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# Benefits of Chewing™

## Chewing Gum Can Help Make Calories Count

### Background

Today, nearly two-thirds of U.S. adults are overweight, defined by a body mass index (BMI) of more than 25. One-half of this group is designated as obese, defined by a BMI of more than 30. In a March 2005 report published in the *New England Journal of Medicine*,<sup>1</sup> researchers reported that obesity and related illnesses were effectively reducing the life expectancy of adults by four to nine months. While the debate rages on about how best to address America's obesity crisis, many Americans are searching for ways to better limit their calorie intake and manage their weight.

Experts say that even small decreases in calories can have a big impact in the long term. Chewing gum, at only 5–10 calories per piece, can be a useful behavior modification tool to help manage calorie intake.

### Calories Do Count

"Counting calories" is critical to achieving and maintaining a healthy weight. The U.S. Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) *2005 Dietary Guidelines for Americans* place a strong emphasis on reducing calories and increasing physical activity. The USDA's *MyPyramid* recommends finding your balance between food and physical activity.

The Food and Drug Administration (FDA) focuses on the message, "Calories Count." In addition, the FDA has allowed the claim "Low-calorie [sugarfree chewing gum] may be useful in weight control. Obesity increases the risk of developing diabetes, heart disease and certain cancers." This labeling claim is based on a petition submitted by the Calorie Control Council recognizing that sugarfree gum contains low-calorie sugar alcohols.



### Chew Gum, Burn Calories

Research at the Mayo Clinic found that chewing gum can burn approximately 11 calories per hour. The researchers noted that this is a form of "non-exercise activity thermogenesis" (NEAT).<sup>2</sup> While the amount of energy burned when chewing gum is small, small changes can add up. The act of chewing gum can help in a small way to add to the day's energy expenditure and be an important component of weight maintenance or loss.

### Chewing Gum—"Free Food" Status

Sugarfree chewing gum continues to have a "free food" status on healthy eating plans like Weight Watchers, Jenny Craig and American Dietetic Association Diabetic Exchange Lists, making it a very low-calorie option for those following such regimens.

### The Bottom Line

Whether it's chewing gum at five calories in place of munching on a high-calorie snack like two cookies containing 140 calories, saving you 135 calories or chewing gum to burn 11 calories per hour – a small calorie savings each day can make an impact in decreasing total calorie intake over time.

<sup>1</sup> Olshansky JS, et al. "Potential decline in life expectancy in the United States in the 21st century." *New Engl J Med*. 2005; 352:1138-1145.

<sup>2</sup> Levine J, Baekol P, Pavlidis I. "The energy expended in chewing gum." *New Engl J Med*. 1999 Dec 30; 341(27): 2100.

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## Emerging Research—Snacking and Appetite

Snacking has markedly increased over the last 25 years. According to USDA government survey data, 42 percent of American adults ate three or more snacks a day in 2001 and 2002, up 11 percent from 1977 and 1978. In 2001 and 2002, snacks accounted for 26 percent of total calories consumed while 39 percent of total sugars were consumed at snacking occasions. This data has led many consumers to look for alternatives to high-calorie snacks. Increasingly, chewing gum has become a favorite snack choice, topping the charts in 2005 as the number one snack chosen by adults (ages 18-54) during snack occasions.<sup>3</sup> While the most popular reasons people chew gum include to “freshen breath,” “just enjoy the taste,” and for a “healthy mouth,” other reasons are surfacing. These include, “had craving for something sweet,” “reward/treat,” “avoid having something too fattening,” and “distract from hunger until the next meal.” In addition, researchers studying the National Health and Nutrition Examination Survey (NHANES) data on chewing gum and weight management found an inverse relationship between waist circumference and amount of gum chewed.<sup>4</sup>

An initial study published in the journal *Appetite* showed that chewing gum before snacking can help reduce hunger, diminish cravings for sweets and decrease snack intake by 36 calories. The 60-person study of healthy men and women aged 18-40 tested the effects of chewing gum on post-lunch appetite and snacking. The researchers suggest that gum chewing can help suppress appetite, specifically for sweets, and reduce snack intake overall.<sup>5</sup> In a follow-up study with restrained eaters, individuals who restrict their food intake in order to lose weight or maintain a healthy weight, similar results were reported.<sup>6</sup> The effect of chewing gum was to significantly reduce snack intake by 25 calories; hunger and desire to eat were significantly suppressed by chewing gum. Overall, these two studies demonstrate the potential role of chewing gum in appetite control and weight management.

Finally, researchers at Slimming World in the UK found that chewing a low-calorie, sweet pastille (chewy) candy resulted in a significant reduction in calorie intake when free access to foods was offered 10 minutes later. This was not the case for water or a sweetened liquid, indicating that the combination of sweet taste and chewing were factors resulting in the reduction in energy intake.<sup>7</sup>

<sup>3</sup> NPD Group, Inc. *Snack Track*. 2005.

<sup>4</sup> Mitchell DC, Lawrence FR, McMahon KE. “Increased chewing gum consumption is inversely related to waist circumference in the National Health and Nutrition Examination Survey (NHANES) 1999-2002.” *Experimental Biology*. 2006; Abstract #LB 441. p97.

<sup>5</sup> Hetherington MM, Boyland E. “Short term effects of chewing gum on snack intake and appetite.” *Appetite*. 2007 May; 48(3):397-401.

<sup>6</sup> Hetherington MM, Regan MF. Effect of chewing gum on short-term appetite control and reduced snack intake in moderately restrained eaters. *Obesity*. 2007; 15: 510-P.

<sup>7</sup> Lavin JH, French SJ, Ruxton CHS, Read NW. “An investigation of the role of oro-sensory stimulation in sugar satiety?” *International Journal of Obesity*. 2002; 26, 384-388.

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### Tips for the Weight Management Toolbox

Chewing gum can easily be incorporated as part of a toolbox approach to behavior modification for weight management. Chewing gum gives individuals the opportunity to address snacking and weight management head-on. Here are tips to share:

- ▶ Pop a piece of gum in your mouth to signal the end of a meal.
- ▶ Chew gum between meals when you are feeling the urge for high-calorie snacks.
- ▶ Does stress trigger you to eat too much? Try chewing gum to help relieve stress and avoid “mindless munching.”
- ▶ Chew gum while cooking to keep from nibbling during meal preparation.
- ▶ When you go out to eat, chew gum while awaiting the main course to avoid snacking on bread and appetizers.
- ▶ Take it on the go – chewing gum is portable, affordable and an accessible diversion from high-calorie snacks.

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