Overuse of Teeth Whitening and Fluoride Products Can Be Harmful to Your Oral Health

Tag Words: Teeth Whiteners, Fluoride, Overuse, Oral Health, Consumer Warnings, Tooth Enamel

Authors: Shivum Gohil with Julie M. Fagan, Ph.D.

Summary: Over-the-counter teeth whitening products have become increasingly popular. It is perhaps easier and cheaper just to purchase these products than making an appointment with the dentist and requesting that they whiten your teeth. Unfortunately, without the guidance of the dentist, consumers may overuse these products in order to achieve the impossible Hollywood-like white teeth look. Overuse of these products have been found to erode tooth enamel. In an effort to remineralize tooth enamel, consumers may also begin to overuse fluoride. Fluoride can be highly toxic and result in, ironically, the discoloration of teeth. Consumers should be more warned about not overusing these products from the makers of these products.

Video Link: https://www.youtube.com/watch?v=lEkv2J0JFs0

Our Smile
When you meet people, the first thing they notice is your smile. Your smile has an impact that is visual and immediate which brings upon warmth, vitality, and radiance. Our smiles are what we care about the most in our face. With our smiles we show our teeth.

Statistics
According to statistics of the American Academy of Cosmetic Dentistry, about 99.7 percent of adults happen to believe a smile is the most important thing of the face. About three-fourths of that, or 74 percent believe if one has an unattractive smile, it can affect your professional life. People would always talk amongst each other about what would be the most area of improvement in your smile and they would respond whitening the teeth.

What are the different approaches to teeth whitening?
The most common ways to whiten teeth are the whitening treatments offered by your dentist and the do-it-yourself method using over the counter products. The in-office method involves using the guidance and assistance of your own dentist. This is the safest and most reliable method due to the fact that when the whitener is applied, other factors such as the gums are protected. The best whitening system is the buffer in the gel. This system is effective in that it provides teeth enamel protection from damage and can change the color of the teeth within just ten shades in an hour. The dentist only uses the first eight teeth in this method and leaves the rest off with the patient to do at home. This makes the approach very effective. This approach is also recommended because if something goes wrong the dentist is right there to treat it and take further action along with giving precautions. They are also present to manage with patients that have sensitive teeth.

The other approach is the do-it-yourself method. This approach is very common more than the other one because of the commercialized products and it is not as costly as going to the dentist.
Most of these products, such as whitening strips and gels, can be purchased without the guidance of the dentist.

Dentists are the most recommended source for using teeth whitening products because there is some inaccuracy with the products such as trays that do not fit the teeth. This in turn can affect how you smile and how your teeth look. They may not even look white; in fact half might be white the other half might be another color. This also can bother your gums as well. Dentists also have more comfortable solutions as products that will ease all other pain and have a secure fit for the teeth especially for patients who have sensitive teeth.

**Risks of the usage of teeth whitening products**

Some ways in which teeth whitening products can be very harmful to the human body teeth is that they can cause irritation to the gums with an overdose of whitening and hydrogen peroxide exposure to the teeth. This can cause disturbing pain for many days. It can also cause cracks in teeth and sharp pains within teeth due to being sensitive to certain products. It is said in the article, that dentists now recommend a certain type of toothpaste that contains the chemical potassium nitrate for those that have sensitive teeth. Furthermore, if a patient had dentures or other objects that are placed in the teeth, whitening products cannot give best results to those areas which are covered and restored.

Other ways in which teeth whitening have not provided the best results is that it only whitens the front teeth. However, this affects those who have a big smile and the back teeth are visible. Furthermore, most of the teeth whitening strips fade out and lose their whiteness. This is because after a few months the strips worn out.

**The question we should ask ourselves, should we bleach or not?**

Another word for whitening for the teeth is called bleaching. Other possible risks of bleaching your teeth include damaging the roots of your teeth. Dentist can also guide their patients on how solve other problems of using these whitening products by recommending certain products such as toothpastes that are made to just alleviate pain and for sensitive teeth. Furthermore, they are able to check for signs and symptoms for side effects of teeth whiteners as well.

