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The Siren Call of Menu Terms

YOU'RE perusing a menu, and the Chicken Parmesan just doesn't grab you. But what about Home-Style Chicken Parmesan?

Evocative wording influences food choices, University of Illinois researchers found when they tested the impact of descriptive menu names on six items at a faculty cafeteria. When foods such as grilled chicken or red beans with rice were sold under more suggestive names like "Tender Grilled Chicken" or "Traditional Cajun Red Beans with Rice," their collective sales rose by 27 percent over 6 weeks.

Some terms seem to work especially well, the researchers note. These include geographic labels, like "Country" peach tart or "Iowa" pork chops; emotional or nostalgic phrases, such as "Nana's Favorite" chicken soup; and names that appeal to the senses, as in "Snappy Seasonal" carrots or "Chocolate Velvet" ice cream.

Names might even have the power to push people off their weight-loss plans as they increase sales. While a definite link wasn't nailed down, the Illinois cafeteria patrons who bought the descriptively-labeled desserts in the study–Satin Chocolate Pudding or Grandma's Zucchini Cookies–appeared somewhat more likely to be breaking a diet than those who chose plain old chocolate pudding or zucchini cookies.

"People say, 'I wouldn't otherwise–but this is special, it's different,'" comments study leader Brian Wansink, PhD. "They have the willpower to say no to a plain name. But when Grandma makes it–oh, what the heck."

Are You Doing All You Can To Fight Sarcopenia?

Muscle loss that leads to frailty in old age is not inevitable

PEOPLE WORRY about having a heart attack when they get older or falling victim to cancer, Alzheimer's, or other illnesses. But much of the disability associated with aging is not about disease. It's about creeping frailty. That's what stops many older people from being as busy and energetic as they'd like—or even from living independently.

You're probably well aware by now that some of the frailty comes from porous, gradually weakening bones. And you know the name for it—osteoporosis; "osteo" for bone, and "poros" for pore. But even more universal than a critical loss of bone is frailty that stems from a loss of muscle. And *it* has a name, too—sarcopenia; "sarco" for flesh, or muscle, and "penia" for loss.

The term was coined back in the late 1980s by Irwin Rosenberg, MD, dean of the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts (and the editor of this newsletter). At that time, research by Tufts scientists had shown that muscle loss occurs as a matter of course with aging—and that those losses are dramatic ones. (See illustrations on page 4).

Sarcopenia generally starts to set in around age 45, when muscle mass begins to decline at a rate of about 1 percent a year. Not surprisingly, as muscle mass decreases, so does muscle strength. And as strength goes, so does physical functioning—the ability to climb stairs, do chores, dance, take walks, enjoy a day of touring, go grocery shopping, or accomplish other activities.

The muscle loss occurs in people of all fitness levels, even master athletes. But those who have less muscle to begin with pay a higher price. Women in particular face risks from lost muscle mass. After adolescence, "women have about one third less muscle mass than men," says Miriam Nelson, PhD, director of the Center for Physical Activity and Nutrition at Tufts. "So their muscle loss has an impact sooner. More women end up in nursing homes. Also, women live longer—so they're older but *much* weaker," she explains.

Why does sarcopenia happen? So far, the best guess is that it's caused by a gradual loss of certain nerve cells that

Continued on page 4

On the Menu

Are You Doing All You Can To Fight Sarcopenia?

Continued from page 1

link the brain to the muscles; in turn, loss of chemical connections between the two causes a loss of muscle cells themselves. Other age-related declines may play into it as well. For instance, the immune system gradually weakens, and that, some researchers suggest, may increase levels of substances that break down muscle. In addition, levels of hormones that stimulate muscle growth—estrogen, testosterone, and growth hormone—fall with age.

Then, too, there's disuse. In a particularly insidious twist, the loss of strength from sarcopenia can create a vicious cycle. When it takes a great deal of physical effort to perform daily tasks, people naturally shy away from doing them to avoid discomfort. But since activity, no matter how limited, helps to maintain muscle mass, abandoning one's efforts only serves to speed up muscle loss—creating more weakness still.

