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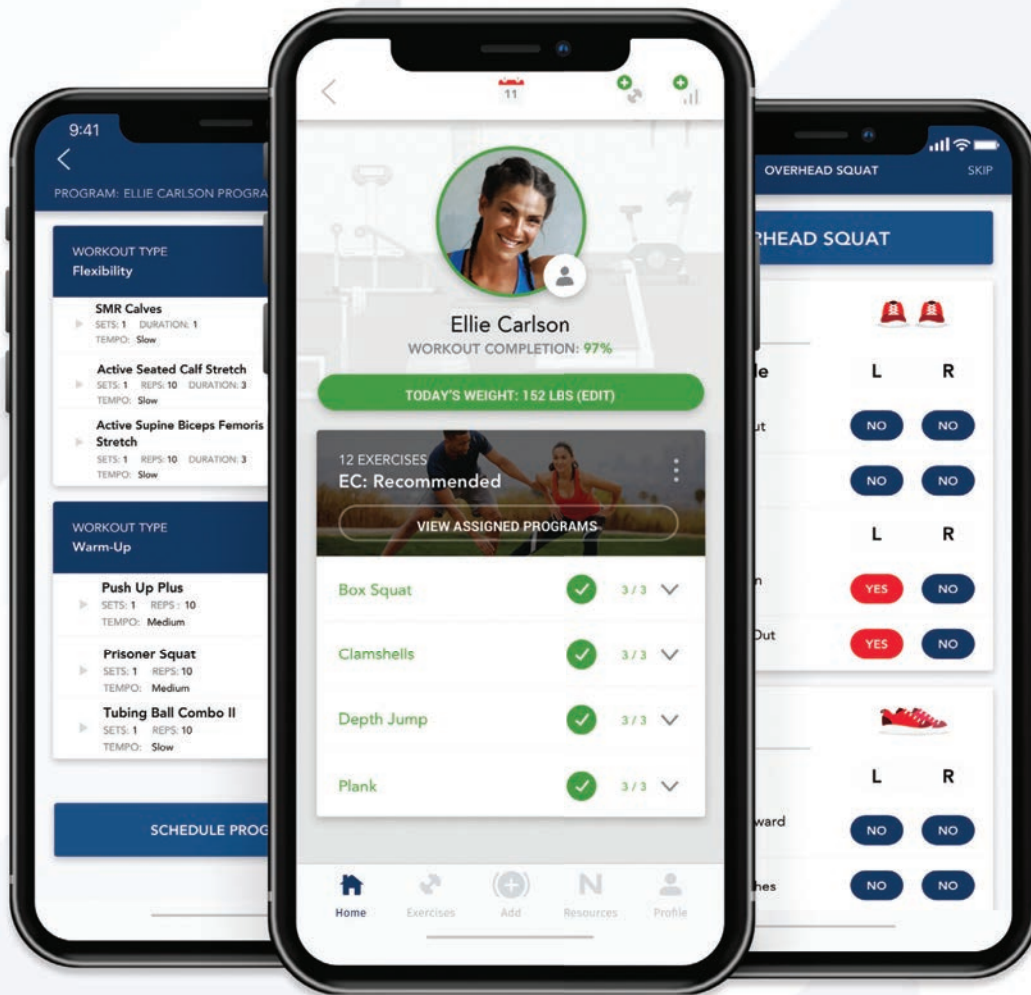


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VOLUME THIRTY-SEVEN // NUMBER ONE

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BY APRIL DURRETT

COVER PHOTO
TODD VITTI

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PHOTO: IWINK STUDIOS

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AMERICAN FITNESS

EXECUTIVE TEAM

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CONTRIBUTING EDITORS Tom Mangan

Laura Quaglio

CONTRIBUTING WRITERS

Mike Bracko, EdD

Sarah Buck, PhD

April Durrett

Josh Elsesser

Jessi Haggerty, RD

Maria Luque, PhD

Angie Miller, MS, LPC

Tony Nuñez, PhD

Laura Quaglio

Kyle Stull, DHSC, MS

Alexandra Williams, MA



ATHLETICS AND FITNESS ASSOCIATION OF AMERICA (AFAA)

WEBSITE: afaa.com

EMAIL: customerservice@afaa.com

PHONE: 800.446.2322 | 602.383.1200

MAIL: 1750 E. Northrop Blvd., Ste. 200
Chandler, AZ 85286



NATIONAL ACADEMY OF SPORTS MEDICINE (NASM)

WEBSITE: nasm.org

EMAIL: nasmcares@nasm.org

PHONE: 800.460.6276 | 602.383.1200

MAIL: 1750 E. Northrop Blvd., Ste. 200
Chandler, AZ 85286

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LAURIE MCCARTNEY, PRESIDENT

TAKE FIVE

CHECK OUT FIVE OF OUR FAVORITE HIGHLIGHTS FROM THIS ISSUE!

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WELCOMING CHANGE IN 2019

The beginning of the new year always sparks excitement as our clients and members seek our guidance on how to make *this* their year to embrace healthy changes. But the best of intentions, as we know, are only as good as their follow-through. Life's interruptions can sideline even the most sincere efforts before clients achieve their goals. So how can we, as fitness professionals, keep our clients moving?

In this issue, we have several stories that shed light on types of motivation that can inspire program adherence—a desire to manage stress, to improve health or to build muscle, for example (page 53). We also take a deep dive into strategies that bolster motivation when it's waning.

With this issue's CEU Corner, "Behavior Change Science: Help Clients Stick With Their Program" (page 28), we explore various research-based coaching approaches that you can match up with a client's unique circumstances to keep him or her on the path to lasting success. For example, you will learn how to use "nudges" when a client is rebounding from a less-than-optimal event—turning a setback into an opportunity for improvement. In another story, we offer evidence to bust barriers related to cold-weather workouts, which result naturally in higher metabolic load, improve endurance and offer an excellent total-body workout (page 46). And our own AFAA and NASM Master Trainer Angie Miller, MS, LPC, offers five simple activities to build resilience to stress—strategies that are too good to keep to yourself. Look for this story on page 66 and share these suggestions with clients who need to destress.

"Making a change toward a healthy life isn't easy," admits Alex Isaly, this issue's

cover story (page 38), "but it can make all the difference." He has found this to be equally true in terms of making a professional change: His complete departure from the corporate world freed him to turn his athletic passion into a successful career in group fitness, where he combines the spirit of competition with a sense of community. His approach has led to an array of innovative programs, such as Spartan® Strong™, as well as countless consulting opportunities for industry leaders and athletes. This is an inspiring story of resilience and reward, showing you how to embrace change and how to *drive* it!

As this new year gets underway, our team is passionate, too—in particular, about finding new research and information that can help you elevate your personal and professional success. What will your big changes be in 2019? We'd love to hear from you so we can provide ongoing, targeted support—and you, in turn, can help your clients and communities have a healthier, happier future.

Wishing you a bright year,

Laurie McCartney
President – Global Fitness & Wellness Solutions



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Training Edge [INDUSTRY NEWS, INSIGHTS & TOOLS]

FOSTER CLIENTS' SENSE OF COMMUNITY WITH A TEAM EVENT

No one has to convince personal trainers and group exercise instructors that a team fitness event is a fun way to spend part of a weekend. However, according to award-winning fitness professional and endurance athlete Alex Isaly (this issue's cover personality, page 38), there can be much more to it than a good time if you invite your clients and members to join you.

"Having an event that clients/members are training for requires a long-term commitment and accountability to the fitness pro and the fitness facility," he says. "It's also a great recruiting opportunity."

Beyond building your business, the practice can enhance current clients' experiences, too. "The event, including the training leading up to it, can be used to create a team environment," says Isaly. "There is accountability, power and strength [built into being part of] a team."

Here, Isaly offers some components to consider before choosing and promoting such an event:

Select an event that caters to most fitness levels.

An easy way to judge this, even among more involved events like obstacle course races, is to look at distance. Isaly advises choosing a 5K or 10K. Anything longer can filter out people who may doubt they can go the distance or commit enough time to the training.

Go local. Stay within a 2-hour driving distance. Anything more can boost a variety of costs, including transportation, meals, lodging and travel time.

Add a new class. To prep for the event, don't modify a current class. Creating a

specific training plan makes members feel they are enjoying exclusive opportunities (because they are). "The training can be used as an upsale or an incentive to do more," says Isaly. Also, creating a new class will minimize disruption for those not taking part in the event.

Adjust your expectations. Designing a short-term event-training program is challenging, as everyone will be at different fitness levels. Isaly advises focusing on improving functional movement and cardio. "For example, if you create a fitness program that encompasses scientific principles of variability training, unloaded/loaded movement training, high-intensity interval training and engagement (community), it's going to help with overall perfor-

mance, regardless of the sport," he says.

Begin promotions 8-10 weeks out. In the first 2 weeks, focus on word-of-mouth and fliers: Mention the event in all group classes, and post details on social media. Start the training program 6-8 weeks before race day so clients/members won't worry about the time commitment. "You don't want that to be their reason for not participating," he says.

Don't stay on the sidelines. When you participate in an event with your clients/members, it shows you care. "You got them to that point. Now go over the finish line with them!" says Isaly. "It goes back to the point of creating community. You're in the trenches with them. You're part of the team."



Get the inside scoop to deliver a group training program with the NASM Group Personal Training Specialization. Visit nasm.org/GPTS.

Virtual Reality Boosts Performance, Lessens Pain



It appears that virtual reality may be preferable to actual reality during resistance training. In a recent study at the University of Kent's School of Engineering and Digital Arts in Canterbury, England, 80 VR exercise participants were asked to perform an isometric biceps curl while holding a dumbbell at 20% of their 1RM. The non-VR group did this in a room that included a chair, a table and a yoga mat. The VR group did the move in the same room with the same contents—but they wore a VR headset that showed them the room. Interestingly, after 1 minute, the VR group reported a 10% lower pain intensity. Also, participants were asked to hold till failure/exhaustion, and the VR group tapped out a full 2 minutes after the non-VR group.

A Real Resource on Virtual Reality in Fitness

As anyone who has been to a fitness conference can attest, virtual-reality tech is infiltrating all venues of exercise, including member facilities, personal training, group exercise and (of course) at-home workouts. To stay ahead of the curve, check out the website for VRFitnessInsider.com. It offers an e-book: *VR Fitness: Beginner's Guide*, which is (literally) free, as well as reviews and news on VR games, hardware, experiences, research and scientific studies.

Form Fix-Up With Mike Fantigrassi: Kettlebell Swings

"Most people don't do enough posterior chain work," says Mike Fantigrassi, NASM-CPT and Master Instructor. "That's the reason why kettlebell swings are so helpful." There's one caveat: To target the posterior part of the lower body, the swings need to be done using a hip-hinge movement, not a squat pattern. Unfortunately, it's all too easy for clients to wind up squatting, since that is more familiar to many people.

