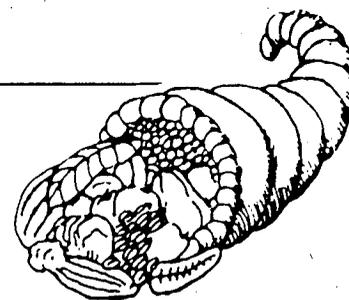


THE MCDOUGALL NEWSLETTER

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INFORMATION

EXERCISE AND WEIGHT LOSS

To lose weight you can either decrease the intake of calories or increase their expenditure, or both. Practical control over *expenditure means exercise.*

EXERCISE BURNS CALORIES

Most of the calories you eat every day run your basic life-sustaining machinery, like the heart, lungs, brain and liver. These functions are clumped together in a category called resting metabolic rate (RMR). Calorie expenditure in excess of these life sustaining functions is primarily due to physical movements.

Daily exercise leads to adaptive responses which allow you to increase your work load and duration of exercise; in more familiar words, you "build-up." Thus these physically-fit people burn more calories.

Obese people also expend more calories than thinner people during the same physical activity simply because they carry around more mass. As weight is lost, then the amount of energy expended for an activity is decreased, fewer calories are burned, and subsequent weight loss becomes slower. Therefore, for continued success you may need to increase the amount of daily exercise. Since you're improving your physical condition and feeling better, this will be pleasurable.

Dieting foils your attempts to lose weight. When food intake is reduced, your metabolic rate is lowered to stave off starvation. Then you hit a discouraging plateau. Exercise counteracts this fall in resting metabolic rate and assures the "dieter" continued weight loss (Donahoe G. J Consult Clin Psychol 52:827, 1984).

You may have been disappointed by reading charts that tell the calorie cost of walking one mile is 100 calories--only the equivalent of an ounce of cheese or a medium potato. Fortunately, there is much more to exercise than the immediate cost in calories burned.

POST-EXERCISE ENERGY EXPENDITURE

Exercise increases energy expenditure for many hours following the end of the activity. Materials used during exercise, such as glycogen, must be replenished, and more muscle tissue may be built up. These processes require post-exercise calories.

The overall metabolic activity of the body is throttled up for a while after exercise--the heart rate, respiration, and body temperature remain elevated and use energy. In one study, exercising for 80 minutes resulted in a 15% increase in

energy expenditure over resting metabolic rate for the next 12 hours (Bahr R J Appl Physiol 62:485, 1987). This post-exercise rise in resting metabolic rate is rapidly reversed; all benefits are gone after 3 days without exercise. Sustained post exercise energy expenditure is seen only with aerobic exercises such as walking, running, bicycling and dancing (Brehm B Med Sci Sports Exercise 18:205, 1986).

EXERCISE SUPPRESSES APPETITE

Exercise usually stimulates your appetite causing your food intake to increase, but in the overweight person it does not go up enough to compensate for the calories burned. Therefore, the overall effect of exercise is to suppress your appetite with respect to the amount of energy your body is burning. Animal studies show that the appetite suppressing effects of exercise are greater with more intense exercise, and also when the meal is fed closer to the end of the exercise period.

In one recent study on "The Effect of Exercise on Food Intake in Men and Women" (Straten M. Am J Clin Nutr 53:27, 1991) eating was monitored in 20 normal weight men and women during consecutive 5-day periods, one with exercise and one without exercise. Calorie intake in men increased during exercise by an average of 208 calories per day. However, because of the increased physical activity they used an average of an extra 596 calories daily. This calculates into 388 calories of fat burned each day due to the exercise. During exercise women did not increase their food intake, but they did burn an extra 382 calories a day.

Studies have also found lean women will compensate for exercise, and therefore will usually not lose weight. However, in most studies obese women do not compensate by eating more, and lose weight easily with a regular exercise program. In contrast to thin women, even thin men tend to lose weight with exercise. It is important to clarify these findings; if women tend to easily compensate for the calorie cost of exercise, with increased food intake, they should be told of this tendency so they might be more careful of their food choices. Also men who do not want to lose weight will have to be warned to eat even more food. Apparently exercise readjusts the mechanisms of hunger sometimes referred to as the "appetstat." Thus exercise causes you to consume a more correct amount of food so you can reduce and stay trim.

EXERCISE REDUCES INSULIN LEVELS

Insulin opens the flood gates to the body's fat cells by turning on enzymes called lipoprotein lipase (LPL). Factors that increase the amount of insulin in the body, such as a high-fat/high-sugar diet, excess body fat, and diabetic pills and insulin injections promote obesity. Increasing physical

activity lowers the body's levels of insulin--closing down the influx of fat into your fat cells.

