remove bacterial plaque from every surface of every tooth every 24 hours to prevent caries(decay)\* and periodontal disease for most human beings,” adding the corollary: “this must be accomplished without harm to the teeth or the periodontium.” This can be done with a brush that has soft(narrow diameter) filaments with the ends rounded and polished and with a cleansing medium that is colorless, flavored, and non-abrasive. The use of anything else that does not satisfy the requirements of this principle is a **heresy**.

\*Fluoride in toothpaste does not prevent caries, but is helpful when the cleaning principle is not met.

All toothpastes(and gels) are abrasive and can damage the teeth –

## ***Toothpaste Abrasion***

All toothbrushes that do not have soft bristles with polished, rounded ends can damage the periodontium –

## ***Toothbrush Recession***

1. Abrahamsen TC, “The worn dentition – pathognomic patterns of abrasion and erosion.” Int Dent Jour 55 (2005): 268-76
2. Alexander JF, Saffir AJ, Gold W, “The measurement of the effects of toothbrushes on soft tissue abrasion.” J Dent Res 56 (1977): 722-27
3. Silverstone M, Featherstone M, “A scanning electron microscope study of the end-rounding of bristles in eight toothbrush types.” Quint Int 19 (1988): 87-107
4. Miller WD, “Experiments and observations of the wasting of tooth tissue variously designated as erosion, abrasion, chemical abrasion, denudation, etc.” Dent Cosmos 49 vol.1,2,3 (1907): 1-23,109-24,225-47
5. Sanges G, “Traumatization of teeth and gingiva related to habitual tooth cleaning procedures.” J Clinical Perio 3 (1975): 94-103
6. Bass CC, “The optimal characteristics of toothbrushes for personal and oral hygiene.” Dent Items Int 70 (1948): 697-718
7. Abrahamsen DL, “Personal clinical communication”.