Before clients try the kettlebell swing, Fantigrassi suggests they master the plank, bridge, seated row and Romanian deadlift, all of which will help them learn good back position. Here are some of his other tips for a hip-hinge kettlebell swing:

Get the weight right. The kettlebell should be heavy enough so clients can't "muscle it up" using shoulder and arm strength—they should have to "explode" with it. A good weight to start with is 18–26 pounds for women and 26–35 pounds for men.

Check the tension. The body tension should be in the torso (core), not the arms or neck. Both head and back should be in a neutral position throughout.

Explain the hip hinge. In a squat, the shins angle forward a little, while the hip-hinge movement leaves the shins vertical. (Use a mirror to show this.) Also note that the hips, not the quads, should be doing most of the work for this move.

Tell clients it's like jumping. The kettlebell swing is similar to a box jump in stance and explosiveness. The good news is, the kettlebell move is lower-impact than a jumping exercise, so it's not as stressful for the joints.

"What's so great about the kettlebell exercise is it is similar to plyometric exercises," says Fantigrassi. "So it helps teach people to move quickly and generate some force, which is helpful for everyday life."

Kettlebell Swing Options

Most of the time, ballistic kettlebell exercises are done as one-handed moves, says Fantigrassi. However, the **one-arm swing** has an anti-rotation element, so it may be better to start clients with the two-handed move. Use the **two-handed variation** to master the hinge and "lockout." The single-arm swing can be cued on the setup, with the "free" arm initially following the same path as the bell.

If clients want to **switch hands at the top of the move** (letting go for a half-second), he suggests doing this over grass—and not around other exercisers.

The move works well at the end of a warmup (in place of SAQ or plyometric training), as well as within a traditional program or a superset (e.g., with a regular Romanian deadlift).



Cue the Move

"EXPLODE" ON THE UPSWING. LET THE BELL "HANG" AT THE TOP POSITION (CHEST HEIGHT). AS THE WEIGHT NATURALLY FALLS INTO THE DOWNSWING, LET THE ARMS GUIDE IT UNTIL THE FOREARMS/WRISTS TOUCH BETWEEN THE INNER THIGHS. THEN EXPLODE UP AGAIN.

NASM MASTER INSTRUCTOR:

Pushing His Limits in the Fit Biz

Josh Gonzalez, NASM-CPT, CES, PES and Master Instructor, does more than teach the theories behind NASM's Optimum Performance Training™ model: With more than 20 years of experience running his own fitness businesses, he also has plenty of practical and personal advice to share. And Gonzalez is not one to sit back on his heels: In addition to achieving local success with his stand-alone center, Athletic Performance of Texas, he recently developed a franchise workout program called The Push Code, which he hopes will take off nationally.

Here are some lessons he has learned from his most recent venture:

Check out the competition. Before creating The Push Code, Gonzalez investigated existing group exercise chains and participated in their classes to see what worked (and what didn't). For example, he noticed that each instructor taught exercises differently, the manual adjustment of cardio machines was too difficult, and the intensity and quality of a workout varied considerably depending on the instructor. He knew he wanted to create something simpler and more standardized.

Work with your allies. When Gonzalez wanted to find a niche for his stand-alone center (back in 2008), he partnered with Minnesota-based Scott Ramsdell to offer “caveman training.” (Ramsdell and Gonzalez both joined the NASM team in 2011.) Recently, to design workouts for The Push Code, Gonzalez teamed up with NASM Master Instructor Marty Miller to select easy, effective moves and write a cuing script for each one.

Follow the model. Using the NASM OPT™ model makes it easy to structure any type of program, says Gonzalez. “Why in the world would we want to recreate the wheel when the smartest minds in the business have created the very best wheel, and we just have to be the drivers of it?” he asks. “I use the NASM OPT model in all my workouts,” he adds. “Every one of my center’s members, aged 7–77, walks through the door and grabs a foam roller and does 15 minutes of self-myofascial release. I’m proud of that.”

Add your own spin. Gonzalez had some specific goals in mind for his franchise program (standardized, effective, easy to set up, easy to run, etc.). He also wanted it to be *fun*. One solution was to create a celebratory atmosphere, complete with disco lights and motivating music. “One of the funniest challenges we’ve had is that people wind up dancing in the corner,” he says. “We sometimes have to remind them to get back to the workout!”



ABOUT THE PUSH CODE

The Push Code is a group training class that implements the art of indoor running, using the Technogym SkillMill™ — a person-powered (not electric) treadmill. Individuals set achievement goals, called “Push Marks,” and control the intensity. Class structure is based on the NASM-OPT model, and workouts cycle through four types: endurance, strength, speed and boot camp. Each session ends with “The Push,” in which participants come together to encourage each other to make just a little more progress in their workouts.

To learn more about The Push Code, visit thepushfit.com.

Write Away the Body Image Blues

In a series of studies whose results were published collectively in *Psychology of Women Quarterly* (2018; 42 [3], 326–41), two researchers from Northwestern University in Illinois explored how different types of writing exercises affected body satisfaction in college women.

The women were encouraged to write to themselves—either on paper or using an online form—from the viewpoint of a close, nonjudgmental friend. Their assignment was to focus on one of three areas: self-compassion, compassion for their body, or their body’s functionality.

Natalie G. Stern, lead author of the study and a then-undergraduate honors student in psychology, was pleasantly surprised that the body-compassionate writings were not significantly more effective than those in the general self-compassion category. “This is cool [because it] indicates that women can treat themselves with compassion without specifically thinking about their bodies—which risks backfiring and leading to enhanced body surveillance,” says the recent graduate.

Co-author Renee Engeln, PhD, adds that these writing exercises are a great way for women to harness the kindness they are “so good at showing others” and “keep a little bit for yourself.”

Both Stern and Engeln were deeply moved by the results. “It was a beautiful experience to read women’s descriptions of their perceived flaws and failures,” says Stern, “and then observe how these women could often accept and embrace these ‘flaws’ with compassion and self-kindness.”

She suggests providing a quiet space in the gym, perhaps in a yoga room after a workout or class, for women to write. You can find the specific prompts used in the studies on the website for the Center for Open Science at osf.io/ypzrg/.



Unseen Influences:

HOW LIFE PARTNERS AFFECT WEIGHT LOSS

“When [people are] cohabitating, [they may be] trying to lose weight within the context of the relationship. That can make it easier—or harder,” says René M. Dailey, PhD, a professor in the Department of Communication Studies at the University of Texas at Austin. In a recent study published in *Health Communication*, Dailey examined the effects of encouragement, influence and coercion when doled out by a partner (2018; doi:10.1080/10410236.2018.1461584).

An encouraging partner simply models healthy behaviors and offers praise, while an influencer pushes harder, reminding the partner of his or her goals, the benefits of eating right, and so on. A coercive partner employs judgmental behaviors (guilt, consequences, withdrawal/silence, eye rolling and the like).

Overall, Dailey’s research showed that people felt more successful in their efforts when their partners used encouragement to motivate them. Influence, she noted, worked sometimes—but only when the person wanted his or her partner to be involved. (Not all people do—for instance, moms may see workouts as “me time.”)

While it’s not the fitness professional’s job to get involved in couples’ communications, Dailey says it may be helpful to raise clients’ awareness of the effects of this dynamic. “Clients may think their partner will be this magic person who will know the right thing to say or do,” she says. “But the partner might not know what the right thing is. I think trainers could ask their clients what they find helpful or unhelpful from their partners, then remind them to ask their loved ones for more of that.”

WORKING WITH SENIORS:

Lessons From the Barre

This past March, Queensland Ballet and Queensland University of Technology released an early report on an ongoing joint study of the benefits of ballet for Australians.

Though the 3-month project looked closely at only 10 participants in Ballet for Seniors classes, some interesting insights emerged.

The participants preferred being among older adults.

Class members reported that they liked dancing with others of a similar age. One participant named Julie explained, “I feel much more comfortable in a group of older women where I don’t have to worry about whether I can do something.”

They wanted to be taken seriously.

Participants appreciated that the instructors did not “dumb down” the information and encouraged them to “listen to their bodies,” which showed respect for their judgment.

They wanted to know their instructors.

The ballet teachers noted that their interactions with this group were more personal than those with younger students. For example, the older dancers wanted to know more about their instructors’ families and lives outside of the studio. The teachers also felt greater appreciation and respect from this older cohort.

Fitness professionals interested in expanding their offerings to older participants may want to read the report in its entirety. *Ballet Moves for Adult Creative Health* is available at queenslandballet.com.au/learn/fitness-and-wellbeing/ballet-moves-for-adult-creative-health.



Myth: **BUSTED!**

Truth: Strenuous Exercise Doesn't Lower Immunity



Closing the door on the “open window” theory.

In an article published recently in *Frontiers in Immunology*, John P. Campbell and James E. Turner of the University of Bath in Somerset, England, examine a decades-old “myth” called the “open window” hypothesis. In short, researchers once believed that in the hours after vigorous exercise, the immune system becomes compromised, “opening the window” to illness or infection.

In their extensive review of evidence, Campbell and Turner reached a welcome conclusion: Not only is exercise not detrimental to immunity, but it may actually limit or delay aging of the immune system. In their own words: “[It] is a misconception to label any form of acute exercise as immunosuppressive, and, instead, exercise most likely improves immune competency across the lifespan.”

EXERCISE AND HIV: A GUIDE FOR FIT PROS



“A properly designed exercise program can not only improve quality of life for people with HIV; it can also promote positive improvements in the immune system,” says exercise physiologist and educator Joe Cannon, MS. However, owing to societal stigma and a general lack of knowledge, people with HIV may have trouble finding a trainer to work with them. “Helping those with HIV is potentially an untapped niche for fitness pros,” he notes. Cannon offers these tips for working with clients who are HIV-positive:

Communicate with their doctors. “Exercise really is a *medicine*, and fitness trainers are part of the healthcare continuum. That system works best when doctors are kept in the loop,” says Cannon, who notes that good communication regarding one client may lead to other referrals from physicians.

Ease into it. Clients may need to start at 20–30 minutes per session, 1–2 days per week, then build up to 45–60 minutes of combined cardio (60%–80% heart rate max, 3–4 days/week) and resistance training (total body circuit, 2–3 days/week). He does not recommend using 1RM exercises with clients who have HIV;

instead, he advises helping them select a weight with which they can comfortably perform 10 reps.

“Individuals with HIV may be dealing with sarcopenia,” notes Cannon, “which may reduce not only their strength but also their ability to perform activities of daily living (ADLs).”