EXERCISE PROTECTS MUSCLE

Weight loss with programs that restrict calories cause desirable fat loss, as well as, unwanted loss of muscle tissue. Loss of muscle mass is especially great with the use of very low calorie powdered protein diets, such as Optifast and the Cambridge Diet. Exercise helps to protect the muscle during periods of semi-starvation experienced during dieting.

Muscle is metabolically highly active--burning lots of calories just to keep its own tissues alive; in addition to the calories burned by muscle work. Fat, however, is rather inert, subsisting on next to nothing. Therefore, even a quiet muscular body utilizes more calories than a pudgy one.

You can double, and at most, triple your muscle mass with exercise. However, by not exercising and gorging on rich foods you can increase the amount of fat in your body by 1000-fold. The potential for ruination is so much greater.

FREQUENCY AND DURATION OF EXERCISE

Exercising 3 or more days a week is required to change body weight and to reduce the amount of fat (Pollock M. Arch Phys Med Rehabil 56:141, 1975; Position Statement, Med Sci Sports Exerc 15:ix: 1983). The more frequently you exercise the more easily you will lose. Weight loss is directly related to the work done; in other terms, the time and effort spent. For a 200 lb. man to walk one mile, he burns 100 calories, running uses 150 calories and bicycling uses 54 calories for the same distance. It is safer and more effective to add time to your exercise than to increase the intensity. Adding 10 minutes to a 30 minute exercise session will burn 33% more calories.

To achieve effective weight loss about 300 calories should be expended per session. This would translate into 40-60 minutes of low-intensity walking, swimming, or bicycling; or 20 to 30 minutes of moderate to vigorous running.

When beginning an exercise program start slowly to avoid injury, exhaustion, pain, and discouragement. An out-of-shape beginner may do well with 10 minutes of daily walking the first week; increasing the time of exercise by 5 minutes each week until 40 to 60 minutes is reached. Enjoy this time and it will become a permanent habit.

PLAN FOR DAILY EXERCISE NOW

Decide that you are going to get up half an hour earlier or skip a boring TV program so you can exercise. An exercise partner may help. Set a time, pick out your clothes, and do it with sincere commitment to make exercise a daily routine.

With new physical demands your body is forced to make adjustments, like losing fat and building muscle, so that you can walk, bicycle, swim and run long distances, climb

mountains, and dance all evening long. If you never ask your body for more, you may never experience its miraculous potential for good looks and top performance.

MEDICAL RESEARCH

LEAD EXPOSURE FROM CRYSTAL

In a study of the elution of lead from crystal decanters and glasses by Joseph Graziano in the January 19, 1991 Lancel medical journal (337:141), port containing 89 ug (micrograms) of lead per liter was placed in decanters and the lead content steadily rose to 3518 ug/l after 4 months. In longer stays the lead content has been as high as 21,530 ug/l. White wine was also discovered to eluted small amounts of lead from crystal glasses in minutes--33 ug at pouring, 68 ug at one hour, and 99 ug at 4 hours. The US Environmental Protection Agency states the maximum allowable for lead in drinking water is 50 ug/l and this is likely to be revised to 20 ug/l.

Lead is a normal constituent of the earth's crust and is found throughout nature. The increased use of lead during the Industrial Revolution caused extensive disease for lead workers. Lead used in paints for color and stabilization has caused the largest epidemic of lead poisoning in history, especially affecting children--approximately 2,000,000 annually in the United States alone.

Lead crystal was invented three centuries ago. The addition of lead compounds to molten quartz produces a glass of high density and durability, and a special brilliance. Lead crystal containers now contain 24-32% lead oxide.

The more you drink beverages from crystal glassware the more important these findings will be to you. Alcohol is the only kind of beverage commonly stored in lead crystal containers, and all varieties (whiskey, bourbon, brandy, vodka, gin, etc.) take up large amounts of lead. The longer the storage the more lead these beverages contain.

The toxic effects of lead differ between children and adults. The adult form is generally characterized by abdominal pain, anemia, renal disease, headache, poor balance, and memory loss. Children also suffer with abdominal pain and anemia, but the effects on the mind are more important--irritability, loss of appetite, fatigue and slurred speech; followed in severe cases by convulsions, coma and death. Retardation and other mental defects may be irreversible.

CALCIUM INHIBITS IRON ABSORPTION

Two studies, "Calcium: Effect of Different Amounts on Nonheme and Heme-Iron Absorption in Humans" by Lief Hallberg (53:112) and "Calcium Supplementation: Effect on Iron Absorption" by James Cook (53:106) in the January

1991 issue of the American Journal of Clinical Nutrition, demonstrated a reduced absorption of iron as a result of taking calcium as a food supplement and in pills.