According to researchers, teeth cleaning has been brought upon positive outlooks of about 90 percent of the time. They work well when your teeth have been yellow and prevent other stains from occurring. It is said that teeth whiteners work well only with yellow teeth. Other colored stains do not work. However, bleaching o the teeth does not work well if the patient has colored fillings in the front teeth due to the fact that it does not improve their smile and affect the color. This is because when they have the fillings the whitener does not match the placement of the teeth, and the whitening will not show. When bleaching does not work in this case, other options include porcelain veneers.

**What factors play a role in teeth discoloration?**

Tobacco use and the consumption of other drugs contribute to the discoloration of teeth. Using these drugs may show signs of brown spots and yellowing of the enamel. Overuse of fluoride can also cause this as well. The best way to remove any of these stains is by going to the dentist and cleaning the teeth (1). Internal tooth discoloration can also affect enamel. This is caused by how
the enamel of the teeth and the dentin respond to changes of dental treatment. Whether it is high levels of fluoride or antibiotics given as a child perhaps, disorder and discoloration can result. Some other causes include tooth decay and restorations within teeth (3).

**What to ask yourself when you are deciding to bleach your teeth.**

“Whether or not you decide to whiten your teeth, keep in mind that good daily oral health habits like brushing and flossing and regular checkups and cleanings go far in keeping your smile bright and healthy” (deltadentalins.com).

When you first decide to bleach your teeth, ask yourself a few things:

What did your dentist recommend you to do about whitening your teeth? Some teeth whiteners do not even help and can cause additional harm and pain. Therefore, are there any other back up options you could use? The dentist might not recommend using these products if you have root damage, enamel demineralization, or even sensitive teeth.

Is it worth paying for the whiteners? Some insurance plans do not cover for such products and you end up paying out of your pocket.

Is it useful getting treatment from the dentist or using similar bleaching treatment on your own at home? Usually it is advisable to have the dentist guide you in using these products but some over the counter products can be helpful and less expensive. However, there uses some of these require more time for the products to work and there are more negative effects to over the counter products than what the dentists provide.

**The whitening products that are safest to use.**

- Blanx Intensive Whitening treatment
- Philips Sonicare Healthy White Electric Toothbrush
- Rapid White Blue Light
- Five Minute Touch ups (strips)
- Rembrandt 2-hour whitening kit
- Beverly Hills formula-solution

**What causes discoloration of the teeth?**

The following are what causes discoloration of the teeth:

* certain foods and drinks that stain
* tobacco and smoking
* not brushing frequently and flossing so that you could remove unnecessary stains. Brushing helps remove the plaque as well
* fluoride
* some medications and antibiotics. this can affect children who have developing enamel. Some of these antibiotics are tetracycline, doxycycline, antihistamines, and other antipsychotic drugs.
* amalgam and other dentistry materials used in procedures which contain silver sulfide in them
* environment-high consumption of fluoride water or toothpaste can discolor enamel
* diseases in the body and head trauma (some cancerous treatments such as chemotherapy affect the color of the teeth
How Can I Prevent Teeth Discoloration?
One can limit the usage of daily activities such as eating and drinking certain foods that may cause teeth to discolor. Also, as dentist usually recommend brush and floss teeth regularly such as three times a day. Going to the dentist every year can prevent your teeth from becoming a different color and also from damage to the gums and root of the teeth.

What can be an alternative to these teeth whitening products?
Some dentists recommend other options to try out other than using teeth whitening products. Sometimes as mentioned before there are other products or techniques you can use than may do the job otherwise. Such techniques are bonding, veneers, which are coverings used for discolored tooth, certain over the counter products, brushing more often and flossing. When you add too teeth whiteners to your teeth, it provides mineralization for the enamel. This is good for fluoride as well. Adding teeth whiteners allowed for fluoride to attach to the enamel. However, too much fluoride can have a negative effect to the enamel as well.