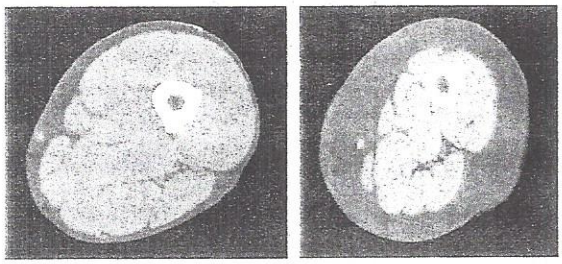
But in the problem lies the solution. While you can't completely halt sarcopenia in its tracks, there's much you can do to slow it dramatically and thereby remain nearly as active in your 70s and 80s as much earlier in life. If you were sedentary as a young adult and in middle age, you can even end up with more muscle mass in later years—and more strength—than you had in your 30s and 40s.

Pushing back sarcopenia

While it has been known for decades that strength training—lifting weights and working resistance machines—increases muscle mass and strength in young adults, not 20 years ago, many thought whatever muscle loss occurred in older people was inevitable. Part of the problem was the then-prevailing notion that for older people to lift weights was strange, if not downright harmful.

It wasn't helping that the first couple of studies on strength training to stem sarcopenia had shown just lukewarm results. "Older people didn't respond well," says sarcopenia researcher William Evans, PhD, formerly of Tufts and now based at the University of Arkansas for Medical Sciences. "Their muscles didn't get any bigger."

But the reason for the poor results was the very fear that pushing older people too hard would be bad for them. The studies weren't using the right exercise *intensity*, Dr. Evans says. Rather, subjects were lifting weights that were too light for them, so their muscles weren't being stimulated to grow. The Tufts researchers then went back and tried strength training in another study, this time using high-intensity workouts in which participants lifted leg weights at levels closer to their maximum capacity. The volunteers, men who ranged in age from 60 to 72, not only completed the regimen safely. They more than doubled their leg strength in just 12 weeks of training.



At left, the thigh muscles of an active woman in her early 20s. (The small white circle is the femur, or thighbone, and the dark spot in the middle of that, the bone marrow.) At right, the thigh muscles of a sedentary 67-year-old woman. If she strength trained her thighs with knee extensions and leg curls, her muscles would start to look more like those of the younger woman.

Other studies on strength training's benefits quickly followed. One effort, led by Tufts researcher Maria Fiatarone, MD, showed that even frail nursing-home residents in their 90s could build muscle and strength. Two study volunteers were even able to walk without needing their canes after the 8-week program.

Weight-lifting works to build muscle by forcing your body to heal the damage to muscle cells that your efforts create. "At a high enough intensity, you get microscopic tears in muscle," says Dr. Evans. "The muscles rebuild protein, and that makes the cell stronger."

In a typical strength-training session, you do six to eight exercises, working muscles in the upper body, lower body, and trunk with moves such as leg lifts and arm curls. You lift against your own "ceiling" weight-wise, progressing to heavier and heavier weights as you go. (An 80-year-old might start out with 2- or 3-pound weights for each arm or leg and then progress to 10 or 20 pounds over time.) Two or three sessions a week is optimal, but never two days in a row, because the muscles need time to recover.

Talking you into strength training

More people take part in aerobic activity for exercise rather than strength training. It's easy to understand why. Incorporating a walk into the day doesn't take much planning, and other aerobic activities like cycling, jogging, or swimming are things you already know how to do and already enjoy. Strength training isn't so familiar—and it takes extra time that has to be set aside rather than "folded into" your daily routine. But for less than an hour and a half of strength training a week—about 40 minutes a session—you get so much back.

We can't emphasize enough how critical it is. Aerobic exercise, while it strengthens the heart and lungs, isn't sufficient by itself to hold back sarcopenia. A study from Denmark illustrates the point beautifully: Men in their late 60s who'd lifted weights regularly for years had muscle mass similar to that of non-athletes in their 20s. But older runners and swimmers didn't, even though they'd trained for years, too. "Running and swimming did not prevent sarcopenia," says Arkansas's Dr. Evans. "Only men who did weights had the younger muscle mass."

Once you get going on a strength-training program, you'll quickly see gains from your hard work. "Things

Did you know... Estrogen-containing products for postmenopausal women must now carry a "black box" warning that they raise the risk for heart disease and breast cancer. Strong n

are probably happening immediately at the cellular level" when you start, comments Dr. Nelson. "In 4 weeks, you'll get stronger—you can feel yourself take out the trash or carry groceries with more ease. In 4 to 6 weeks, you might see less pain with arthritis."

Strength training also has a synergistic quality to it, providing not just muscle but also the vigor that goes with being stronger. It's not surprising when you consider that it can maintain or improve an older person's ability to perform so many activities important to daily life, such as climbing stairs, walking faster, or maintaining balance when on slippery footing. That's especially important for someone who wants to continue living independently.

