

Is Swimming All Wet?

By ACSH Staff — April 1, 1991

You don't need a perfect stroke to get a lot out of swimming and feel good. The wonderful thing about swimming is that it offers enormous benefits to people regardless of their strength, abilities or disabilities. Second in popularity only to walking, look in any local pool and you'll see pregnant women, cardiac patients, physical fitness buffs, people with muscular dystrophy and streamlined senior citizens.

Buoyancy and Resistance

The equalizer that makes water such a friendly element to everyone is its buoyancy. As long as you relax in water, you stay afloat. For lower-extremity paraplegics, this means they can maintain an upright position just by doing the dog-paddle. Pregnant women enjoy taking a dip because the water's buoyancy helps them regain their normal sense of balance, which often becomes tenuous during late pregnancy.

Water's resistance provides the workout aspect of swimming. The magical thing about resistance is that the swimmer controls it: The harder you push, the greater the resistance. This means that those who want rigorous exercise need only to put forth more energy, whereas people just starting a swimming program can moderate their output to match their level. For both, resistance helps develop muscular strength and endurance.

The combination of buoyancy and resistance converts many people to swimming above other forms of "land" exercise because it reduces the possibility of injury, especially stress fractures. Contrast swimming, for example, to running. Runners' legs and feet have to withstand a gravitational force that is two to three times their body weight each time their foot hits the ground. It's no wonder they commonly complain of knee problems and lower-leg stress fractures.

Aerobically Speaking

Swimming offers excellent aerobic benefits. Although most people know that's good, they're not exactly sure what the term "aerobic" means. Simply defined, an aerobic exercise is a continuous activity that stimulates or strengthens the heart and lungs. This improves the cardiovascular system, increases lung capacity, helps the body improve its use of oxygen, and burns calories. Other types of aerobic exercises are jogging, rowing and bicycling.

Not all swimming strokes, however, have equal aerobic benefits. The butterfly uses the greatest amount of energy, followed closely by the front and back crawl. The breast stroke, elementary back stroke and side stroke have less of an aerobic impact because of the glide phase, when most people tend to relax. Yet swimmers using these strokes also reap significant aerobic gains if they swim continuous laps.

How hard do you have to swim to get the maximum benefit? The American College of Sports Medicine suggests a 20 to 30 minute workout three times a week at a target pulse rate that is 60 to 80 percent of the heart's maximum capacity. Generally, the target rate is determined by subtracting your age from the number 220 and then multiplying it by 70 percent. So a 30-year-old person would have a target rate of 133:

$$(220 - 30) \times 0.70 = 133$$

Weight Loss

Here's a word problem for the SATs. Do runners and swimmers who weigh the same, exercise at the same intensity and the same amount of time, and who eat comparable diets lose the same amount of weight? The answer is "no," even though this is the outcome in animal studies. Although swimmers do lose some weight, they lose less than joggers.

This has puzzled trainers, exercise physiologists and clinicians for decades. Research, unfortunately, sheds little light on the subject. Some observe that exercises that shed the greatest number of pounds are weight-bearing, such as jogging or walking. Perhaps, they conjecture, activity that requires you to overcome the body's weight to move also stimulates weight loss. In swimming it is the water's buoyancy, rather than the swimmer, that accomplishes this.

Other researchers suggest that exercises that cause a build-up of heat can suppress the desire to eat. We experience this without exercising on hot days during the summer. Since swimming does not increase body temperature as much as running or, for that matter, any exercise that causes the body to sweat, it is less likely that swimming will suppress appetite. Another factor to consider is that cold stimulates the appetite. That's why you may want to eat after swimming in a pool with chilly water.

Taking the Plunge

Swimming has a lot going for it. As one of the few types of exercise that develop both the upper and lower body muscles, it's an ideal overall physical conditioner. And the aerobic benefits are numerous, regardless of the smoothness of your stroke or your physical limitations.

There are disappointing days ahead for those who primarily look to swimming as a way to lose weight. Although it will help, it's not the entire answer. Augmenting swimming with a weight-bearing exercise such as walking or jogging may be the answer. But for most, a half hour swim in the pool three times a week will go a long way in helping to improve endurance, strength, heart and lung function, as well as trim off some extra pounds.

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