Fluoride as a poison
The most important contributor to the discoloration of teeth is consumption of excessive fluoride whether it be for oral health, ground water, or by other means. Fluoride is a product that attaches itself to the enamel of the tooth. The enamel is made up of a compound called hydroxylapatite, which has calcium, phosphorus, hydrogen, and oxygen in it.

Why is fluoride more harmful to your teeth than good?
Almost every dentist provides their treatment with their patients with the usage of fluoride. It can be through recommending the use of fluoride toothpaste, or in water they provide with to make sure you are getting enough. The main reason dentists were behind this substance was to prevent tooth decay from happening to their patients. According to research studies, in the 1940s, they found that people who had higher consumption of fluoride living near fluoride ground water had less cavities. This brought upon the research in Michigan that more and more would daily bring fluoride to their water supply. After seeing this happen, the World health Organization looked at this incident in a positive manner and other countries followed their procedure. Over the course of the years, fluoride has been a great impact to the communities both bad and good. It caused many people bone cancer also called osteosarcomas. The major outbreak that occurred was the dental fluorosis. This conditions occurring to those who only have developing teeth, caused many people's teeth to become stained and discolored from too much consumption of fluoride.

CDC readings have declared that about 32 percent of children have gone through dental fluorosis. Although many are not severe, excess intake of fluoride has caused children's teeth to mottle. Dentists usually recommend parents to give their children only about 0.5 to 1 milligrams of fluoride per day and parents about 3 to four milligrams. Most of the fluoride comes from the ground water or other foods and drinks. Along with this, children consume those fluoride toothpastes as well. This can lead to excessive fluoride intake for children which can cause fluorosis.

What the American Dental Association has to say about fluoride.
According to CDC, fluoridation is one of the top ten public health concern we had that they had accomplished. In 2007, the American Dental Association clearly told parents to not provide children with fluoride based off of past experiences with excessive fluoride intake. They warned them from mixing baby formula with fluoride. As mentioned previously, dental fluorosis is a condition that discolors the teeth and causes teeth to mottle. Furthermore, the journal of American Dental Association in 2010 also portrayed negative responses to the use of fluoride intake. They also proved that children who were fed fluoride with baby formula had a greater chance of getting fluorosis. According to the author, "Results suggest that prevalence of mild dental fluorosis could be reduced by avoiding ingestion of large quantities of fluoride from reconstituted powdered concentrate infant formula and fluoridated dentifrice." With the decrease of intake of fluoride many children would not be affected with fluorosis and have their teeth impacted. Mixing baby formula with fluoride also calls for the enamel being affected based off the community water fluoridation page. It is not only baby formula, but toothpastes and other dental products have had fluoride mixed in that causes enamel to become demineralized.

Can dental fluorosis affect other parts of the body?
Dental fluorosis occurs when there is an excessive intake of fluoride from any source causing brown spots and enamel demineralization of the teeth. People used to say that these spots and stains were just cosmetic and were not due to fluoride. However, studies have shown that this fluoride can also affect other parts of the body such as internal organs causing various diseases. It is said that 32 percent have affected by oral fluoride intake, but as more fluoride has been consumed more and more parts of the body has been distorted according to Dr. Paul Connett. He declared that teeth has the effect to see what can happen to your bones. If you see spots and stains along with mottling in the teeth, you can predict what fluoride can do to your bones in the rest of your body. Teeth is visible to other people but not bones in the body. Therefore, fluoride has been foreseen to have a great impact to even bones in the body which can affect other organs as well.

Scientists have done tests on animals to see what other areas of the body has fluoride been greatly impacted. They found that excessive fluoride affected bones causing cancer and hip fractures as well. Other systems within the body that were significantly affect was the nervous and the musculoskeletal system. These led to dysfunctional joints and ligaments bringing upon deficits and degeneration of muscles and neurons in the brain.