Watch for overtraining. Warn clients about the symptoms of overtraining, which can include elevated heart rate, sleep disturbances and an increase in colds/flu. A dangerous condition called **rhabdomyolysis** has also been found in people with HIV, says Cannon, who wrote *Rhabdo: The Scary Side Effect of Exercise You Need to Know About* (CreateSpace Independent Publishing Platform 2017). As with any client, give the body time to adapt to new activities and exercises by starting at a lower intensity and volume and increasing gradually.

“Training someone with HIV is really no different than working with anyone else,” Cannon concludes. “People are people. The important thing is to meet them where they are in terms of their fitness level and health—and make sure they know that the gym is a safe place and they are accepted.”

Note: To learn more about HIV, visit hiv.gov.

RHABDOMYOLYSIS

(rab-doe-my-OH-li-sis)

literally means “skeletal muscle fiber death.” It occurs when stress applied to muscle is too great for the muscle to adapt to, so the fibers become overwhelmed, break down and die. The condition can result in great pain, hospitalization and, rarely, death.

—Adapted from *Rhabdo: The Scary Side Effect of Exercise You Need to Know About*



LAURA QUAGLIO is a lover of words and slayer of thorny problems. Her latest involves balancing her usual craziness with studying for the NASM-CPT exam.



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FEET FLAT? KNEES KNOCKING? THERE'S A SYNDROME FOR THAT!

You may have seen the effects of pronation distortion syndrome (PDS), even if you haven't ever heard of it. Check out this assessment and corrective exercise program so you can help to prevent PDS-related discomfort, injuries and performance losses.

BY KYLE STULL, DHSC, MS

Humans seem to be prone to many different syndromes. One definition of the word **syndrome** on Merriam-Webster.com is “a group of signs and symptoms that occur together and characterize a particular abnormality or condition.” Interestingly, the second definition listed is “a set of concurrent things . . . that usually form an identifiable pattern.” As fitness professionals, we can identify a variety of “signs and symptoms” of physical syndromes by looking for an “identifiable pattern” in human movement.

The more common syndromes discussed in the realm of human movement include patellofemoral pain syndrome, subacromial impingement syndrome, myofascial pain syndrome, iliotibial band syndrome, and the well-known upper crossed and lower crossed syndromes. It's important to highlight that these syndromes do not manifest overnight; they stem from patterns of movement impairments, called **movement syndromes**.

Movement syndromes were first described by Vladimir Janda, MD, DSc, a Czech medical doctor who dedicated his

life to the study of pain syndromes and was known to many as the father of rehabilitation. Over years of observing both his patients and the general public, Janda noticed that many people demonstrated similar patterns of impairment, which led him in 1979 to define three basic compensatory patterns: upper crossed syndrome, lower crossed syndrome and a combination of both (Page, Frank & Lardner 2010). It was not until later that **pronation distortion syndrome** emerged as a movement syndrome to look out for in assessments.

Today, unfortunately, PDS is still not

discussed very frequently in the scientific literature, even though the topic is addressed in many blogs and newsletters. Despite the paucity of research, however, fitness professionals are likely to encounter PDS, so it is helpful to know what it looks like and what you can do about it if you spot the signs.

Because movement syndromes predictably lead to patterns of injury, fitness pros can help clients avoid pain and setbacks by learning more about identifying impaired movement patterns during assessments—and addressing those patterns appropriately in exercise programming.

Signs and Causes of PDS

PDS is characterized by excessive pronation of the foot along with simultaneous knee flexion and femoral internal rotation and adduction (see “A Pronation Primer,” right, for a quick review). In layperson speak,

a person with PDS may be described as flat-footed and knock-kneed (Lucett 2013; NASM 2014). Foot dysfunction is often the initial cause of this posture, but it can also be attributable to hip dysfunction.

PDS AND FOOT DYSFUNCTION. In standing position, a flat foot causes the tibia to rotate internally, which in turn results in the femur rotating internally (since the femur *rests* on top of the tibia). This femoral internal rotation (also in standing position) causes simultaneous adduction. Such a response is referred to as **obligatory joint motion** and occurs in closed-chain movements (NASM 2014).

PDS AND HIP DYSFUNCTION. When there is hip dysfunction (e.g., weakness in the abductors, such as the gluteus medius), the femur may begin to rotate and adduct, eventually leading to foot pronation.

Both of these are cases of PDS, but each has a different origin of dysfunction. Fitness professionals must determine where a client's dysfunction derives from in order to design the most appropriate program.

Negative Effects of PDS

While some pronation is normal and necessary in the foot and ankle complex (see "A Pronation Primer"), too much of it leads to injury and pain.

INJURIES TO THE FOOT AND ANKLE

PDS can cause pain local to the foot, ankle and lower leg. Potential types of pain include general foot and toe pain, plantar fasciitis, Achilles tendinopathy, posterior tibialis tendinitis, and anterior tibialis tendinitis (NASM 2014). Some research has found a strong association between PDS and lower-body overuse injuries like those just mentioned (Fong et al. 2008).

Overuse injuries generally develop when stress placed on the structures and tissues of the foot and ankle is compounded with each step. Over time, tissues may become irritated, inflamed or even weakened, which often leads to more serious problems, such as ruptured tendons or stress fractures.

INJURIES TO THE KNEE, HIP AND LOWER BACK

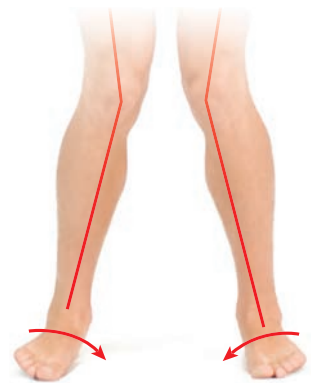
Individuals with PDS may also be subject to knee, hip and lower-back pain. A common knee condition is patellar tendinitis (jumper's and runner's knee). Like the foot,

the knee can be abnormally stressed during too much femoral internal rotation and adduction. Further, the position of knee valgus is closely associated with knee injuries such as noncontact ACL rupture (NASM 2014). Noncontact injuries are frequently equated with overuse injuries in that the tissues are weakened over time (usually owing to too much repetitive stress with no time for full recovery between stressing events). Similarly, PDS often shifts the hip out of proper alignment, causing general hip and lower-back pain.

Negative Influence on Movement and Performance

PDS not only increases the chances of certain aches, pains and injuries; it also has negative effects on overall movement and performance. As already mentioned, excessive pronation will misalign the entire lower body, reducing the ability of powerful muscles like the quadriceps and glutes to maintain force production. Length-tension relationships establish that the resting length of a muscle determines

PDS is characterized by excessive pronation of the foot along with simultaneous knee flexion and femoral internal rotation and adduction. In layperson speak, that translates to flat feet and knock-knees.



A Pronation Primer

Pronation can occur at many different places in the body, but it is commonly discussed with regard to the feet or hands. Pronation is not a bad thing. The human foot is designed to pronate as a way of reducing impact forces during walking and running (Neumann 2010).

WHY (SOME) PRONATION IS NECESSARY

When the heel strikes the ground, the foot pronates, allowing the bones of the midfoot to "open up" so the foot becomes a soft landing surface. Further, the powerful glute muscles decelerate internal rotation of the tibia and femur to allow ground reaction forces to be transmitted through the body.

After the heel strike and moving through midstance, the opposite leg swings forward, and the pelvis twists the femur, rotating the leg and thus helping the foot to supinate. With **supination**, the foot starts to "wind up," becoming a rigid, level surface for force propulsion. Thus, pronation and supination are mandatory for normal human movement.

WHEN PRONATION BECOMES A PROBLEM

The trouble begins when there is too much pronation, often referred to as **overpronation**, upon foot strike. While overpronation is less than ideal, so is *not* pronating.

PRONATION CONTROL IN FOOTWEAR

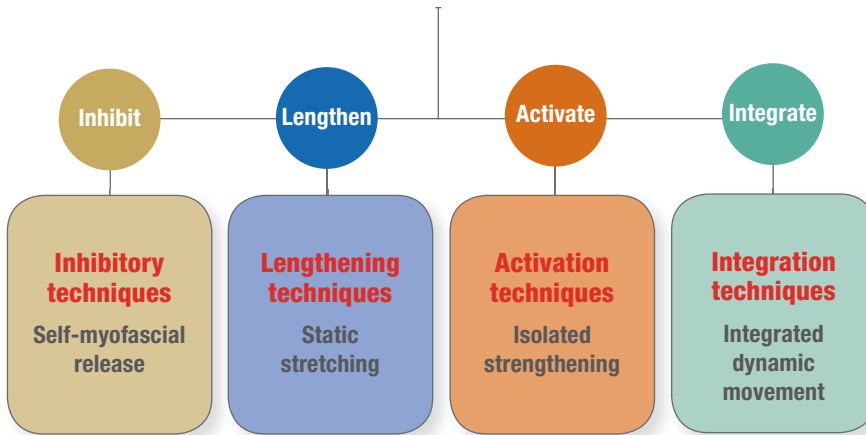
Pronation quality should always be considered when purchasing shoes, as many manufacturers seem to reinforce the medial portion of the shoe to reduce or block natural foot movement. Reinforcement or pronation control should only be introduced if needed, based on a gait assessment performed by a qualified professional.

Note: The NASM Corrective Exercise Specialization covers how to perform a detailed gait assessment using a treadmill (NASM 2014). To learn more, visit nasm.org/injury-prevention/corrective-exercise-specialization.

Two Corrective Programs for Addressing PDS

Once the primary cause of PDS has been identified, then a focused corrective exercise routine following the NASM Corrective Exercise Continuum can be implemented into the client's general workout program.

Corrective Exercise Continuum



PROGRAM 1: SAMPLE PDS ROUTINE FOR FOOT/ANKLE DYSFUNCTION

The goals of a foot/ankle corrective program are to be sure the ankle moves through an optimal range of motion and to improve the stability of the foot along with the alignment of the tibia. *Try this program if elevating the heels improves the Overhead Squat Assessment results.*

Inhibit / SMR

Perform 1 set each. Hold pressure on tender spots for 30–60 seconds.

- >> plantar fascia
- >> calves/gastrocnemius
- >> peroneals



PERONEALS

Lengthen / Static Stretching

Perform 2 sets, holding each for 30 seconds.

- >> calves: static gastrocnemius stretch (standing wall stretch)
- >> peroneals: standing stretch with abduction



STATIC GASTROCNEMIUS STRETCH



STANDING STRETCH WITH ABDUCTION

Activate

Perform 1–2 sets of 12–20 reps with a slow tempo.