Hallberg investigated 126 human subjects fed bread rolls made with and without calcium chloride. Iron absorption was reduced by 50% to 60% by adding 300 to 600 mg of calcium to the dough. They also found that consumption of 165 mg of calcium in the form of cheese (1 ounce), milk (5 ounces, low-fat), or calcium chloride pills reduced absorption by 50% to 60%. Both nonheme- (a plant derived form) and heme-iron (predominant form in meats) were effected.

Cook studied 61 people and found reduced absorption of iron from three widely used calcium pill supplements: calcium chloride, calcium carbonate, and calcium citrate. When taken with food all three reduced iron absorption. However, when taken between meals the carbonate form did not reduce absorption.

Calcium interferes with the absorption of iron probably by competing with each other at the final steps for transporting these minerals from the mucosal cells of the small intestine into the blood.

Cook's work also showed another way calcium robs the body of iron. Calcium, in dairy products and supplements, inhibits the breakdown of phytate in the dough. Phytate inhibits mineral absorption, thus compounding the problem.

This information is important to every American because inhibition of iron absorption occurs with even small amounts of calcium--a bite of cheese or a half glass of milk; a few Tums or calcium pills "for strong bones"-- are enough to cause trouble. Now you know part of the reason 20 % of women suffer from iron deficiency anemia.

NEW PACKAGED PRODUCTS

Variety (Manufacturer/Distributor)

SNACKS:

Lite-Corn (Lapidus Popcorn Co.)
Pop-Lite Microwave Popcorn (Specialty Grain Co.)
Rice & Bean Tortilla Bites (Baja Bakery)
Brown Rice Sembei (Edwards and Sons Trading Co.)

BREADS AND PASTAS:

Pastariso--Brown Rice Pasta (Pastariso Products)
Siljans Knacke--Swedish Dark Rye Crispbread (Siljans Knacke)
Katenbrot--rye bread (Norganic Foods Co.)
Country Loaf--Sourdough (Nokomis Farms)

SOUPS:

Taste Adventure Soups--Black Bean, Curry Lentil, & Split Pea Soup (Wil-Pak Foods)
Fantastic Leapin Lentils Over Couscous (Fantastic Foods)
Fantastic Rockin' ABC's (Fantastic Foods)

Fantastic Jumpin Black Beans (Fantastic Foods)
Fantastic Splittin' Peas (Fantastic Foods)
Kasba Curry with Rice Bran (The Spice Hunter)
Mediterranean Minestrone (The Spice Hunter)

FROZEN BEAN AND VEGETABLE DISHES:

Black Bean Buritos (Tumaro's Inc.)
Black Bean Enchiladas (Tumaro's Inc.)
Amy's Organic Mexican Tamale Pie (Amy's Kitchen Inc.)
Pasta Salad Farfalle (California & Washington Co.)
Pasta Salad Pastina (California & Washington Co.)
Pasta Salad Fusilli (California & Washington Co.)
Pictsweet Express Microwaveable Vegetables (United Foods)

DRY PACKAGED BEANS & GRAINS:

Seaside Barbeque Pinto Beans (California Bean Growers)
Seaside French Cafe Beans (California Bean Growers)
Seaside Cajun Red Beans (California Bean Growers)
Quick Brown Rice--Spanish Style, Vegetable Herb, and Wild Rice & Herbs (Arrowhead Mills)

CANNED BEANS & VEGETABLES:

Maple Syrup Beans (S & W Fine Foods Inc.)
Dill Garden Salad (S & W Fine Foods Inc.)
Deli-Style Bean Salad (S & W Fine Foods Inc.)
(Bottled) Mixed Bean Salad (S & W Fine Foods Inc.)
Boston Baked Beans (Health Valley Foods Inc.)
Bearitos Chili (Little Bear Organic Foods Inc.)
Crushed Tomatoes--No Salt Added (Eden Foods)
Seitan--a wheat and bean meat substitute (Lima Inc.)

"RICHER" (SIMPLE SUGAR) FOODS:

Fat-Free Cookies--Raspberry, Raisin Oatmeal, Apple Spice, and others (Health Valley, Inc.)
Fat-Free Jumbo Fruit Bars--Apricot, Oat Bran Raisin Cinnamon and others (Health Valley, Inc.)
Apple Chutney (Kozlowski Family)
Sweet Dreams Brown Rice Syrup (Lundberg Family Farms)
Dried Tomato Chutney (Timber Crest Farms)

RECIPES

MUSHROOM STROGANOFF

This will keep in the refrigerator for up to a week. (Does not freeze well.) Reheats easily in the microwave or on the stove top.