There are some areas in the world that have it hard to accept that fluoride is a poison.
The government around the United States try their best to let go of all the bad news and reviews they have received from fluoride intake. They try to make their best way to make fluoride play a beneficial factor in playing a role in oral health. The article states that if they had accepted the fact that fluoride is toxic to public health, there would be law suits that would ruin government's reputation.

Why is it hard to not swallow fluoride?
In the United States almost every water supply contains some sort of fluoride in it. It is put into ground water to be known to help remove decay within teeth. But what people do not understand is that water that is not fluoridated and that is fluoridated has made no difference in preventing tooth decay. Promoters ask the public, why use fluoride in our water if the only benefit we gain from it is from our teeth? Whether we know it or not, fluoride is contained in most our daily foods we
Due to pesticide residues, fluoride is contained in nonorganic foods. Some examples of foods that contain high dosages of fluoride are lettuce and grapes.

Below is a table that portrays why fluoride is harmful to your teeth as well:

As one can see, there are many parts of the human body that fluoride can impact, including functions of the brain.

<table>
<thead>
<tr>
<th>Increases lead absorption</th>
<th>Dementia</th>
<th>Genetic damage and cell death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disrupts synthesis of collagen</td>
<td>Bone fractures</td>
<td>Increases tumor and cancer rate</td>
</tr>
<tr>
<td>Hyperactivity and/or lethargy</td>
<td>Lowers thyroid function</td>
<td>Disrupts immune system</td>
</tr>
<tr>
<td>Muscle disorders</td>
<td>Bone cancer (osteosarcoma)</td>
<td>Damages sperm and increases infertility</td>
</tr>
<tr>
<td>Brain damage and lowered IQ</td>
<td>Inactivates 62 enzymes</td>
<td>Impairs sleep by impairing melatonin production by your pineal gland</td>
</tr>
<tr>
<td>Arthritis</td>
<td>Inhibits formation of antibodies</td>
<td></td>
</tr>
</tbody>
</table>


**The truth behind tooth decay. Should fluoride be used to help stop tooth decay?**

About 39,000 children in schools went through studies of fluoridation and its connection to tooth decay. There was really no difference in these rates with fluoride. Many countries like Austria, Sweden, Finland, Denmark, and other European countries, have decreased their rates of tooth decay but not due to the reduced intake of fluoride. This is because ground water in these countries did not contain fluoride, only the United States did. Therefore, from this results, we can say that fluoride is the primary product to cure tooth decay.

According to reviews, teeth decay was not really caused by intake of excessive fluoride. About 7,000 children were told that the intake of dental fluoride did not really help with their prevention from tooth decay and cavities. It is said that tooth decay is produced by sugar that is broken down by bacteria from acids in the mouth. This bacteria that is processed is called Streptococcus
mutans. The acid that is resided in your mouth affects mineralization of the enamel making bacteria have its way to the dentin in which causes cavities within teeth. Therefore, there are other things we could limit ourselves from forming these cavities such as eating unhealthy foods.

**Does fluoride really cause osteosarcoma?**
Osteosarcoma has only about four hundred cases occurring to children every year in the US. With more and more people consuming water containing fluoride, cancer risk has increased and brought major concerns all over United States. With views for and against this toxic substance, there is now a connection between cancer and fluoride according to various studies in the American Cancer Society. As previously mentioned, scientists had performed laboratory experiments with animals to see how fluoride affected the human body. When they tested on male rats, they found that those rats had the potential to get bone cancer. However, when they did those same experiments on the female rats, nothing showed. Fluoride accumulates around calcium in the body which is found in bones. As more and more fluoride congregate around these areas, which can also be called growth plates, the cells grow faster and become cancerous.