What's more, building muscle creates a positive cycle in people of any age. The better and stronger you feel, the more likely you are to stay active and do things you enjoy—gardening, playing tennis, and the like. The more active you are, in turn, the more you'll keep weakness at bay.

But preserving your muscle mass is about more than just keeping up a particular level of fitness. It can also impact your ability to withstand disease. When you're sick, the body burns protein faster than usual, pulling protein components from the muscles and delivering them to the immune system, liver, and other organs for use in healing wounds and building the antibodies and white blood cells needed to fight illness. If the muscle protein "reservoir" has already been depleted by sarcopenia, there's that much less ammunition available.

If you fear you're not in good enough health to strength train, rest assured that it's perfectly safe, even for people with conditions like arthritis or heart disease. (Still, get a doctor's OK before you start.) For more specifics on how to strength train, along with information about other types of exercise for older people, check out the National Institute on Aging's free video and booklet, both entitled "Exercise." They're available online at http://www.maillist.org/exercise or by sending $7 (for shipping and handling) to: NIAIC, Dept. W, PO Box 8057, Gaithersburg, MD 20898-8057. Or call (800) 222-2225 to place an order.

It's not just exercise: Certain nutrients count, too

Research is beginning to show that along with strength training, particular nutrients may play a role in slowing the advance of sarcopenia. One of them is protein. Eating extra protein won't enlarge your muscles. But in 1995, a Tufts study raised the question of whether muscle loss in later years could be due, in part, to a chronic protein deficit among older people. Older women eating protein at half the recommended level, they found, lost lean tissue after just 8 weeks—and showed declines not just in muscle function but in immune response as well. Women whose diets were adequate in protein had no such declines.

The body has to make up everyday protein losses from skin, nails, hair, sweat, and body fluids, explains Carmen Castaneda-Sceppa, MD, PhD, head of the Nutrition, Exercise Physiology, and Sarcopenia Laboratory at Tufts. "If daily protein intake isn't enough, the body uses muscle as a resource for amino acids—the building blocks of protein." Poor protein intake doesn't just contribute to muscle loss from within, she notes. It also won't allow for proper muscle maintenance—there's not enough building material there to work with.

The idea that a chronic lack of protein could be drawing down muscle reservoirs in older people makes sense, especially when you consider that many are eating less protein than they should be. In fact, an estimated one in three people over 60 eats less than the current recommendation of 0.36 grams of protein per pound of body weight, or 54 grams a day for a 150-pound person. Some research even suggests that older people need more still. One study at Tufts, for instance, advised adults over 55 to eat about 0.45 grams per pound, or 68 grams for a 150-pound person.

Experts are still debating what the "right" protein number for older adults should be. But it's a wise idea in any case to make sure you're getting at least the current recommended amount. See the box, below, to tally your protein numbers.

PROTEIN POWER PLAY

The following list will help you gauge how much protein you're getting in your diet. The current recommendation is 0.36 grams per pound of body weight, or 54 grams for a 150-pound person.

Food	Grams of Protein
3 oz meat, poultry, or fish	21
3 oz raw, firm tofu	9
2 tablespoons peanut butter	9
1 cup milk or yogurt	8
1 oz hard cheese	7
1 egg	6
1/2 cup rice	5
1 baked potato with skin	5
1 slice bread	3
1 banana, orange, or peach	1
1 tomato	1

Along with protein, nutrition scientists are investigating the role of vitamin D, which is crucial to proper muscle function. Many people in their 70s and older may have muscle weakness—particularly in the legs—attributable to a lack of the vitamin.

Taking supplemental D can turn that around, as a review of evidence from the Netherlands recently demonstrated. In one study of elderly women low in vitamin D, supplementation improved muscle strength and walking distance; in another, it decreased body sway (and thus, likelihood of falls).

Healthy elders won't become extra-strong by adding more D to their diets; the Netherlands study indicates the vitamin is most useful in older people who are frail to the point of being homebound. Still, most people over 50 lack D to some degree. It's hard to get all you need from food, and it can be difficult for people who live at northern latitudes (such as Chicago, Boston, or Seattle) to get enough from sunshine. That means it's good insurance to meet the daily requirements with supplements, at least in the winter months: 400 units for people 51 to 70, and 600 units for people 71 and older.

from the Women's Health Initiative recently indicated that estrogen specifically increases the chances for heart attack and stroke along with raising the risk for developing breast tumors.