

let's get physical: assess your aging client's potential

IT IS ONE OF THE INEVITABILITIES of life: Sooner or later, we all start to show the signs of aging. Our knees may become less resilient, our reaction time may not be what it used to be, and many of us find ourselves fretting about things like retirement plans and cholesterol. If you're in this category, you know that some days there's not as much spring in your step when you jump out of bed to go skiing. (And if not, just wait. . . your time is coming.) Regardless of how old you are, however, you well know that skiing is a physically demanding activity. Just imagine how your older students must feel!

Many of the people who take lessons are "up in years." For the purpose of this discussion (and at the risk of offending someone), let's define that as age 40 to 80. Instructors need to realize that some of these individuals may have different expectations of the skiing experience than their younger counterparts. How can we best serve this segment of the snowsports public?

We can start by identifying the concerns of older students and making a few simple changes in our lesson plans to accommodate them. We can't turn back the clock, but we *can* help these guests have a pleasant and satisfying snowsports experience.

GUEST-CENTERED TEACHING

Although many older guests may share certain characteristics, it's important to emphasize that instructors should not make universal assumptions about a person's abilities based solely on factors such as gender or age. Resist the urge to



GETTY IMAGES

Older students tend to have different expectations of the lesson experience than their younger counterparts.

blindly stereotype them. PSIA's emphasis on guest-centered teaching was developed with this in mind.

Guest-centered teaching advocates

building the lesson plan around each individual rather than using the same approach with every student. This entails conducting an informal interview

before the lesson even begins (more on that later) and enhancing the information you get from that dialogue with an objective (and discreet) assessment of the person's age and general constitution. Regardless of how enthusiastic and excited older students may be, the reality is that for many of them, their potential for success hinges on their age and physical abilities. As with all students, no matter how much people may want to succeed, if their bodies cannot meet the challenge they may not be able to meet certain goals. Moreover, if students of any age push themselves beyond their physical ability, they may become overly fatigued and increase their risk of injury.

The following sections contain further information on some of the physiological considerations that have bearing on older skiers. Awareness of these characteristics—along with a solid grasp of each student's unique qualities—can help you introduce activities that are appropriate in terms of intensity and focus.

THE AGING BODY

According to the 1986–2000 Behavioral Risk Factor Surveillance System (a national survey conducted by the National Center for Chronic Disease Prevention and Health Promotion to monitor health-risk behaviors and preventive health practices among adults in the United States), 30 percent of people 18 years or older engage in *no* regular exercise; and more than 73 percent fall short of general recommendations to get in 30 minutes of moderate-intensity exercise at least five days a week. Musculoskeletal strength increases in both men and women until approximately age 20, then tends to plateau until they reach their mid-40s, at which point it begins to decrease. Both men and women lose as much as 25 percent of their strength by age 65; at all ages, women tend to lose more muscle and strength than men.

By age 70, most adults lose 40 to 50 percent of their pulmonary capacity (the

ability to breathe and process oxygen). The result in the context of skiing is that both older men and women will need to exert a higher percentage of their maximum capacity, which often leads to fatigue and the propensity for injury. Decreases of 40 to 60 percent of anaerobic power (short bursts of strength typical in alpine skiing) leads to loss of coordination, movement efficiency, and decreased motivation.

In general, a person's metabolism decreases at a rate of 1 percent per year from age 25 to 50. This means that even if a person maintains the same body

Both men and women lose as much as 25 percent of their strength by age 65; at all ages, women tend to lose more **MUSCLE AND STRENGTH** than men. By age 70, most adults lose 40 to 50 percent of their pulmonary capacity.

weight, he or she will amass more fat cells while losing muscle, bone density, and connective tissue. In addition, by age 70, people are more likely to lose general flexibility, range of motion, visual acuity, depth perception, and as much as 15 percent of their reaction time.

Environmental changes may complicate these physical considerations considerably, particularly if these students have zoomed from sea level to the higher elevation of your resort. With an elevation gain of 4,000 feet or more, the body responds to a decrease in oxygen pressure by increasing its ventilation or breathing rate—both at rest and during physical activity. The heart must work harder to pump the same amount of blood, so the heart rate goes up as well.

To make matters worse, few people drink the recommended 8 to 10 glasses of water per day, so they begin their vacation dehydrated. This common condition lowers blood volume, resulting in a higher demand on the heart and causing lightheadedness and nausea (not a good way to feel when trudging up to meet an instructor for that first ski lesson).

Fortunately, the human body is resilient. Within several days, it begins

to adapt to changes in elevation—so anyone who lives at elevation or who has already been at the area for several days may not have the same adverse reaction as those who are not acclimated. And, obviously, people who have maintained an active lifestyle may not find the experience as taxing as those who have been sedentary for most of their lives.

