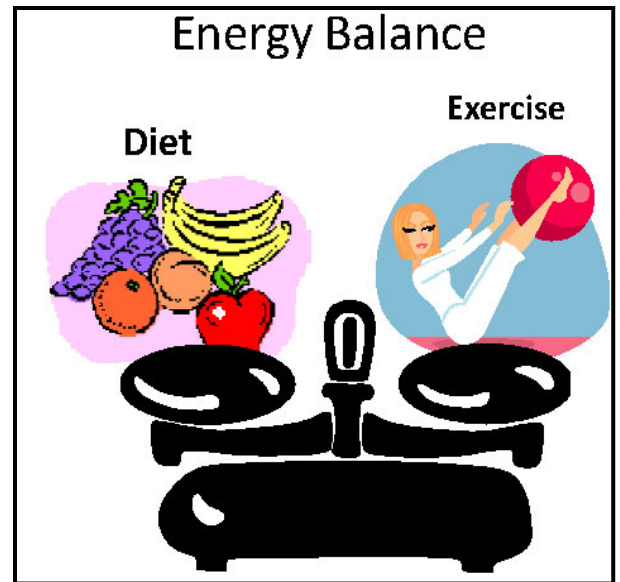


Energy Balance

What is Energy Balance?

The classic definition of energy balance is the difference between energy taken in (generally by food and drink) and energy expended (usually by exercise and physical activity). When energy intake exceeds energy expenditure over a period of time, the result is weight gain. A negative energy balance results in weight loss. Thus, an important part of maintaining your weight is balancing the amount of energy consumed and the amount expended. Food choices can make a difference. Equally important is your activity level. Luckily your energy intake and expenditure does not have to balance every day, rather having a balance over time is important to maintaining a healthy weight.

Table 1 presents estimated calories needed to maintain energy balance (and a healthy body weight) for adult women in 3 age groups at 3 different levels of physi-



cal activity. **Sedentary** is defined as a lifestyle that includes only the light physical activity associated with typical day-to-day life. **Moderately Active** is defined as a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to light physical activity associated with typical day-to-day life.

Active is defined as a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

Table 1. Estimated Calorie Requirement (in kilocalories) for Women by Age and Level of Physical Activity

Age	Activity Level		
	Sedentary	Moderately Active	Active
19 - 30	2,000	2,000 - 2,200	2,400
31 - 50	1,800	2,000	2,200
51+	1,600	1,800	2,000 - 2,200

These levels are based on Estimated Energy Requirements (EER) from the Institute of Medicine Dietary Reference Intakes macronutrients report, 2002

Contact Us

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Vtrim Weight Management Program

Vtrim is a research-based weight management program developed by Dr. Jean Harvey-Berino, Chair of the Department of Nutrition and Food Sciences at the University of Vermont. Dr. Harvey-Berino has researched behavioral treatments for obesity in adults and obesity prevention in children since 1992. Vtrim is not just about cutting calories, but teaches skills for long-term weight loss success, such as setting healthy goals, reading food labels, shopping smart, and making good choices when dining out. Vtrim offers online classes as well as in-person classes with a certified Vtrim facilitator in Burlington, VT. To learn more or to sign up for the Vtrim program, visit: www.uvm.edu/vtrim.

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Energy Balance & Breast Cancer

Women who are overweight or obese are at higher risk of developing breast cancer. Weight gain in adulthood is the strongest and most consistent predictor of increased risk of breast cancer in postmenopausal women. The link with premenopausal breast cancer is less clear. For breast cancer survivors excess weight is associated with increased risk of a breast cancer recurrence (for both pre and postmenopausal women). Thus, because one's energy balance determines one's weight, it is an important factor in breast cancer prevention.

Energy In = Energy Out



Diet
Studies conducted on animals have documented that caloric restriction by 10 to 40% suppresses tumor growth. However, caloric restriction alone is not a feasible strategy for cancer prevention. In one U.S. study, researchers found that women's risk of breast cancer doubled for every excess 500 calorie per day increment in total energy intake. An analysis of the Nurses' Health Study data found a small but significant reduction in the risk of receptor negative breast cancer in postmenopausal women related to higher intakes of fruits and vegetables. Each serving/day of vegetable intake was associated with a 6% reduction in receptor

negative breast cancer and each serving of fruit was associated with a 12% reduction. For further information on nutritional recommendations, visit the USDA's websites at www.dietaryguidelines.gov and www.mypyramid.gov.

The USDA recommends inactive adult women consume approximately 1,600 calories per day and active adult women consume approximately 2,400 calories per day. Diet quality is also important. The United States Department of Agriculture (USDA) defines a healthy diet as one that emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products; includes lean meats, poultry, fish, beans, eggs, nuts; and is low in saturated fats, trans fats, cholesterol, salt, and added sugar.

Physical Activity

Over 60 studies published in North America, Europe, Asia, and Australia suggest physically active women have a lower risk of developing both pre- and postmenopausal breast cancer. Reduction in risk varies between 20 and 80%. The exact mechanism by which physical activity reduces risk is unclear. It may work by improving immune function, lowering hormone levels or avoiding excess body fat.

Most studies suggest that 30 to 60 minutes per day of moderate- to high-intensity physical activity is associated with a reduction in breast cancer risk. One study found a 6% decrease in breast cancer risk with each additional hour of

physical activity per week. This reduction in risk is even greater for those who have been physically active since adolescence.