**What happens when fluoride comes inside the body?**
Once fluoride is consumed and comes contact with tissues within the body, it is absorbed within blood and flows through digestive tract. When they travel through the bloodstream, it accumulates in areas where there is a high concentration of calcium. In this case, human teeth and bones are what gets impacted the most as previously stated. They can also be found in the soil, ground water or even in air before we get in contact with it.

**How has groundwater fluoride impacted public health**
In 1945, fluoride had been placed in groundwater to prevent people from getting cavities all over United States. Then in 1962, Health services recommended that water supply be filled with fluoride for only about 0.7 to 1.2 milligrams per liter. This is so fluoride can be consumed from not only water but from other sources as well such as toothpaste. Furthermore, EPA had declared to only put 4.0 milligrams per liter of fluoride in drinking water. This was the baseline in which higher than this would cause dental fluorosis and lower would be safe to drink from. The type of fluoride used in water supply is fluosilic acid, sodium fluorosilicate, and sodium fluoride. Along with this, EPA recommended in terms of protection of children from excessive fluoride to only drink about 2.0 milligrams of fluoride per liter.

**Connection between cancer and fluoride**
Before, many people, including researchers part of IARC, did not understand how and if fluoride was really linked to cancer. There was no balance with the fact of people living near fluoridated waters getting cancer. With the amount of results received on lab animals found no link between the two. Then the Public Health Service reported the pros and cons of fluoride and declared that with the studies done population based and local studies, there is not enough evidence that fluoride poses a threat humans getting cancer. Another resource that did not link the two was from the National Research Council in 1993. All the data they found were irrelevant and ineffective to say that fluoride exposure had high cancer rates on humans. In the United Kingdom, twenty-six studies were conducted in which that no connection between excessive fluoride intake and bone, thyroid cancer, and other diseases were found.
Countries that oppose having fluoride in their water

Germany-fluoridation is strictly forbidden. There was a debate between Federal Ministry of Health and public on having a certain level of fluoride but it was against nature.

France- they believed it was against their ethical and medical beliefs

Belgium-they have not fluoridated their water in the past and based on the negative public outlook will never be in the future. They do not believe in treating people by fluoridating water

Luxembourg-they also never added fluoride to their water supply. They believe if people need to use fluoride they can choose so on their own with public use such as tablets or toothpaste.

Sweden-not allowed.

Denmark-They believe fluoride is toxic and do not wish to add these substances in their water

Norway- they had a controversy about fluoridating water for 20 years and came to a conclusion that it is a bad idea to do so

Finland-They are also against fluoridating water and believe other sources such as toothpaste or food are better methods

Ireland-Only a couple cities were fluoridated for 30 years or so. They did not want to spread the idea of fluoridating water to other cities

Austria-They never believed in adding fluoride to their water due to its toxicity

Fluoride can be a beneficial factor to public health

Said to be the number one safest approach to reduce cavities, fluoride also is said to help re-mineralize the enamel if taken at proper amounts. In the early 1900s, scientists found out that the rate of teeth decay was decreasing with the introduction of fluoride in water supplies. It was also found that when fluoride became concentrated in the mouth, it helped reduce enamel. It all started in 1945 in the community of Grand Rapids in Michigan where fluoride was added to their water supply to decrease tooth decay and promote oral health. This influenced many cities and areas around the world to begin adding fluoride to their water as well. In addition adding fluoride to water is also cheaper in terms of getting everyone to become exposed to fluoride. Many people do not have insurance and could not afford fluoride or the visit to the health professional, so having it in their water supply was the best solution for them.