WHO ARE YOU?

The first ride up the lift is a perfect time to get background information from your clients. During a short, 10-minute ride, you can estimate their age (if they haven't

already told you), find out at what elevation they live, how often they exercise, whether they engage routinely in any sports, and what they would like to accomplish during the lesson—all great information for building your lesson plan.

The type of exercise and level of activity in which your client engages will provide important cues about the person's stamina so you can choose appropriate lesson activities. As with any student, his or her involvement in high-energy sports, such as aerobic dance and inline skating, may indicate that the person has a stronger ability to assimilate the new skills required in alpine skiing. On the other hand, if the student's primary form of exercise is golfing or bowling, he or she may struggle a bit with the aerobic and anaerobic demands of snowsports.

One of the best students I ever taught was an accomplished inline skater. She progressed from a level 1 to level 4 skier in just two days because she had already acquired the necessary fore/aft and side-to-side balance skills. In addition, she was physically fit, a risk-taker, and her choice of activity routinely

CONTINUED

CONTINUED FROM PAGE 33

required her to condition the same muscle groups used in alpine skiing.

LESSON UPS AND DOWNS

One of the most depressing sights I've ever seen was a group of middle-aged, first-time skiers sweating buckets as their instructor sidestepped them halfway up the mountain on a warm, spring day. What this instructor failed to realize was that, due to the physical challenges of aging, many older people find this sort of thing extremely difficult and unpleasant. How could these students possibly have felt any excitement for the sport? If they were able to walk the next day, you can rest assured that they wouldn't be returning to class.

If a student is not particularly fit, you aren't going to whip that person into shape during a lesson; you're going to have to work with what you have. Remember that students coming from sea level might not be acclimated until about the middle of their vacations. Instead of exhausting them on the first day with physically demanding drills such as sidestepping up steep hills, try to refine the same technique by taking advantage of flatter terrain.

And speaking of terrain, keep in mind that sending your students down steep terrain will cause them to isometrically contract what feels like every muscle in their body, resulting in rapid fatigue. Remember that many older skiers are already beginning the day with a power

to terrain that is slightly *less* challenging than what you originally had in mind. Use rollers, double fall lines, and ungroomed aspects of an easier run instead of heading to a steeper, too-challenging run, even though that run might be groomed. Students who are out of shape, not acclimated to altitude, and/or new to the sport may have less confidence than you might expect. It is critical to give them plenty of opportunities to master easier terrain so they can main-

Many aging skiers are far **MORE CONCERNED** about the possibility of getting hurt than their younger counterparts.

tain control and thereby develop a sense of accomplishment. Only then will they have the self-assuredness and the willingness to tackle the next challenge you put before them.

TAKE IT DOWN A NOTCH

We've all heard the expression "kids have no fear," and while that attitude may peak in young adulthood, it tends to wane as people enter the "golden years." Many aging skiers are far more concerned about the possibility of getting hurt than their younger counterparts, and instructors need to be sensitive to this.

If you're teaching older adults, remember that they may possess less physical power, have longer reaction times, and exhibit a diminished ability to discern variations in terrain (especially on inclement days) compared to someone in

of the lesson. It's all about quality rather than quantity. Most 20-something skiers want to regale their friends at the end of the day with how many vertical feet they racked up, but older skiers are more likely satisfied with the fact that they successfully acquired new skills. One good powder run may be more important to them than how many runs they made that day.

Along with choosing appropriate terrain—and adjusting the pace accordingly—be sure to schedule frequent "rest

stops." Muscular fatigue and depleted energy levels can easily be rectified by a short break. Suggest that students eat something light and drink plenty of water at regular intervals to stave off dehydration and low energy. Many older students may be too self-conscious to request a break, especially if there are younger students in the class. So, be sure to ask them often (and discreetly) if they would like one. They need to understand that it's perfectly okay to ask for a respite.

ENOUGH IS ENOUGH

So, you've had a great lesson. The snow was perfect, and everyone had a great time, picked up some new skills, and feels exhilarated. Should you call it a day?

If you've given your students a good experience and it's still early afternoon, take a break and check everyone's energy level. As a rule of thumb—and at the risk of sounding condescending—I think it's safe to assume that all visitors to altitude (regardless of age) have at least 30 percent less energy than what they may feel they have. Active muscles will not begin to recover from a day's activity until several hours after the person stops skiing. The body's fluids will begin to redistribute, the muscles' energy stores will begin to replenish themselves, and active muscle tissues will begin to repair—all about the time

If a student is **NOT PARTICULARLY FIT**, you aren't going to whip that person into shape during a lesson; you're going to have to work with what you have.

deficit. Until they've learned about balance through proper body alignment, they'll try to compensate by contracting their muscles for stability.