Servings: 6-8

1 large onion, chopped
1 pound mushrooms, sliced
2 cups sliced seitan (a wheat/bean meat substitute) or firm tofu
1 cup lite soy milk
1 cup vegetable broth or water
2 tablespoons soy sauce
2 tablespoons sherry or apple juice
dash cayenne
2 tablespoons cornstarch or arrowroot, mixed in 1/3 cup cold water

Saute onions in a small amount of water (1/3 cup) for 2-3 minutes. Add mushrooms and saute until mushrooms are slightly limp. Add seitan (or tofu), soy milk, broth, soy sauce, sherry (or apple juice) and cayenne. Stir gently. Cover and cook over low heat for 20 minutes. Add cornstarch or arrowroot mixture to pan, stir until thickened. Serve over pasta, baked potatoes, rice or whole wheat toast.

SPICY YAM STEW

Contributed by JUMP-START!. Santa Rosa, CA

This is one of the recipes prepared in the JUMP-START! cooking classes. This could also be prepared in a slow cooker, 6-8 hours on low power, and thickened just before serving.

Makes 2 1/2 quarts, serves 4-6

- 1 1/2 cups vegetable stock or water
- 2 medium sweet potatoes or yams, peeled and cubed
- 2 cups celery, sliced on diagonal
- 1 green pepper, coarsely chopped
- 1 large onion, coarsely chopped
- 2 cups carrots, quartered and chopped in 1 inch chunks
- 1 16 oz. can whole tomatoes, cut in pieces
- 3 inch piece of stick cinnamon
- 1-2 tablespoons low sodium soy sauce
- freshly ground black pepper to taste
- pinch of cayenne to taste
- 2 tablespoons arrowroot (or cornstarch) dissolved in 2 tablespoons cold water
- 1/4 cup freshly chopped parsley, as garnish

Place all ingredients, except the arrowroot (or cornstarch) mixture and the garnish, in a large soup pot and cook, covered over medium-low heat for 30 minutes, stirring occasionally, or until all vegetables are tender. Add the arrowroot (or cornstarch) mixture, stir until thickened, adjust seasonings to taste. Garnish with parsley and serve over whole grains, pasta or just in a bowl by itself.

SPANISH STYLE VEGETABLE CASSEROLE

Contributed by Carol Sanderlin, Santa Rosa, CA

Carol tells me that this is always a big hit when she makes it for her family, and that other relatives have made it for their families with the same results. Feel free to substitute other vegetables for the ones listed below. John, who likes sweet-sour dishes, suggested that a few cubes of pineapple would make an interesting addition. A few sprinkles of soy sauce over the top may be used for extra seasoning.

Servings: 4

- 1-2 tablespoons water
- 1 medium onion, chopped
- 1 clove garlic, minced
- 1 medium tomato, cored and chopped
- 1 medium red or green pepper, chopped
- 1 potato, peeled and diced
- 1/2 teaspoon paprika
- 1/8 to 1/4 teaspoon cayenne
- 1 cup uncooked brown rice
- 2 cups vegetable broth or water
- 2 medium carrots, chopped or sliced

- 1-2 zucchini, chopped
- 2 cups frozen peas

Heat the water in a large heavy saucepan. Add onion and garlic and cook for one minute. Mix in the tomato and pepper and cook about 3 minutes. Add the potato, paprika and cayenne (use less if you don't like spicy foods) and cook 2 minutes longer. Stir in the rice, vegetable broth and carrots and adjust heat so mixture bubbles gently. Cover and simmer for 15 minutes. Stir in the zucchini and peas. Cover and cook another 30 minutes. Remove from heat and let stand for 10 minutes before serving.

DONATIONS

TO THE MCDUGALL PROGRAM

The McDougall Lifestyle Change Research Fund--2574.1040 will be money I personally manage for research and education. The McDougall Program Fund--2574.1039 will be money managed by The McDougall Program administrative staff, and used for research and education. Send to The McDougall Program, c/o St. Helena Hospital, Deer Park, CA 94576. ALL TAX DEDUCTIBLE.

MORE HELP

Books and Audio Cassettes: The McDougall Program--\$20 (Hardcover); The McDougall Plan--\$10; McDougall's Medicine--A Challenging Second Opinion--\$10 (Hardcover); Volume I & II of the Cookbooks--\$9 each. The McDougall Video--\$25. McDougall Program Audio Cassette Album (8 tapes)--\$60. Add postage (\$4 first book, audio album, or video and \$2 each additional item) (US Funds only!)

The McDougall Program at St. Helena Hospital, Deer Park, CA. Two weeks of physician supervised live-in care designed to get people off medication, out of surgery and living again--call 1-800-358-9195 (outside California) or 1-800-862-7575 (California).

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