What about Healthy People 2020?
The objective for Healthy People is to have about 80 percent of people become fully exposed to fluoride by 2020. Currently it is at 74 percent. Their goal is to reduce the number of decays to about 40 percent in third grade children.
The recommended fluoride dosage for children according to ADA

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Concentration of Fluoride in Drinking Water (PPM)</th>
<th>0.3 to 0.6 PPM</th>
<th>0.6 PPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth &lt; 6 mos.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6 months &lt; 3 yrs.</td>
<td>0.25 mg.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 &lt; 6 yrs.</td>
<td>0.50 mg.</td>
<td>0.25 mg.</td>
<td>0</td>
</tr>
<tr>
<td>6 – 16 yrs.</td>
<td>1.0 mg.</td>
<td>0.50 mg.</td>
<td>0</td>
</tr>
</tbody>
</table>

Table retrieved from [http://www.nypartnersinoralhealth.com/tableofcontents/benefits_flouride.html](http://www.nypartnersinoralhealth.com/tableofcontents/benefits_flouride.html)

**Warning Labels/how often these products to use:**

Some teeth whitening products that many people use are:

- Crest 3D Advanced teeth whitening strips (14/20 a count)
- Spraywhite 90 teeth whitener kit, 10 count
- Rembrandt Deeply White + Peroxide Whitening Mouthwash
- Colgate Optic White 2-in-1 whitening kit, 2 pc
- 5-day whitening trays gel free (UpandUp)

The Crest 3D strips, both the 14 and 20 count containing hydrogen peroxide, is probably one of the most common products people purchase in their local drug or grocery stores. Crest recommends putting it on once a day for 30 minutes. It does not have a warning label, and states that the product is safe for the enamel. On the material provided on the inside of the box, it recommends only using two kits per year. They have hydrogen peroxide in their products. For crest strips, they said they only recommend using two or lower strips for both upper and lower teeth. Crest recommends that if you experience or suffer from teeth sensitivity, then only use strips or other products every other day or time you use it. According to Crest, they write that if your gums bother you, then use the strips “gentle routine”.

The Spraywhite 90 teeth kit is a spray that also contains hydrogen peroxide that is supposed to be used for 90 seconds twice a day for two weeks. It warns that there could be some irritation to gums. It also indicates that if they use spray white products daily then it will show results. Spraywhite also says that if they have sensitivity and gum irritation, then they should not use the product or limit the usage of the spray by 20 seconds less and use it maybe every other day. Spraywhite also recommends not to swallow the product.
The Rembrandt deeply white + peroxide whitening mouthwash contains hydrogen peroxide and is supposed to whiten the enamel. On the label it states to use it only twice a day and children under the age of 12 should not use the product. The process takes about an hour. It tells you to use the proper amount recommended to prevent gum irritation. Furthermore, it also says that best results come after twelve weeks. Rembrandt products, as a whole, tend to take two years to do the job if you do it professionally, but shorter if you do it by yourself. The label recommends stopping the process for two to three days if irritation and sensitivity occurs. Rembrandt products also have precautions in which tell people not to use their teeth whitening products if you are pregnant, a smoker, etc.

The Colgate optic white 2-in-1 whitening kit also contains peroxide. The label says children under the age of 12 should not use their product. In addition, it says to not use the product if there are signs of gum irritation and teeth discoloration. Colgate products usually work after four weeks but that the consumer should see results after two days of use. The whitening gel usually lasts for two to three weeks. Furthermore, Colgate recommends changing the whitening pen and toothbrush every three months. According to most Colgate whitening products, stains do come back. They come back earlier like a month for smokers. You only need to use these products once or twice a year, since the stains are said to come back after 6 or twelve months. Warning labels of Colgate products suggest not to use them if you have really sensitive teeth, are pregnant, a smoker, have gum issues, and have already discolored teeth crowns.

The 5-day whitening trays gel free does not have a warning label but does say that it is safe for children 12 and up. It recommends, hence the name, only 5 days one tray a day.

**Promoting awareness of the hazards of overusing teeth whitening products**

In an effort to get the word out, we went to yahoo answers (answers.yahoo.com) and asked and answered a few question about teeth whitening products.

