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Dear Editor and Citizens of Refugio County

An alert after three decades of practicing dentistry for new arrivals in Refugio County

Don't let your children drink tea if they have unerupted permanent teeth. Children in Refugio County under twelve years of age should not drink tea. Tea is a mint that grows in soils with high levels of Fluoride. A glass of tea can have levels of Fluoride over 8 ppm, which is sufficient to cause Fluorosis.

After receiving from the Town of Refugio the "2007 Drinking Water Quality Report (Consumer Confidence Report)", I revisited my thwarted efforts to do a comprehensive article concerning Fluoride levels in drinking water in Refugio County that I had started in 2006 but abandoned. My apologies to recent arrivals to Refugio County who have children who have been damaged due to lack of this essential information. We encountered countless roadblocks, including lack of awareness of the various municipal agents who are required by law to have this report on hand. Bottom line, Fluoride levels are approaching excessive levels for developing teeth. Be careful with your children.

Fluoride is an essential trace element found in many water supplies, with many benefits. Fluoride, within a reasonable limit, is best known for helping to provide resistance to tooth decay when included in the diet of young children who are developing their permanent teeth. It also helps strengthen bones, which is especially beneficial to older women. For maximum benefit to developing teeth, Fluoride should be present in the water supply in concentrations of one to two parts per million (ppm per million parts of water). The recent report places Fluoride levels in Refugio municipal water supply at around 1.5 ppm, which is safe, but approaching maximum levels for children.

When too much Fluoride is present in the water supply or from other sources, too much Fluoride can be incorporated in the developing enamel of teeth, displacing Calcium, causing stained voids which are unsightly in enamel. This condition is known as Fluorosis. While the municipal water supplies of Refugio and Woodsboro have acceptable levels of Fluoride, the municipal supplies of Austwell, Tivoli, and especially Bayside have been high enough to cause severe damage to the developing permanent teeth in children.

There are also many water wells throughout the county that are over the acceptable limits for Fluoride for children. Don't be misled by having your water tested by a commercial company. We have seen avoidable cases of Fluorosis caused by misleading information from companies selling water purification systems. Fluoride levels can be determined only by a test specific for Fluoride. Also, the popular reverse osmosis systems will not remove Fluoride.

All parents in Refugio County should be specifically careful with children under the age of six. Fluorosis can be caused by even a short term exposure to excessive levels of Fluoride. For example, if a child comes to stay with Grand Parents and the child's teeth are in a critical stage of development, the child's teeth can be permanently stained by even a short exposure.

What can be done?

First, if you do not know what the Fluoride level is in your water, have it tested. We test water routinely for our patients, and we will waive the fee through January 1<sup>st</sup>. Just come by our office at 606 Osage and we will provide a free kit.

Second, exposure to Fluoride is accumulative. Avoid all potential supplemental sources of Fluoride. Some pediatricians will unknowingly prescribe Fluoride supplements to children in Refugio County, which WILL cause Fluorosis. Don't supplement with drops or pills. Some pediatricians are applying Fluoride varnish as soon as baby teeth erupt. The jury is still out on the safety of this procedure, and I will recommend avoiding multiple exposures to Fluoride varnish. Plaque will still accumulate on teeth, and may contribute to ear infections. Learn how to clean your child's teeth properly as soon as teeth erupt and then teeth are unlikely to decay.

While a child under twelve with developing teeth can drink water with acceptable levels of Fluoride, we have seen cases of Fluorosis caused by children routinely swallowing adult tooth paste containing Fluoride. It may be more prudent for residents of Refugio County to use pediatric tooth pastes with Xylitol such as Spry for their children. As an additional benefit, Xylitol may reduce the incident of ear infections and sinus infections as well as reduce the incident of decay.

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Cook with water with a low level of Fluoride. If half of the water in anything cooked with water is evaporated in the process, the Fluoride level will double.

While excessive Fluoride levels during development of teeth can cause Fluorosis, most of these cases of Fluorosis can be treated in young adults by the popular "tooth whitening" or "bleaching" procedures. There is little evidence that consumption of water from any source high in Fluoride will have any deleterious effects on residents over twelve years of

age when all the permanent teeth have erupted. These higher levels of Fluoride become a topical source of Fluoride and will help reduce the incident of tooth decay, so drink up, adults!

These are some general guidelines that can help prevent the embarrassing and potentially damaging effects of Fluorosis in children with developing teeth.

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Picture: Minor to Major Damage to teeth from Fluorosis

The “Mottled Enamel” in the first picture is typical of exposures to Fluoride over 1 ppm. Ironically, this type of Fluorosis produces the best results when teeth are “Whitened”, providing that the patient has not had orthodontic treatment and the Orthodontist has not destroyed the outer layer of enamel. For more information, click on the Article Orthodontics.