- >> intrinsic foot: short foot/towel scrunches
- >> posterior tibialis: resisted side-lying
- >> anterior tibialis: toe raises with toes flexed



RESISTED SIDE-LYING



TOE RAISES WITH TOES FLEXED



WHEN DOING THE TOWEL SCRUNCH, FOCUS ON ACTIVATING THE ARCH RATHER THAN JUST THE TOES.

Integrate

Perform up to 2 sets of 12–20 reps with a slow tempo.

- >> single-leg balance with reach
- >> reverse lunge with knee abduction



SINGLE-LEG BALANCE WITH REACH



REVERSE LUNGE WITH KNEE ABDUCTION

PROGRAM 2: PDS PROGRAM FOR HIP COMPLEX DYSFUNCTION

The goals of the hip corrective program are to improve hip abduction, extension and external rotation and to increase stability and strength in the core and hip muscles. (Note: Try this program if elevating the heels does *not* improve the OHSA results.)

Inhibit / SMR

Perform 1 set on each part for 30–60 seconds. Hold pressure on tender spots.

- >> adductors
- >> tensor fasciae latae
- >> quadriceps

Lengthen / Static Stretching

Perform 2 sets, holding each for 30 seconds.

- >> adductors: standing static stretch with abduction (see page 16)
- >> quads/hip flexors: static kneeling hip flexor stretch



Activate

Perform 1–2 sets of 12–20 reps with a slow tempo.

- >> intrinsic core: plank (iso-abs)
- >> hip external rotators: (press feet together) prone external rotation
- >> gluteus medius: side-lying leg raise
- >> gluteus maximus: ball bridge or floor bridge (with mini band)



Integrate

Perform up to 2 sets of 12–20 reps with a slow tempo.

- >> single-leg balance with reach (see page 16)
- >> lateral tube walking
- >> reverse lunge with opposite reach



Fitness pros can help clients avoid pain and setbacks by learning more about identifying impaired movement patterns during assessments—and addressing those patterns appropriately in exercise programming.

whether it can generate optimal tension (NASM 2018).

A muscle that is shorter or longer than ideal length will have a less-than-ideal contraction. When a muscle cannot do its job fully, then surrounding “helper” muscles pick up the slack. This is known as **synergistic dominance** (NASM 2018). Although this process helps individuals move from point A to point B, it does not guarantee that the movement is occurring in the best possible manner, so it may result in injury or cause performance to decrease.

Decreased performance can occur for a variety of reasons. One possibility is that the prime mover is not driving the movement. A second reason is that the alteration of skeletal alignment is causing a series of energy “leaks.” To do repetitive high jumps, for example, an athlete must land with feet, ankles, knees, hips, pelvis and spine in a stacked position. The stacked position loads extensible structures correctly, helping to keep the joints safe. However, if the feet excessively flatten and the femur excessively rotates and adducts (as in PDS), then the joints don’t stack, the tissues don’t load, and energy is lost. Sometimes this means an athlete can demonstrate one high jump, but with each landing and subsequent jump, the height decreases. In this case, the decline in performance is not due to fatigue but due to the inability to load properly with each jump.

Corrective Rationale for PDS

Pronation isn’t something that necessarily needs to be corrected. However, clients who excessively pronate, thereby altering the position of the entire lower body, are candidates for a PDS corrective exercise

program. The goal is to first determine what body part may be causing the dysfunction (e.g., foot, ankle or hips). The overhead squat assessment can help with this.

STEP 1: OVERHEAD SQUAT ASSESSMENT

Have the client perform the OHSA.

- If the feet are straight and parallel, not flattened or externally rotated, the client is not experiencing too much pronation and is therefore not a likely PDS candidate.
- If the lateral portion of the foot (i.e., the fifth toe and metatarsal) raises or rotates off the floor, or if the kneecap moves inside the first toe, the client is experiencing excess pronation and medial movement. In this case, performing a modified OHSA can help identify the likely source of the problem.



STEP 2: OHSA WITH HEELS ELEVATED

Next, modify the squat by elevating the heels onto a block or weight plate. Lifting the heels takes the calves out of the equation.

- If the client demonstrates a better squat in this position (i.e., the metatarsals stay on the floor and the knee does not move medial to the first toe), then it is reasonable to assume that the muscles crossing the ankle are playing a significant role in the dysfunction. (See Program 1, page 16 for corrective exercise suggestions.)
- If elevating the heels does not change the knee position during the squat, then the problem likely derives from some dysfunction in the hip complex. (See Program 2, page 17 for corrective exercise suggestions.)

PDS not only increases the chances of certain aches, pains and injuries; it can also have negative effects on overall movement and performance. Excessive pronation will misalign the entire lower body, reducing the ability of powerful muscles to maintain force production.

Putting PDS Into Practice

In summary, PDS is a common movement pattern that often results in pain and injury to the foot, ankle, knee and hip. Using the correct assessment process and designing an appropriate program can improve movement patterns in most clients. This, in turn, can help prevent the negative effects of PDS from occurring in the first place.



KYLE STULL, DHSC, MS, LMT, NASM-CPT, CES, PES, CSCS, is a faculty instructor for NASM who has taught NASM methodology since

2010. He is also the education content manager and senior master trainer for *TriggerPoint™ Performance*.

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THE IMPORTANCE OF CULTURAL AWARENESS

It's possible that some of your cues and messages, although well-intentioned, are turning participants away.

BY SARAH BUCK, PHD

As much as we try to make fitness classes challenging but fun, the group fitness studio intimidates some people. Have you ever noticed someone standing outside the door watching your class? Did you wonder why she was reluctant to join? Did she look curious or wistful, or did she seem skeptical?

Part of your job as a fitness instructor is to educate and motivate participants to live healthy lives that include sufficient physical activity. You're likely to interact with a diverse population that includes people of all shapes, sizes and demographics. Therefore, it's important to be culturally aware when leading a class.

Obesity and Body Image Among Black Women

Although obesity crosses demographic lines, there's a disproportionate prevalence in black communities. According to Ogden et al. (2015), the overall level of obesity in women—as defined by body mass index—is 38.3%. Non-Hispanic black

women, however, yield the highest rate of overweight and obesity of any racial or ethnic group, at 82.1% (Ogden et al. 2014). Further, black populations report lower rates of leisure-time aerobic activity than whites (Clarke et al. 2017).

This is cause for concern, as it relates to disease risk. Obesity-related conditions—such as cardiovascular disease, diabetes, hypertension, certain types of cancer and premature death—affect blacks at greater rates than other groups. For instance, statistics indicate that approximately 34% of the U.S. population has hypertension,

compared with 45% of black women (Benjamin et al. 2017). Yet, when weight is viewed through a *psychological* lens rather than a *physical* lens, it has been found that, despite the level of overweight/obesity among black women, they report lower levels of body dissatisfaction than their white counterparts.

Further, a wider range of body shapes (including those with BMIs classified as overweight and obese) are acceptable among black females (Hawkins 2007). Molloy and Herzberger (1998) posited that ethnic identity plays a role in the idea that black women have a larger body-size ideal than white women do. Compared with overweight white women, overweight black women report higher feelings of attractiveness, despite having higher BMIs (Chithambo & Huey 2013).

Exercise for Appearance May Be Demotivating

Even without the benefit of this research, it would be inaccurate to presume that *every* participant takes a class in order to lose weight. Other reasons may include the social aspects, the physical challenge or a desire to maintain weight. Even though appearance can certainly be a driving factor (Blackstone et al. 2017), it's important to be mindful of your motivational cues so that you minimize or avoid appearance-framed messages. If a participant is satisfied with her current body size, those messages may not be motivating, and she may feel she doesn't need to exercise.

An instructor who discusses appearance-related issues in class is potentially alienating participants. In fact, it's possible that the idea of losing weight could make a black woman feel bad about herself, as a thinner body size or shape may not jibe with her cultural ideals. Being "curvy" could be a valued cultural asset for her, and she might be concerned about "losing her curves" if she exercises.

Cultural perspectives suggest that lower levels of body dissatisfaction may be related to decreased motivation and less perceived need for weight loss, resulting

in a lower likelihood that a person will exercise. Given that different cultures have different body shape ideals, one's culture, and the degree to which one subscribes to it, may influence body dissatisfaction and, consequently, the motivation to exercise.

Among women in general, exercise is often used primarily as a way to achieve a body ideal, to fit into "pretty" clothes or to fall within an acceptable body size

range, not as a preventive health measure. Much of this mindset is gained from popular media, where the health benefits of exercise are not highlighted. Rather, exercise is seen as a means to achieve a certain appearance—for example, to reduce that "spare tire" or to look like a celebrity. Such emphasis on exercise for appearance devalues other physical (strong cardiovascular system), mental (better focus) and emotional (improved mood) benefits.

This emphasis may also be demotivating, not because the participant feels bad about herself, but because she *likes* the way she looks, thus reducing her moti-

Being "curvy" may be a valued cultural asset for her, and she might be concerned about "losing her curves" if she exercises.



Focus on Health, Not Appearance

Be more inclusive in your classes with the following tips:

- Avoid using appearance-related cues such as "get flat abs," "reduce your spare tire," "get rid of your batwings" or "have a tight booty." These may be a turnoff to someone who sees no problem in having extra weight around the middle or on the backside.
- Teach the health benefits of all forms of exercise, including cardio, strength and flexibility. Keep the focus on health rather than on losing weight, and use functional fitness examples when possible. For instance, explain how resistance training helps us carry our groceries or children or how staying flexible aids in our ability to get in and out of a car, especially as we age.
- When appropriate, disseminate information about the health risks of being overfat, such as the higher risk of developing metabolic syndrome or other diseases related to obesity (e.g., type 2 diabetes, hypertension). This is an important public health message, as these diseases can affect everyone. Unless you are a trained health professional, be sure to have handy a few research-based resources or reliable websites (e.g., those of the American Heart Association and the Centers for Disease Control and Prevention) that you can provide to interested persons.
- Be sensitive to the values of different cultures in terms of body shape. Not everyone wants to look a certain way.
- Teach with the understanding that thin does not necessarily mean healthy and that fat does not necessarily mean unhealthy. Cardiovascular health goes a long way.



The message should be about exercising for *health* rather than *appearance*.

The message is clear: Exercise motives that are based strictly on appearance or weight loss may negatively affect a person's body image (Vartanian, Wharton & Green 2012). Although many people want to look “attractive,” how that term is defined differs across cultures. Fitness instructors have a direct impact on helping people live healthy lives. Let your teaching focus be positive and health-oriented.