Our question and answer that we posted on June 26, 2014:

**Question:**
I use Teeth Whitening products regularly. Am I doing any permanent damage to my teeth by doing so?

**Answer:**
OTC Teeth whiteners are generally safe if you use them as recommended and do not overuse the product. Some people’s teeth are naturally yellow ish and that pigment is in the tooth and won’t be removed by a whitening product. Not knowing this, they keep using the products with limited success all the while eroding their enamel and making their teeth more sensitive (some need root canals after overuse). So read the labels- Crest Whitestrips say in the fine print that you should only use 2 kits in an entire year – bet most people don’t know or abide by that recommendation. Recommendations on how many kits you should be using over a particular time frame may not be in the literature they provide. Asking your dentist for advice on the matter would be worthwhile for you.
After reading some blogs and articles on teeth whitening products, we realized that the consumers that are attracted to and purchase these products are those that obviously want to have whiter teeth. We found numerous testimonials of consumers that were somewhat obsessed with having whiter teeth and had unrealistic goals to the point where they would expose their teeth to these products for longer and more often than recommended. We examined the recommendations put forth on the packaging and inserts of these products, and found that the recommendations for the frequency and length of use of their product was either not there or was not prominently displayed or emphasized. We feel that this is a flaw on the companies end; that they should more clearly warn the consumer not to overuse these products due to their harmful effects. So we wrote and sent the letter below to several of the major manufacturers of these products. The contact information for each of the companies we sent the letter to is as follows:

Crest:
P&G (Crest), 1-P&G plaza, Cincinnati, Ohio 45201, 800-492-73878

Colgate:
Directors, c/o Office of the General Counsel, Colgate-Palmolive Company. 300 Park Avenue, 11th Floor, New York, NY 10022-7499, 800-468-6502, directors@colpal.com

Scope:
P&G (Scope), 1-P&G plaza, Cincinnati, Ohio 45201, 800-492-73878

Rembrandt:
When called, they did not give their headquarters address or email, 800-548-3663

Date: June 20, 2014

Dear ,

Many people are not aware of how often they should be using your teeth whitening products. If their teeth are not at the whiteness that they think they should be, that they should just keep using more of your product. What they do not understand is that people’s teeth are different; some naturally have more pigment. Some have yellow and other shades as part of their tooth makeup and are permanent colorations. They feel that if they use more of your whitening products on their teeth, the color pigments will vanish. They are simply not aware that their teeth can’t get any whiter and will overuse your product which could result in the erosion of their tooth enamel, as well as irritating the gums. Their teeth become more sensitive and some need root canals as a result of over using your product. With this in mind, I believe your company should put more prominently on your packaging some restrictions, recommendations, and additional warnings on what side effects and negative consequences they could experience if they overuse your products. By clearly and prominently displaying this information, you could prevent them from experiencing some of the possible negative side effects while at the same time; protect your company from responsibility in the event they choose to take legal action.

I hope to be a dentist in the near future so I have a strong interest in the topic. I hope that you will reply back to me and my professor and consider making some modifications on your labeling.

Thank You.

Sincerely,
References:

What's your smile personality?/Statistics
(1) http://www.aacd.com/whitening

What are the different approaches to teeth whitening?
(2) http://www.aacd.com/whitening

Risks of the usage of teeth whitening products
(3) http://www.yourdentistryguide.com/teeth-whitening/
(4) http://www.deltadentalins.com/oral_health/bleaching_risks.html

The question we should ask ourselves, should we bleach or not?
(5) http://www.deltadentalins.com/oral_health/bleaching_risks.html

What factors play a role in teeth discoloration?
(6) http://www.sw.org/misc/health/Tooth%20Discoloration.html
(7) http://www.yourdentistryguide.com/tooth-discoloration/
(8) http://www.aacd.com/whitening

What to ask yourself when you are deciding to bleach your teeth.
(9) http://www.deltadentalins.com/oral_health/bleaching_risks.html

The whitening products that are safest to use.
(10) http://www.dailymail.co.uk/health/article-1366290/The-dark-white-teeth-DIY-whiteners-dangerously-addictive.html

What causes discoloration of the teeth?
(11) http://www.webmd.com/oral-health/guide/tooth-discoloration

How Can I Prevent Teeth Discoloration?
(12) http://www.webmd.com/oral-health/guide/tooth-discoloration

What can be an alternative to these teeth whitening products?
(13) http://www.webmd.com/oral-health/guide/tooth-discoloration

Fluoride as a poison
(14) http://www.livescience.com/37123-fluoridation.html

Why is fluoride more harmful to your teeth than good?

