

# Benefits of Drinking Fluoridated Tap Water

*"...fluoridation of community water supplies is both safe and effective...Simply by drinking fluoridated tap water, children and adults can benefit from its cavity protection whether at home, work or school."*



## Oral Health in Massachusetts: A Fact Sheet

### What is the public health issue?

Tooth decay is a chronic disease that affects all age groups. If left untreated, it can cause pain and tooth loss, and consequently lead to problems with eating, sleeping, learning, nutrition, and employability.<sup>1</sup> An effective way to prevent tooth decay is to drink fluoridated tap water. Tap water in the United States is safe to drink and fluoridated tap water has been shown to improve oral health.

### Why is it important to drink water?

Healthy individuals need approximately 10 to 15 cups of water each day.<sup>2</sup> Water makes up a large percentage of the body's systems and organs including the blood, muscles, brain, and bones. It is needed to regulate body temperature, to transport nutrients and oxygen to cells, to maintain proper lung function, to protect organs and joints, and to remove waste from the body.<sup>2</sup> It is important to drink the recommended amount of water to keep the body healthy.

### Is tap water safe to drink?

In the United States, it is safe and cost-effective to drink water from the tap (faucet). Tap water is monitored by the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act (SDWA). This act protects the public by regulating the nation's public drinking water supply and water sources.<sup>2</sup>

### Is tap water better than bottled water?



Many people choose to drink bottled water instead of tap water. However, bottled water in the United States is not necessarily cleaner or safer. Bottled water often comes from the same public water supplies as tap water, but is regulated under lower quality standards.<sup>2</sup> Drinking bottled water is also expensive. Consuming the daily fluid requirement (10 cups) would cost approximately \$1,764 per person annually.<sup>2</sup> Another concern is the lack of fluoride in bottled water for dental health. Most tap water sources, however, do contain the optimal concentration of fluoride that is recommended for preventing tooth decay.

### What is fluoridated water?

Fluoride is a natural mineral. While all water sources contain at least a trace amount of fluoride, the concentration may not be effective for preventing tooth decay. Fluoridation is the controlled addition of fluoride to a public water supply for the prevention of tooth decay.<sup>1</sup>

Since 1951, the National Academy of Sciences' National Research Council (NRC) has declared fluoridated tap water safe, effective, and beneficial.<sup>3</sup> Scientific research has consistently shown that fluoridating public water supplies is safe; and none have indicated any adverse health effects associated with drinking water containing the correct amount of fluoride.<sup>4</sup>

### What are the benefits of drinking fluoridated tap water?

Fluoridated tap water is one of the most common sources of fluoride in the United States.<sup>2</sup> By simply drinking fluoridated water, everyone regardless of age can benefit from the protective properties of fluoride throughout the day. Water fluoridation can prevent tooth decay by as much as 60% in baby teeth, and by as much as 35% in adult or permanent teeth.<sup>5</sup> Drinking fluoridated water can also prevent tooth decay by about 20% to 40% over a person's lifetime.<sup>4</sup>

#### Benefits of Drinking Fluoridated Tap Water

- Fewer and less severe decay
- Decrease need for fillings and extractions
- Reduced pain associated with tooth decay

When a tooth is forming, ingested fluoride is incorporated into the tooth structure, and gives the tooth strength and long-lasting protection. Drinking fluoridated water also increases the concentration of fluoride in saliva. By continually bathing the teeth, the fluoride in the saliva helps the tooth rebuild, or remineralize, its outer surface.<sup>4</sup> The health benefits of water fluoridation include: fewer and less severe cavities, decreased need for fillings and tooth extractions, and reduced pain associated with tooth decay.<sup>4</sup>

## What are the guidelines for fluoride intake?

The recommended concentration for fluoride use in Massachusetts ranges from 0.9ppm to 1.2ppm.<sup>6</sup> Frequent exposure to small amounts of fluoride each day best reduces the risk for tooth decay and can be attained by drinking fluoridated tap water.

## How is the tap water in Massachusetts?

Today, more than 6 million Massachusetts residents drink from the public tap water supply.<sup>7</sup> The tap water in Massachusetts is one of the best in the country and is regulated under strict standards. Both the EPA and the Massachusetts Department of Environmental Protection (MassDEP) are responsible for ensuring the water quality. The MassDEP requires the local water suppliers to perform ongoing tests to ensure that the water is safe to drink.<sup>7</sup>



The Massachusetts Department of Public Health monitors the amount of fluoride in public water systems to maintain optimal levels for dental health. Currently, 70% of Massachusetts residents receive the health and economic benefits of fluoridated tap water.<sup>8</sup> For the past several years, Massachusetts has consistently received a *national water fluoridation quality award* presented by the Centers for Disease Control and Prevention (CDC), and is ranked 29<sup>th</sup> in the nation for fluoridation status.<sup>6</sup>

## References

<sup>1</sup> Centers for Disease Control and Prevention [CDC]. (2001). Recommendations for using fluoride to prevent and control dental caries in the United States. *Morbidity and Mortality Weekly Report*, 50(14), 1-42.

<sup>2</sup> Iowa State University, University Extension. (2010). Bottled water: Know the facts. Retrieved from <http://www.extension.iastate.edu/Publications/PM1813.pdf>

<sup>3</sup> Centers for Disease Control and Prevention [CDC]. (2012). Community water fluoridation. Retrieved from [http://www.cdc.gov/fluoridation/65\\_years.htm](http://www.cdc.gov/fluoridation/65_years.htm)

<sup>4</sup> American Dental Association [ADA]. (2005). Fluoridation facts. Retrieved from [http://www.ada.org/sections/professionalResources/pdfs/fluoridation\\_facts.pdf](http://www.ada.org/sections/professionalResources/pdfs/fluoridation_facts.pdf)

<sup>5</sup> Centers for Disease Control and Prevention [CDC]. (2012). Fluoridation basics. Retrieved from <http://www.cdc.gov/fluoridation/benefits/background.htm>

<sup>6</sup> The Commonwealth of Massachusetts. (2010). Statement on community water fluoridation in Massachusetts. Retrieved from <http://www.mass.gov/eohhs/docs/dph/com-health/statement-on-community-water-fluoridation.pdf>

<sup>7</sup> Massachusetts Department of Environmental Protection. (2012). How safe is drinking water in Massachusetts – FAQ. Retrieved from <http://www.mass.gov/dep/water/drinking/drink.htm>

<sup>8</sup> Massachusetts Department of Public Health Fluoride Census; December 2011.

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