SARAH BUCK, PHD, is an associate professor in the Department of Secondary Education, Professional Studies and Recreation at Chicago State University and an

AFAA-certified instructor.

vation to move. If someone is supposed to exercise to look a certain way, but she already looks that way or does *not* want to look that way, then exercise may seem to be unnecessary. Importantly, cultural norms influence views not only on body ideals but also on acceptable ranges of body sizes—“acceptable” in a social sense, in this case, *not* a medical sense. Of the black women in the Hawkins, Tuff & Dudley (2006) study, 90% were satisfied with their appearance, despite half of them being designated as overweight or obese based on BMI.

With the proliferation of appearance-related messages in popular and social media, instructors may want to counteract these messages with *health-related* information to educate participants. Pankratow, Berry and McHugh (2013) found that female undergraduate students were influenced by the types of messages they received. That is, those who read health messages as part of the study were more likely to want to exercise for health-related reasons than those who read appearance-related information.

Motivating With Cultural Awareness

Participants trust and listen to you as an expert, which gives you an important

platform from which to give and receive messages. A lack of cultural awareness may result in inadvertent miscues. Focusing on losing weight to “look good” may actually insult a person who comes from a culture that values a larger body size. Instead, the message should be about exercising for *health* rather than *appearance*. Although this is true across all demographics, understanding the factors that drive motivation across cultures can help instructors be more effective. As a public health measure, efforts to address obesity must incorporate sensitivity to and awareness of cultural body ideal preferences in order to promote exercise as a prophylactic to conditions related to being overfat.

For instance, based on evidence from the National Heart, Lung, and Blood Institute, a waist size greater than 35 inches in women has been linked to an increased risk of heart disease, hypertension and type 2 diabetes. Focusing on weight loss for appearance for a woman of this size, particularly a black woman, may be construed as insensitive. The best public health approach is to stress exercise (and weight loss, if necessary) for preventive health and health maintenance reasons, rather than strictly for the purpose of pursuing a body ideal.

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KEYS TO HELPING CLIENTS ACCEPT A RATE INCREASE

Developing a prudent strategy and using savvy tactics can improve your chances of success when raising your rates.

BY JOSH ELSESSER

You've reached the moment of truth: It's time to increase your rates. But how do you get clients onboard with paying more? Increasing your rates requires a strategy for avoiding roadblocks and anticipating objections. First, you must banish your doubts about the necessity of a rate increase (learn more below and on page 25). Next, you'll need to develop tactics to sustain you through the arduous process of asking for more money.

Keep the following points in mind as you work out your strategy.

Start With a Script

Write a script of what you want to say, then practice it. I am not suggesting you recite a memorized script like a robot. Just take the time to write out exactly what you want to convey in the conversation

with your client, and vocalize it. Practicing the script will help you stay focused and avoid rambling.

Rehearse the conversation multiple times with several people in various role-playing scenarios. Inevitably, when talking to clients, you'll face a situation you have not foreseen. Role-playing the conversation, especially with different people, will

deliver a variety of perspectives and allow you to be much more prepared. Here's a sample script for reference:

"Christine, I'm raising my rates from \$75 to \$80. I haven't increased them since we started working together. This new fee will take effect on [insert date], and you are free to purchase as many sessions at the current rate until then. I enjoy having you as a client and hope you understand the change. Do you have any questions?"

Give Current Clients a Break

The last time I increased my rates, I allowed existing clients to remain at the

Why You Have to Raise Rates

Here are several scenarios in which raising your rates is a good idea:

YOU HAVE MORE TRAINING. Your skills and services are worth more if you have earned a new certification, attended a seminar or led a workshop that enables you to provide a new or improved service.

THE COST OF DOING BUSINESS HAS INCREASED. Rental fees, lease rates and equipment costs all go up over time. To stay in business and keep offering services at the level your clients are used to, you will have to pay more eventually. Increasing your rates, even just a few dollars per session, can offset these costs and allow you to maintain not only the quality of your services but also your quality of life.

YOUR SCHEDULE IS FULL. As you get to the point where you can't take on new clients, the value of your services rises—especially in the most popular time slots. Raising your rates allows you to create exclusivity in the most-requested times.

YOU WANT TO WORK LESS. Training can take its toll on your life. Working long hours, splitting schedules and staying motivated can get rough. Choosing to work fewer hours may be the solution, but you will have to raise rates to maintain your standard of living.



same rate as long as they continued to train with me. All new clients paid the new rates. This advanced my long-term goal of improving cash flow without worrying about losing clients.

Raising my rate only for new clients allowed me to say thank you to my long-standing clients for continuing to trust me with their fitness. There was a caveat, however; I made it clear they could stay at their rate as long as they continued to train without a break. If they took any time off, they would pay the new rate when they returned.

If you have clients who will not budge on price, offer to move them into a less popular time slot.

Here are a couple of other options:

- Impose a smaller increase on current clients. For instance, if you're raising rates from \$85 to \$90 per session for new clients, you could charge existing clients \$87. Make sure you tell them they're getting a better rate as a thank-you for being a valued client.
- Start existing clients' new rate 3–6 months in the future, so they have plenty of notice.



Overcoming the Roadblocks to Raising Rates

Asking your clients for more money can be downright frightening. Here's how to work up the courage and plan out your rate increase.

FACE YOUR FEAR OF LOSING CLIENTS

You have worked hard to gain your clients' trust and provide an amazing training experience. You probably think of them as friends or family. Who hits up friends and family for more money?

This anxiety can be paralyzing if you don't face it head-on. Remember, you have invested thousands of dollars and countless hours in becoming educated and honing your skills. The value of the services you provide increases every time you gain more education or learn a new skill.

CONFRONT LIMITING BELIEFS

Do not limit yourself by thinking that your clients cannot pay more. If you have overdelivered on your services—and I know you have—then asking for a few dollars more per session will not be seen as anything but an increased cost for the value you provide.

PREPARE FOR OBJECTIONS

If you have not thought through why the increase is valid, then you will be caught off-guard when a client objects. When preparing for objections, stay focused on the results your clients have seen and avoid getting into a conversation about money. Keep their attention on why they train with you and the value you have provided to their lives.

BUILD UP YOUR SELF-CONFIDENCE

You must believe the training you provide is worth the rate you are asking for. If you have even the slightest doubt, you will struggle greatly with asking for more money.

One common mistake I see a lot of trainers make, especially new ones, is projecting their limiting beliefs onto their prospective clients. For example, if you cannot afford the rates you charge for your training, then you may believe a prospect cannot pay that rate either. This belief often springs from a lack of confidence, which can prevent you from asking for the price increase altogether—even though you have earned it.

IGNORE LOW-PRICED COMPETITORS

Popular discount services like Groupon and ClassPass can make it seem difficult to justify charging more for your training. I would caution you against trying to compete with discounted services or lower-priced trainers.

You need to focus on the value you provide, not the cost. Note, however, that it is important to research what the competition is doing. Knowing what everyone else charges helps you identify a rate that is fair for what you provide. It also can help you find more ways to differentiate yourself from the competition.

Offer a New Service

If you're queasy about charging more for the same services, consider offering a new service that earns you more money per hour without asking clients for more money.

One way to do this is to offer small-group training (two to four people). Training multiple people at the same time requires more planning than one-on-one sessions, but even if you charge a lower per-person rate, you can end up making significantly more per session overall.

If you start offering small-group training, plan your rollout carefully. Make sure your clients understand how small-group sessions differ from one-on-one training and that you're able to support people of different abilities in the same session.

Be Creative With Options

If you have clients who will not budge on price, offer to move them into a less popular time slot. We all have certain hours that are harder for us to fill. Tell your rate-conscious clients they can stay at their current rate if they're willing to move to one of these hard-to-fill time slots. For example, perhaps a client works from home and it's easier for her to be flexible with her daytime hours than it would be for a client who commutes daily. You might have a difficult time filling the 10 a.m. or 2 p.m. weekday time slots, so this could be a win-win.

Crunch the Numbers

So, how much more can you make per year if you raise your rates by just \$3 per session? Take a look at the bottom line.

Let's say you work 40 sessions per week.

EXISTING RATE: \$60 per session

NEW RATE: \$63 per session

If you do 40 sessions per week, that's an extra \$120 per week, \$480 per month and approximately \$6,000 per year! What about the client? If you train her twice a week, that adds up to just \$24 more per month on her end.



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Another idea is to offer incentives for referrals. For example: Clients can avoid a price increase by bringing you a new client (or two). This serves both parties, as you may gain new clients—at your upgraded rate—while current clients will feel more valued. Your presentation is important here; you don't want to suggest the referral option as an ultimatum or a veiled threat. The point is to *incentivize* clients and present the idea as an alternative to a rate increase. You might say, "I am raising my rates modestly across the board. Would you be interested in staying at the same rate while referring a friend or family member who might be interested in working with me?"

Remember the Value of Strategy

The longer you stay in business, the greater the imperative to raise rates. Whether you're recouping the cost of additional

education, offsetting cost-of-living increases or investing in expanding your business, sometimes you have to charge more. Admittedly, the prospect can be equally rewarding and terrifying.

Having a strategy that helps you add more value to your services and avoid potential pitfalls is essential to successfully increasing training rates. Create your plan, practice your approach and be ready for the unexpected.



JOSH ELSEESSER, based in San Clemente, California, is a fitness industry veteran with more than 20 years of experience developing and coaching new and existing trainers and helping them build successful fitness businesses. He is the co-founder of The FitBiz Roadmap, as well as the head of Fitness & Nutrition for COACHD.



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— **Mike Confer, MROC Training, San Marcos, CA**



"I can't even begin to describe any of the success that I've had with NPE ... going from \$10,000 to \$200,000 in less than a year is just incredible."
— **Brady Johnson, Encompass Fitness, Estevan, SK**



"A big thank you to the NPE coaches who trained my staff in sales strategies that helped us get more clients to commit to their goals. I have 3 staff members trained in consultations and today my trainer closed his first-ever consult for \$420 a month (3 months) + \$140 enrollment fee + auto-renewal. Boom!"
— **Jake Thompson, Axis Training Studio, Newberry, FL**



"I just raised my rates by almost 60% (which I was honestly petrified to do), but as they say at NPE, 'Follow the dang instructions.' I'm happy to report that I have NOT LOST ANY clients and in fact have gained 8 new clients at the new price! So step out of your comfort zone!"
— **Rebecca LeSaffre, Everlasting-Fitness, Stoneham, MA**



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BEHAVIOR
CHANGE
SCIENCE:

HELP CLIENTS STICK WITH THEIR PROGRAM

This overview of research on current theories, models and techniques will shed light on the secrets to lasting success.

BY MARIA LUQUE, PHD

Stephanie is your newest fitness client. She's 42 years old and works 50 hours a week as a certified public accountant. She would like to quit smoking, give up junk food and get active—all the foundations of a healthy lifestyle.