If you have any doubts about an older student's ability to ski certain terrain, don't take chances; introduce the person

his or her 20s. Avoid taking them into tight, "do or die" situations that require split-second decisions. Many older skiers like to have time to think about where they're going to make their next turn.

Regardless of whether students have skied for 30 years or one day, relax the pace

that your students have crawled out of the Jacuzzi and are headed for dinner.

If, after you've checked with your students, there is a consensus that they can ski more, then press on. If not, adjust your plan. When skiing with older clients or those who are obviously fatigued, noticeably out of shape, etc., I tend to ski the group in "loops," that is, close to an easy exit for home. That way, fatigued students have an easy "out" and the other, more resilient students have the option to take another run or two.

CONCLUSION

Guest-centered teaching encourages us to tap into each student's "profile" and structure a ski lesson that will best suit the individual. As with any other guest, there's no single template that applies to every older student you meet. That said, it's important to be aware of the common characteristics of aging. Your assessment, combined with factors such as the person's age, overall fitness, and time spent at altitude, are the tools you need to structure a lesson with the right content and pace for the individual. ♦

REFERENCES

- American College of Sportsmedicine's *Resource Manual for Guidelines for Exercise Testing and Prescription*, fourth ed., Philadelphia: Lippincott Williams & Wilkins, 2001.
- Astrand, P.O. and K. Rodahl. *Work Physiology: Physiological Bases of Exercise*. Chicago: McGraw-Hill, 1986.
- Fitzgerald, P.L. "Exercise for the Elderly." *The Medical Clinics of North America* 69 (1985): 189-196.
- Granath A., B. Jonsson, and T. Strandell. "Circulation in Healthy Old Men Studied by Right Heart Catheterization at Rest and During Exercise in Supine and Sitting Position." *Acta Medica Scandinavica* 176 (1964): 425-446.
- Jackson A.S., L.T. Wier, G.W. Ayers et al. "Changes in Aerobic Power of Women Ages 20-64 Years." *Medicine and Science in Sports and Exercise* 28 (1996): 884-891.
- Julius S., A. Amery, L.S. Whitlock et al. "Influence of Age on a Hemodynamic Response to Exercise." *Circulation* 36 (1967): 222-230.
- Mahon, A.D., G.E. Duncan, C.A. Howe, and P. Del Corral. "Blood Lactate and Perceived Exertion Relative to Ventilatory Threshold: Boys Versus Men." *Medicine and Science in Sports and Exercise* 29 (1997): 1332-1337.
- National Center for Chronic Disease Prevention and Health Promotion. 1986-2000 Behavioral Risk Factor Surveillance System. Atlanta, GA.
- Professional Ski Instructors of America. *Core Concepts for Snowsports Instructors*. Lakewood, Colo.: 2001.
- Rogers, M.A., and W.J. Evans. "Changes in Skeletal Muscle with Aging: Effects of Exercise Training," *Exercise and Sport Science Reviews*, edited by J. Holloszy, 65-102. Baltimore: Williams & Wilkins, 1993.
- Smith, E.L., and R.C. Serfass. *Exercise and Aging: The Scientific Basis*. Hillside, NJ: Enslow, 1981.
- Young, A., P.A. Young, A.J. Young et al. "Human Acclimatization to High Terrestrial Altitude." *Human Performance Physiology and Environmental Medicine at Terrestrial Extremes*, edited by K.B. Pandolf, M.N. Swaka, and R.R. Gonzalez, 497-545. Indianapolis: Benchmark, 1988.

Allen R. Smith is a freelance writer and PSIA Level II certified alpine instructor who teaches with the Vail/Beaver Creek Ski and Snowboard School in Vail, Colorado. He obtained his master's degree in exercise physiology from San Diego State University in 1983. During the same year, he became a certified exercise specialist with the American College of Sports-medicine and has more than 10 years experience working with high-risk patients with cardiovascular disease.

GRABBER[®] MYCOAL[™]

HEAT TREAT[®] WARMERS

NEW LOOK
Same Great
Quality!

TOE WARMER 6+ HOURS
HAND WARMER 12+ HOURS
BODY WARMER 12+ HOURS
MEGA WARMER 12+ HOURS
ULTRA WARMER 24+ HOURS
FOOT WARMER 5+ HOURS

PROFESSIONAL SKI INSTRUCTORS OF AMERICA
NATIONAL SKI PATROL

GET WARMER!

800-423-1233 www.warmers.com