What the American Dental Association has to say about fluoride.

Can dental fluorosis affect other parts of the body?
(18) http://www.globalhealingcenter.com/health-hazards-to-know-about/where-the-yellow-went

There are some areas in the world that have it hard to accept that fluoride is a poison.
(19) http://www.globalhealingcenter.com/health-hazards-to-know-about/where-the-yellow-went
Why is it hard to not swallow fluoride?
(21) http://www.globalhealingcenter.com/health-hazards-to-know-about/where-the-yellow-went

The truth behind tooth decays. Should you be using fluoride to help stop these cavities?

(22) http://www.globalhealingcenter.com/health-hazards-to-know-about/where-the-yellow-went

Does fluoride really cause osteosarcoma?

What happens when fluoride comes inside the body?

How has groundwater fluoride impacted public health?

Assessments conducted by experts had found that there was really no connection between cancer and fluoride.

Countries that opposed having fluoride in their water
(28) http://wakeup-world.com/2011/05/27/fluoride-is-bad-for-you/

Fluoride can be a beneficial factor to public health as well.
(29) http://www.cdc.gov/fluoridation/basics/index.htm

What about Healthy People 2020?
(30) http://www.cdc.gov/fluoridation/basics/index.htm

The recommended fluoride dosage for children according to ADA

Warning Labels/how often these products to use:
(33) http://www.walmart.com/cp/Teeth-Whitening/1044034
(34) (35) http://www.target.com/p/up-up-5-day-whitening-trays-10-count/-/A-15291395#prodSlot=medium_1_15&term=teeth+whitening+
(36) http://www.3dwhite.com/teeth-whitening/3d-white-faq.aspx
(37) http://www.drugstore.com/spraywhite-90-teeth-whitening-spray/qxp398615
(38) http://www.anderson-dental.com/services/services_list/teeth_whitening.html
(39) http://www.rembbrandt.com/faq/rembrandt-deeply-white-peroxide-whitening-mouthwash
(40) http://www.smilesinternational.com/#!spray-white
(41) http://www.colgateopticwhite.com/faq
Letter to the Editor

Dear Editor,

Please consider publishing our letter to the editor below. We wanted to share with your readership some personal health concerns regarding the usage of teeth whiteners and fluoride.

Thank You,
Shivum Gohil
Julie M. Fagan, Ph.D.

Over-the-counter teeth whitening products have become increasingly popular. Many people are not aware of how often they should be using teeth whitening products. If their teeth are not at the whiteness that they think they should be, they think that they should just keep using more of the product. What they do not understand is that people’s teeth are different; some naturally have more pigment. Some have yellow and other shades as part of their tooth makeup and are permanent colorations. They feel that if they use more of the whitening products on their teeth, the color pigments will vanish. They are simply not aware that their teeth can’t get any whiter and will overuse these products which could result in the erosion of their tooth enamel, as well as irritating the gums. Their teeth become more sensitive and some need root canals as a result of over using the product. With this in mind, I believe the companies should put more prominently on their packaging some restrictions, recommendations, and additional warnings on what side effects and negative consequences they could experience if they overuse the products. By clearly and prominently displaying this information, the companies could prevent the consumer from experiencing some of the possible negative side effects while at the same time; protect the company from responsibility in the event that consumers choose to take legal action. Class actions suit anyone?

Shivum Gohil and Dr. Julie Fagan PhD. Rutgers University, Summer 2014