Fast-forward 6 months. Stephanie is still smoking and still lurching on cheeseburgers. She keeps skipping workouts. Why can't she exercise regularly or stick to a healthy eating plan? Stephanie may not even know why herself. If that's the case, then how can you help her behave differently? There's no shortage of health education campaigns encouraging her to change her ways. The challenge is to help her use that education to make lasting behavior changes.

Influencing Stephanie's health behavior is much more critical than creating exercise routines, reviewing food choices, monitoring progress and being supportive. To succeed in helping Stephanie adopt and maintain a healthier lifestyle, you need to understand the mechanisms—the how and why—and the theories behind behavior change science.

THE ROOTS OF BEHAVIOR CHANGE

Where do you start? Research encourages adopting a theoretical base for behavior change interventions because that will work better than a random, theory-free approach (St. Quinton 2017). When you incorporate the elements of a well-studied theory, you can identify the key factors and processes that affect people's ability to adopt physical activity and wellness strategies (Hagger & Chatzisarantis 2014).

A lot of research has delved deeply into behavior change to show why different

Health Belief Model: 5 Concepts

CONCEPT	EXPLANATION
perceived susceptibility	client's beliefs regarding the risks of a bad outcome (e.g., developing osteoporosis)
perceived severity	client's beliefs regarding the seriousness of the consequences (e.g., breaking a hip due to osteoporosis)
perceived benefits	client's beliefs in the effectiveness of a course of action (e.g., preventing/slowing osteoporosis by engaging in physical activity)
perceived barriers	client's beliefs regarding personal obstacles/costs that could limit adherence (e.g., lack of time, resources, education)
cues to action	information and strategies provided to the client (e.g., how-to guides and reminders)

interventions work for one person but not another. Selecting the right theoretical base can be a crucial step in developing successful fitness and lifestyle programming. But this is a daunting task, owing to the sheer number of theories. This article will help you navigate some of the research on behavior change science and show you ways to apply some of the most important theories.

FOUR PROVEN PATHS TO BEHAVIOR CHANGE

At least 83 formal theories of behavior change have been developed, and more emerge all the time (Teixeira & Marques 2017). That seems like a sky-high number, but you don't need to know them all. The most thoroughly tested strategies are the Health Belief Model, Social Cognitive Theory, the Theory of Planned Behavior and the Transtheoretical Model.

HEALTH BELIEF MODEL

The Health Belief Model focuses on how Stephanie's attitudes and beliefs explain and predict her behaviors. The theory behind the HBM is that Stephanie's desire to prevent illness and her belief that a specific action can achieve that goal will motivate her to implement healthy behavior changes. One challenge with the HBM is that people who do not feel susceptible to a disease/condition are less likely to want to change their behaviors.

The HBM has been applied in the development of behavior change for 40 years, amassing a large body of empirical evidence of its success. A literature review found that 78% of studies exploring the HBM reported significant improvements in adherence (Jones, Smith & Llewellyn 2014).

The HBM has five core concepts: perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues to action (see "Health Belief Model: 5 Concepts," above). The strongest predictors of behavior are perceived benefits and perceived barriers (Jones, Smith & Llewellyn 2014). One of the biggest drawbacks of the HBM is that it does not weigh the economic, environmental or socio-structural factors affecting change.

Behavior Change Coaching and Scope of Practice

It's important for fitness professionals to stay within their scope of practice. Coaching involves a set of skills related to, but different from, those used in counseling, therapy and consulting. Fitness pros do not analyze a client's childhood, for example, but rather focus on the present. How might the client's current situation be improved? What are some possible solutions? The main goal is for the client to "graduate" and continue on the path established through the partnership.



It is important to accept that the client is responsible for his or her own changes and cannot be forced.

The Basics of Cognitive Behavioral Therapy

Cognitive Behavioral Therapy is a type of talk therapy based on the idea that our thoughts play a central role in our beliefs, feelings and behaviors. This type of therapy aims to improve people's ability to respond to challenging, stressful situations and to change the way they think, feel and act. CBT makes people aware of inaccurate or negative thinking, giving them a clear view of challenging situations, which helps them respond more effectively (Mayo Clinic 2018).

CBT includes many types of treatments, such as mindfulness-based cognitive therapy and metacognitive therapy (McMain et al. 2015). It has typically been applied in the treatment of mental health issues such as depression, anxiety and eating disorders. It has also been used to manage stress and pain (McMain et al. 2015).

Remember that therapy is the work of people with specific clinical training, licensing and professional experience. Thus, it's outside the scope of a fitness professional's work. While you cannot conduct CBT with clients, you can encourage them to explore guided self-help based on the principles of CBT.

THE MULTIMODAL APPROACH

Some people are better off using more than one mode of behavior change (Teixeira & Marques 2017). That's the principle espoused in the multimodal approach, which has been applied to many areas, including health and life coaching. Psychologist Arnold Lazarus pioneered this approach in the 1970s. Grounded in social and cognitive theories, his theory holds that no single system provides a full understanding of human development or behavior.

The multimodal approach focuses on seven interactive dimensions, represented by the acronym BASIC I.D.: behavior, affect,

sensations, images, cognitions, interpersonal relationships, and drugs/biology. Several factors need to be considered when using this method: "What intervention, by whom, is most effective for this individual with that specific problem and under which set of circumstances?" (Palmer 2012).

MOTIVATIONAL INTERVIEWING

Motivational interviewing is a collaborative counseling method that has succeeded in obesity and diabetes interventions. Efficacy studies have shown that people attending MI-based sessions in addition to complying with their regular interventions improved their adherence to physical activity (Christie & Channon 2014; Armstrong et al. 2013).

With MI, the coach is a facilitator rather than an authoritative expert. The focus is on evoking and honoring the client's autonomy (Hall, Gibbie & Lubman 2012). It is important to accept that the client is responsible for his or her own changes and cannot be forced.

MI has four principles under the acronym RULE: Resist the righting reflex (wanting to "make things right" when we see a problem), understand the client's motivations, listen with empathy, and empower the client.

Thus, the coach focuses on what clients can do rather than telling them to do something. Helping clients connect what they care about with the motivation for change can be helpful. For example, an older client may want to be able to play with his or her grandchildren and see them grow up.

Basic MI skills include asking open-ended questions, making affirmations, using reflections and summarizing.



A Quick Look at Motivational Interviewing

This technique identifies how important the change is and the discrepancy between clients' current situation and where they want to be. Highlighting this discrepancy is at the core of motivating people to change.

STEP 1: USE "CHANGE TALK"

Sample questions: On a scale from zero to 10, how important is it for you to lose weight? Where would you be on this scale? Why are you at ____ and not zero? What would it take for you to go from ____ to [a higher number]?

STEP 2: BUILD CONFIDENCE IN THE ABILITY TO CHANGE

Sample questions: On a scale from zero to 10, how confident are you that you can increase the number of days you exercise? Where would you be on this scale? Why are you at ____ and not 10? What would it take for you to go from ____ to [a higher number]?

STEP 3: CHOOSE A CHANGE PLAN TOGETHER

Sample summary statement: It sounds like you don't want things to stay the same. We need to answer these questions:

- What do you think you might do?
- What changes were you thinking about making?
- Where do we go from here?
- What do you want to do at this point?

Source: Hall, Gibbie & Lubman 2012.

SOCIAL COGNITIVE THEORY

Social Cognitive Theory is based on the belief that behavior results from continuous interactions among environment, individual and behavior. It's built on the idea that when Stephanie understands health risks and benefits, the precondition for change exists within her. If she doesn't know how her lifestyle habits affect her health, then she doesn't have much reason to endure the challenges of giving up her favorite bad habits (Bandura 2004).

SCT proposes that behavior is a deliberate and conscious process for seeking positive outcomes and avoiding negative ones. It notes that while environment can alter people's behavior, people can alter their environments to achieve desired outcomes (Lee et al. 2018). SCT identifies four determinants of behavior: self-efficacy, outcome expectations, goals and socio-structural factors (see Figure 1).

THEORY OF PLANNED BEHAVIOR

The Theory of Planned Behavior is one of the most widely used and well-researched

theories applied to exercise. Several literature reviews show its efficacy in predicting and explaining physical activity. The TPB combines clients' expectations about performing a behavior with the value that clients attach to that behavior (Tenenbaum & Eklund 2014) (see Figure 2, page 34).

The TPB defines four main psychological factors affecting behavior change: attitude (positive or negative evaluation of performing a behavior), intention (willingness), subjective norms (perceived social pressure) and perceived behavioral control (perceived ease or difficulty).

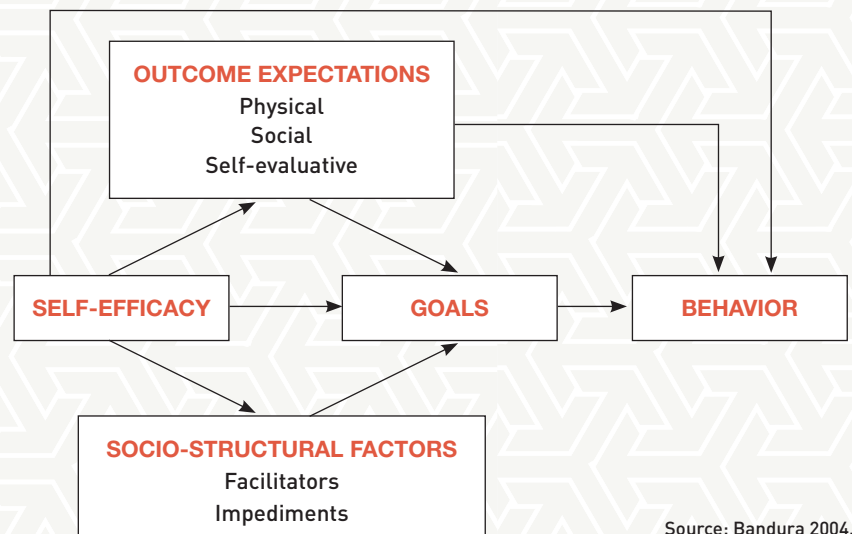
One of the biggest drawbacks of the TPB is the consistently imperfect link between intentions and actual behavior change. As Stephanie's example shows, many people have good intentions but fail to carry them out (Hagger & Chatzisarantis 2014).

TRANSTHEORETICAL MODEL

The Transtheoretical Model is based on empirical evidence suggesting that people go

Figure 1: Social Cognitive Theory

SCT focuses on structural paths of influence. For the client, self-efficacy influences health habits directly while affecting goals, expectations and perceptions of social structures that enable or impede health-promoting behavior.