Although the role of physical activity in breast cancer survivorship has not been conclusively affirmed, some studies suggest moderate physical activity after a breast cancer diagnosis improves survivor rates, especially in women with hormone responsive tumors. The Centers for Disease Control and Prevention recommends adults engage in moderate-intensity physical activity for at least 30 minutes on 5 or more days of the week or engage in vigorous-intensity physical activity for at least 20 minutes on 3 or more days of the week.

Physical Activity continued from page 2

Whether the components of energy balance- diet and physical activity- influence breast cancer independently or one explains the effect of another is unknown. Few studies have explored the joint effect of these factors on breast cancer risk.

Those studies that have explored this effect suggest women with unfavorable energy balance (high energy intake and low physical activity resulting in excess weight) have twice the risk of breast cancer compared to women with a favorable energy balance. (Chang, 2006)

Weight

Overweight is clinically defined as an accumulation of body fat due to an excess of energy intake relative to energy expenditure. Body Mass Index (BMI) is a number calculated from a person's weight and height. BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems. BMI is typically categorized into 4 weight status categories: a BMI of less than 18.5 is underweight; a BMI of 18.5 – 24.9 is normal weight; a BMI of 25 – 29.9 is overweight; and a BMI of ≥ 30 is considered obese. The following Web link allows you to calculate your BMI and estimated calorie intake:

www.bcm.edu/cnrc/caloriesneed.htm

Obesity is a growing epidemic (see the Prevalence of Obesity box below). Obesity is associated with increased risk and mortality from all types of cancers. In the

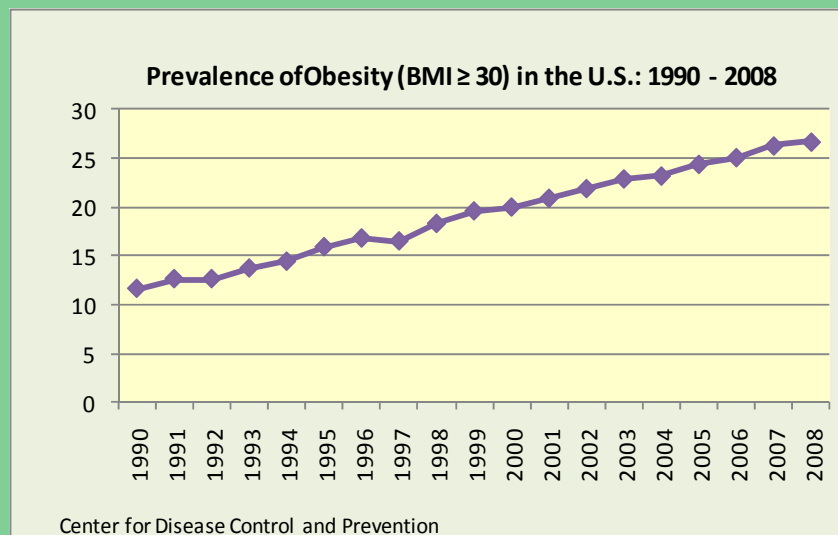
U.S., 14% of all cancer incidences in men and 20% in women may be attributed to excess weight. The increased risk of breast

cancer associated with excess weight is in the range of 20 to 50%. (American Cancer Society, 2009) The relationship between BMI and breast cancer has been examined in over 50 studies. While no association between obesity and premenopausal breast cancer risk has been found, there is an association between obesity and postmenopausal risk. With each unit increase in BMI, postmenopausal breast cancer risk increases by 2%. Studies of individuals who undergo gastric bypass show that cancer risk is decreased with weight loss.

**Prevalence of Obesity**

Worldwide, more than 1 billion adults (roughly 1 in 5) are overweight and over 300 million of them are obese. In the United States, 59 million adults or 31% are obese and 4.7% are

considered morbidly obese. The prevalence of obesity in the U.S. has increased steadily over the past few decades and has more than doubled since 1990. To check your BMI and for more information on obesity and recommendations visit the Center for Disease Control and Prevention website at www.cdc.gov.



H R

B P

HIGH RISK
BREAST
PROGRAM
OF VERMONT

Spring 2010

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Baked Chicken Breasts with Mango Chutney Sauce

A featured recipe from the Vtrim website:

Ingredients

- 1/3 cup mango chutney
- 1/3 cup low-fat plain yogurt
- 1 tbsp each Dijon mustard and minced ginger root
- 2 tsp all-purpose flour
- 2 lb skinless chicken breasts (about 4, bone-in)

ney, yogurt, mustard, ginger and flour. Arrange chicken, bone side down, in single layer in baking dish; spoon chutney over chicken.

3. Bake, uncovered for 45 min. or until chicken is no longer pink in center. Remove from oven; let stand for 5 minutes. Spoon any baking juices over top before serving.

Directions

1. Preheat oven to 350°
2. In small bowl, stir together chut-

Makes 4 servings; 258 calories, Less than 1 g fat each



Vermont Outreach Event

Saturday, June 5th, 7pm - 9pm

Tea, coffee and getting to know each other at Patra (formerly The Sapa)
9 Center Street, Burlington, VT

RSVP to: AngelaSmith@BeBrightPink.org

Outreach events offer women who are at high risk for breast and/or ovarian cancer based on a family history, genetic pre-disposition, or previous cancer diagnosis, the opportunity to connect and provide and receive peer support in a relaxed and positive environment.