Tooth Erosion

At a recent Canadian Academy of Restorative Dentistry meeting a lecturer stated that North Americans are experiencing what might be described as an epidemic of dental erosion. **Erosion** is defined as: *chemical loss of tooth structure without the involvement of bacteria.* Three main groups are at risk: teenage males primarily as a result of the ingestion of large amounts of acidic beverages, teenage females (bulimia) and the elderly. (mostly due to reduced saliva flow and medications)

The critical pH of enamel (pH at which it begins to dissolve) is 5.2. Citrus fruits and beverages have a pH of about 1.7 and gastric refluxate is generally <2, both of which are clearly well below the critical pH.

As a profession, dentistry has long recognized the benefits of prevention as opposed to irreversible treatment. Undiagnosed dental erosion can eventually lead to extensive erosive tooth wear requiring time-consuming, expensive dental treatment.

We are trained to recognize early signs of dental erosion and have a variety of ways to combat and manage the loss of tooth structure.

Please note Table 1: pH of common foods and beverages

Table 1: pH of common foods and beverages

Fruits	pH Range	Fruits	pH range
Apples	2.9 – 3.5	Lemons/limes/juice	1.8 – 2.4
Apricots	3.5 – 4.0	Oranges/juice	2.8 – 4.0
Grapes	3.3 – 4.5	Pineapple/juice	3.3 – 4.1
Peaches	3.1 – 4.2	Blueberries	3.2 – 3.6
Pears	3.4 – 4.7	Cherries	3.2 – 4.7
Plums	2.8 – 4.6	Strawberries	3.0 – 4.2
Grapefruit	3.0 – 3.5	Raspberries	2.9 – 3.7
Beverages	**pH Range**	**Beverages**	**pH Range**
Cider	2.9 – 3.3	Grapefruit Juice	2.9 – 3.4
Coffee	2.4 – 3.3	7-Up	3.5
Black tea	4.2	Pepsi	2.7
Herbal tea	3.15	Dr. Pepper	2.92
Beer	4.0 – 5.0	Coca-Cola	2.7
Wine	2.3 – 3.8	Root beer	3.0
Ginger ale	2.0 – 4.0	Orange Crush	2.0 – 4.0
Mountain Dew	3.22	Nestea	3.04
Gatorade	2.95	Squirt	2.85
Snapple Lemonade	2.64	Red Bull	3.32
Condiments	pH Range	Condiments	pH Range
Mayonnaise	3.8 – 4.0	Cranberry sauce	2.3
Vinegar	2.4 – 3.4	Sauerkraut	3.1 – 3.7
A-1 Sauce	3.4	Relish	3.0
Mustard	3.6	Ketchup	3.7
Salad dressing	3.3	Sour cream	4.4
Other	pH Range	Other	pH Range
Yogurt	3.8 – 4.2	Tomatoes	3.7 – 4.7
Pickles	2.5 – 3.0	Fermented veggies	3.9 – 5.1
Rhubarb	2.9 – 3.3	Fruit jam/jellies	3.0 – 4.0
Battery acid	1.0	Gastric refluxate	1.6 – 1.9