Source: Bandura 2004.

through five stages of readiness to change. To help Stephanie work toward success, you will need to understand when and how she is likely to change her behavior. That will mean tailoring exercise programs to the stage she's in now.

How do you identify that stage? The TTM recognizes five stages: precontemplation, contemplation, preparation, action and maintenance (see “Transtheoretical Model: 5 Stages,” right).

Progression through these stages is cyclical, not linear. Stephanie may move back and forth depending on the stimuli and barriers she faces. Indeed, relapse is an important part of the process. You can use relapses to teach Stephanie how to stay in the maintenance phase (Hall, Gibbie & Lubman 2012). For example, you can explain that cyclical behavior is normal and expected and that she can always pick up where she left off. This dynamic, rather than all-or-nothing, view of behavior change is one of the biggest strengths of the TTM (Marshall & Biddle 2001).

CHOOSING THE RIGHT STRATEGY

Each theory has strengths and drawbacks because of its particular focus on constructs, stages and phases. Thus, you have to decide which focus is appropriate for each client's specific goals.

For example, the Health Belief Model does not account for environmental and social-cultural factors, while Social Cognitive Theory relies heavily on continuous interactions between people and their environments. Thus, if a client's lack of physical activity is heavily influenced by his or her peers, work or family, SCT might be the better approach.

Choose an approach based on the client's desired outcomes and circumstances. Start by identifying the problem, goal and units of practice. Don't select a theory only because it's intriguing, familiar or popular. One strategic way to select the right theory is to use “a logic model of the problem and work backward to identify potential solutions” (Green & Kreuter 2005) (see Figure 3, page 34).

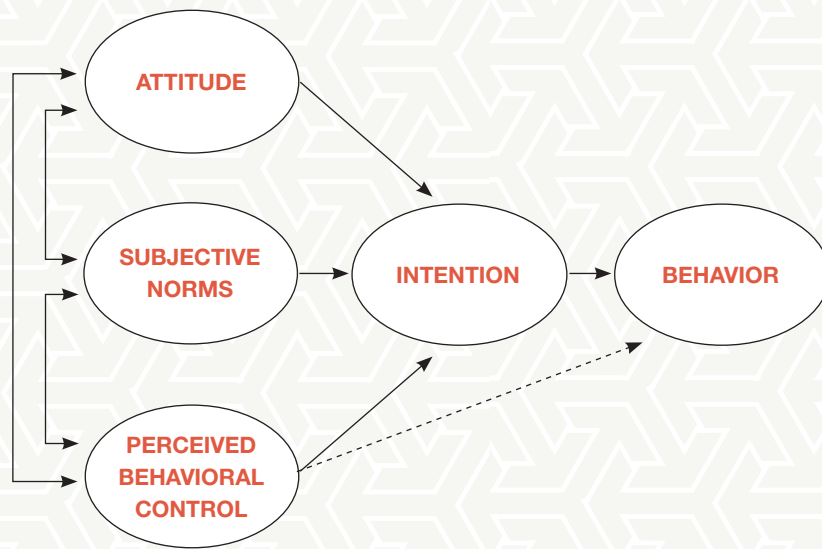
Transtheoretical Model: 5 Stages

STAGE	EXPLANATION
precontemplation	Client does not intend to change behavior in the next 6 months.
contemplation	Client wants to change behavior in the next 6 months but does not act.
preparation	Client intends to change behavior within 30 days.
action	Client has changed from unhealthy to healthy behavior within the past 30 days.
maintenance	Client maintains behavior for more than 6 months.



Figure 2: Theory of Planned Behavior

The TPB is a proven performer when applied to physical activity.



BEHAVIOR CHANGE TECHNIQUES

While behavior change models form the conceptual foundation for exercise programs, behavior change techniques are the “active ingredients” (Teixeira & Marques 2017). They represent the “smallest identifiable components that in themselves have the potential to change behavior” (Michie et al. 2018).

The major behavior change techniques are contingency contracting, premaking, stimulus control, modeling and relaxation training (Kirschenbaum 2014).

CONTINGENCY CONTRACTING. This technique includes “explicit agreements specifying expectations, plans and/or contingencies for the behavior(s) to be changed” (Kirschenbaum 2014).

Contingency contracting has four stages: Establish specific and clear target behaviors

(such as dietary activities and workout quantity and length), monitor progress, deliver consequences, and maximize generalization (establish reinforcing factors such as joining a healthy-eating group or getting an exercise partner).

PREMACKING. This involves reinforcing a desired behavior by pairing it with a likely behavior. For example, Stephanie could organize a football-watching party at home, where she could serve healthy snacks, rather than go to a sports bar that’s serving fried appetizers and beer.

STIMULUS CONTROL. Evidence shows that impulsive automatic factors drive many behaviors (Hagger & Chatzisarantis 2014), and controlling stimuli aims to reduce impulsiveness. For instance, Stephanie could take healthy food to work so it would be easier to avoid the temptation of going out for cheeseburgers at lunch or grabbing free doughnuts in the break room.

MODELING. With modeling, Stephanie would learn by seeing somebody else doing things she wants to do. Two types of modeling help people change: behavioral coaching (e.g., explaining and demonstrating proper execution of an exercise, having clients imitate it, and correcting their form) and assertiveness training (e.g., learning to fend off peer pressure to eat foods that don’t fit the desired plan).

RELAXATION TRAINING. This training teaches clients proven methods to help them find a state of relaxation. Examples include progressive muscle relaxation, cued relaxation and deep breathing.

HELPING CLIENTS SURMOUNT BEHAVIORAL OBSTACLES

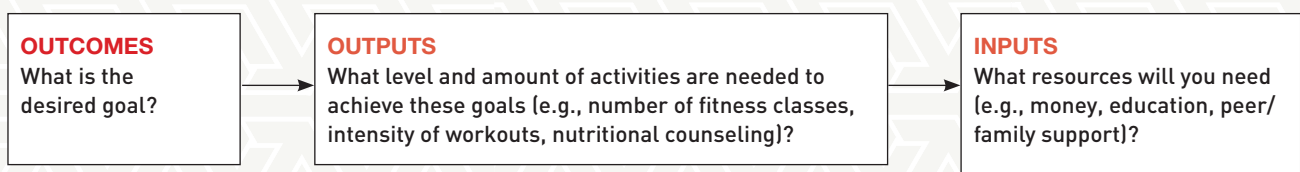
Knowing the barriers to physical activity, healthy eating and other healthy behaviors is crucial to helping clients change their behavior for the long haul. There are four primary categories of barriers:

- **environmental**—climate, space, equipment
- **social**—work, family commitments, lack of social support
- **behavioral**—concerns about appearance, lack of interest
- **physical**—chronic fatigue, generalized pain, body limitations (Boscatto, Duarte & Gomes 2011)

Keep in mind that clients often confront multiple barriers. For instance, most life-threatening conditions in the U.S. are influenced by several risk factors, including use of tobacco and alcohol, physical inactivity, and poor nutrition. Researchers found that 92% of people who smoked had at least one additional risky behavior, and 9 out of 10 overweight women had at least two eating

Figure 3: Logic Model for Program Planning

Asking these questions can help you decide which behavior change theory to adopt.



Choose an approach based on the client's desired outcomes and circumstances. Don't select a theory only because it's intriguing, familiar or popular.

or activity risk behaviors (Prochaska, Spring & Nigg 2008).

Given Stephanie's habits, you know she needs help dealing with multiple behaviors. That means "bundling" services such as workouts and basic nutrition guidance into one program. That way, she can achieve more of her immediate goals (weight loss, strength development, etc.) while you promote the maintenance of these behaviors well into the future.

SUMMARY: PUTTING THEORY INTO PRACTICE

How often have we seen clients abandon their workouts after reaching their weight loss goals? That's the behavior we want to turn around. Employing sound behavior change theories is central to making that happen.

All of the behavior change science models discussed in this article have been successfully applied to physical activity and healthy eating. Thus, you can apply any of them with your clients.

Avoid the urge to depend on personal preference and familiarity when choosing a behavior change theory. Using a logic model (see Figure 3) can help you choose wisely.

Behavior change techniques require careful selection to match clients' goals. One client might benefit from contingency contracting, while another might not respond well to having a "contract" but could respond well to relaxation training. As clients confront the stages and barriers of behavior change, you'll have to continually adjust your techniques.

So, yes, you can help Stephanie succeed. Now that you have a greater understanding of the theoretical underpinnings of behavior



Technologies to Help Behavior Change

Technology can play a vital role in behavior change success. Posts on social media sites and mobile apps can also be crucial accountability tools that help clients stay on track and avoid the temptation to stray.

SOCIAL MEDIA

Research shows that social networking sites such as Facebook, Instagram and health-specific platforms can help people change their behaviors. Moreover, studies researching social networking and cognitive theory have shown that those who use a social media site to support health-related changes, such as weight loss and increased physical activity, had a higher probability of successful behavioral change (Laranjo et al. 2015).

For fitness professionals, there are several advantages to social media sites, including their low cost and the ability to customize programs to individual clients. We also know that delivering behavior change techniques over a variety of modes increases their effect on health-related behaviors (Teixeira & Marques 2017). What's more, social media sites use clients' existing social networks, further encouraging your clients to integrate behavior change into their daily lives (Laranjo et al. 2015).

MOBILE WELLNESS APPS

The most common barriers to physical activity and healthy eating are lack of time and lack of knowledge. Many clients feel overwhelmed by the prospect of preparing healthy food, reading nutrition labels, tracking workouts and counting calories. Fortunately, mobile apps have sprung up to help clients adapt.

Apps can educate clients about diets and help clients identify healthy choices when dining out. Apps can also track food intake and exercise output and find locations for seasonal produce (Lowe, Fraser & Souza-Monteiro 2015).

Knowing about these apps—and how to use them—can help you show clients how to overcome their barriers to change. Another strength of apps is their ability to keep you connected with clients, send them cues to action and help them find communities that provide additional support. Recent research shows that increasing numbers of people are using online virtual health communities because they provide crucial emotional support (Lowe, Fraser & Souza-Monteiro 2015).



Knowing the barriers to physical activity, healthy eating and other healthy behaviors is crucial to helping clients change their behavior for the long haul.

change science, you will be better able to help all of your clients effectively switch to new, healthy behaviors and maintain them for months and years to come.



MARIA LUQUE, PHD, is a health educator, fitness expert, fitness studio general manager, presenter and writer. She holds graduate and post-graduate degrees in health sciences and teaches at the College of Health and Human Services at Trident University International.

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Risks of Resisting Change

People who can't change their health behaviors face a raft of well-known risks:

- Every year, poor diet and lack of exercise are linked to 300,000 U.S. deaths (CDC 2017).
- About 42% of cancer cases are linked to modifiable health behaviors (ACS 2017).
- Smoking is linked to 1,300 deaths every day (CDC 2018), while obesity affects 39.8% of adults and 18.5% of children in the United States (Hales et al. 2017).



CEU QUIZ: BEHAVIOR CHANGE SCIENCE: Help Clients Stick With Their Program

LEARNING OUTCOMES: After reading this article, you will be able to:

- Differentiate among effective behavior change models and theories.
- Identify effective behavior change techniques and therapies.
- Understand the steps to successful motivational interviewing.
- Understand the role of technology in behavior change.

1. What percent of cancer cases are estimated to be linked to modifiable behaviors?

- 14
- 11
- 32
- 42

2. Which of these is most likely to be outside the scope of a fitness professional's practice?

- Theory of Planned Behavior
- Cognitive Behavioral Therapy
- contingency contracting
- relaxation training

3. Which of these is based on the theory that people move through stages of readiness?

- Transtheoretical Model
- Health Belief Model
- Social Cognitive Theory
- Theory of Planned Behavior

4. A person who is ready to act within the next 6 months but does not take action is in which phase of the TTM?

- precontemplation
- action
- contemplation
- preparation

5. How many core concepts are in the Health Belief Model?

- 3
- 7
- 5
- 4

6. What creates the precondition for change, according to Social Cognitive Theory?

- self-efficacy
- identifying perceived barriers
- understanding health risks and benefits
- social support

7. Which of the following is/are one of the strongest predictors of behavior in the Theory of Planned Behavior?

- subjective norm
- attitude
- intention
- perceived barriers

8. Which of these types of barriers can be an obstacle to behavior change?

- environmental
- behavioral
- physical
- all of the above

9. Which phase of the Health Belief Model addresses clients' beliefs about the serious consequences of their behavior?

- perceived susceptibility
- perceived barriers
- perceived severity
- self-efficacy

10. The multimodal approach pioneered by Arnold Lazarus is based on the idea that _____.

- clients may need more than one type of behavior change mode
- trainers should know how to implement all 83 formal behavior change theories
- clients should progress through multiple stages of change in a precise sequence
- change results from asking many kinds of questions

11. Motivational interviewing focuses on honoring the client's _____.

- privacy
- resistance
- autonomy
- self-efficacy

12. Social media and mobile applications are ideal for providing _____.

- accountability
- therapeutic support
- relapse prevention
- theoretical principles

13. How many stages does contingency contracting have?

- 4
- 2
- 6
- 8

14. Demonstrating the proper execution of a behavior is part of which behavior change technique?

- premacking
- contingency contracting
- relaxation training
- modeling

15. Which of these is one of the most widely used and well-researched theories applied to exercise?

- Social Cognitive Theory
- Theory of Planned Behavior
- Transtheoretical Model
- none of the above

To earn 2 AFAA/0.2 NASM CEUs, purchase the CEU quiz (\$35) and successfully complete it online at afaa.com.




One Change
That
Changed

Everything

Alex Isaly left his corporate career and took a big chance on group exercise programming. He's on a quest to redefine group fitness for instructors and personal trainers alike.

By April Durrett



Alex Isaly believes in the power of one big change. A decade ago, he became a full-time fitness instructor, walking away from a career that had made him feel like a cog in a wheel. That change transformed his life. Today, he's a certified nutritionist, an AFAA-certified group exercise instructor, a personal trainer and an endurance athlete. His presentations and keynotes are staples of international fitness industry conferences. He writes for national magazines and makes guest appearances on network TV shows. He's a lead trainer for online digital platforms and a consultant to top companies in the fitness industry.

"Making a change toward a healthy life isn't easy, but it can make all the difference," Isaly says. "The trick is letting nothing get in the way of that goal."

What Drove His Big Change

Athletic pursuits have always been a part of Isaly's life. He grew up in Pittsburgh, where he craved competitive sports—including baseball, swimming and football—all through high school. His love of exercise, competition and training continued through his college years.

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In 1994, he graduated from Allegheny College, in Meadville, Pennsylvania, and then went to work for a large environmental consulting firm in Orange County, California. He quickly adapted to Southern California's healthy lifestyle.

Over the next decade and a half, however, his job in sales and project management pushed everything off track.

"I had become a corporate America slave," he says. "I rarely spent time with my family or had time for myself. I was either living in an office, traveling the country or commuting 4 hours every day—and I was working 60–80 hours a week.

"I was burned out. I knew if I didn't change everything, I would lose the person I was inside and was never going to live the dreams I had for my life and my family."

The First Big Change

In 2009, Isaly quit his job to become a full-time fitness professional. A decade later, he could not be happier. But how nervous was he about switching careers back then? "On a scale of 1–10, it was an 11," Isaly remembers. "Professionally and mentally, I wasn't in a good place. I was so frustrated with my job that I was

always in a bad mood, which impacted my family. It wasn't fair to them."

For all the demands of his work, he had found time to start competing in triathlons in the late 1990s. A few years later, he'd rekindled an old passion for bicycling. Then he started leading indoor cycling classes in his limited free time. "This gave me an inside look at the potential of what the fitness industry had to offer," he recalls. The challenge: "I knew the only way I could help influence people was to give 100% of my time."

A Guy in Group Ex

Isaly's big change propelled him into teaching group fitness classes, where most clients and instructors tend to be women. That, too, was a significant shift. "I have to admit, as a male instructor it was intimidating in the beginning," he says. "When I launched my first national group fitness program, seasoned colleagues actually told me that I should just give up and go back to my old job because I didn't have what it takes to be a leader in the industry."

Fortunately, some mentors encouraged him to nurture his teaching talent. One of them was award-winning fitness professional and author Jay Blahnik. "Alex was

A Successful Athletic-Based Group Program

Want to create an effective athletic-based training program? Consider these tips from Isaly:

- Don't overcomplicate the movements and structure of the class. In most cases, keep it simple and stick to the basics.
- Incorporate change (vary effort, load and range of motion; include multiplanar movements).
- Create a sense of community/team effort.
- Be yourself and deliver an authentic experience.
- Make the class feel and look athletic.



PHOTOS BY TODD VITTI

clearly meant to be an educator and motivator,” Blahnik says. “[Whether he’s working with] beginners who are just discovering the joy of movement [or] elite athletes who are trying to shave seconds off their personal records, he knows how to tailor his messaging and training principles to inspire success. When you watch him teaching a class, you can see he is truly following his life’s purpose.”

Isaly thinks more men should follow his example and become group exercise instructors. “If I can do it, anybody can,” he says. “It just takes having the confidence to get out of your comfort zone, be open to both positive and negative feedback, and be able to adapt and change.”

Redefining Group Ex

Why did Isaly prefer group fitness over personal training? “I thrived on the competitive spirit and sense of community within those classes,” he says. “I wanted to be a part of something that could foster that communal environment and challenge performance levels.”

When he started, most group programs were choreographed to the beat of music. Again, Isaly embraced a big change: He began developing programs that were

Diversification Is the Name of Isaly’s Game

When Alex Isaly entered the fitness industry, a mentor told him, “Don’t become a one-dimensional guy.” He’s taken that advice to heart, as his 10-year string of accomplishments shows:

- national signature brand lead (co-creator of Spartan® Strong™, WTRX™ and Kettlebell Kombine™) for Life Time® Fitness
- creator/lead trainer for the KettleWorX® at-home kettlebell workout series
- master trainer/content developer for Endless Pools®
- lead trainer for BTFit, a Brazilian fitness app
- lead trainer for Radius with NBC Sports Network
- contributor to more than 20 national fitness publications
- appearances on the major TV networks
- 2018 EMPOWER Presenter of the Year
- consultant for industry-leading companies, Olympians and professional athletes

“You never know what doors are going to open,” Isaly says. “You can take all of these experiences and find a common thread, which is to deliver a product or message that can help change someone’s life.”

We all have chapters in our life, he adds. “At some point, one will close, and another will open. Having the opportunity to contribute on so many levels can take your career to another level.”



“I believe we all have this inner-athlete mentality that we so badly want to bring out. I also wanted classes to encompass a variety of athletic training regimens in one class, such as a combination of strength, cardio, plyometrics, agility and speed.”

—Alex Isaly



not performed to the beat. “My goal back in 2009, like today, was to bring a sport-minded athletic experience to group fitness,” he says.

While rare at the time, that mindset made the most sense to him. “I believe we all have this inner-athlete mentality that we so badly want to bring out,” he says. “I also wanted classes to encompass a variety of athletic training regimens in one class, such as a combination of strength, cardio, plyometrics, agility and speed.”

Why would this type of program work? “I always consider two perspectives when creating programs—the fitness pro’s and the participant’s,” he explains. Choreographed classes require fitness pros to memorize a lot of content. “I want to offer programs that allow instructors to connect more with their participants and not to get so wrapped up in the choreography.”

As for participants, he’s trying to appeal to those who shy away from choreography.

“Participants can slow down, speed up, shorten or lengthen range of motion, or stop and take a break,” he says. He notes that athlete-centered classes can also

help fitness facilities drive up membership by training people for sporting events like 5K runs, obstacle course races and triathlons.

Personal Trainers in Group Ex

Isaly wants personal trainers to see the value of group exercise. “The skill sets and education of a personal trainer are no different from those of a group fitness instructor. The bigger challenge for personal trainers is having to work with more people at the same time. Trainers have a great eye for proper form, based on their experience working one-on-one, and they can bring that to a group training workout.”

Isaly would like to see more melding of individual and group training.

“I think group fitness needs more trainer engagement and support, and personal training needs more from group fitness. Typically, you see two departments cohabiting under one roof, but they are disconnected.” Gyms and clubs should bridge the gap to help each department benefit from the other, he says.

ISALY LOOKS FOR OPPORTUNITIES AND DOESN'T DWELL ON DISAPPOINTMENTS. “YOU NEVER KNOW WHAT DOORS ARE GOING TO OPEN,” HE SAYS.



The AFAA 5 Questions™

When designing an athletic-based group program, the AFAA 5 Questions still apply:

1. What is the purpose of the exercise?
2. Are you doing that effectively?
3. Does the exercise create any safety concerns?
4. Can you maintain proper alignment and form for the duration of the exercise?
5. For whom is the exercise appropriate or inappropriate?

Disrupting the Industry

Isaly's big-change approach to group exercise reflects his drive to disrupt the fitness industry. That means radically changing programs, products or strategies by introducing new ones that create new markets. Disrupters don't settle for adjusting to change. They want to *be* the change.

"I'm always looking for vehicles that disrupt," he says. "Programs that disrupt what's already out there can change what's stale and stagnant."

One of Isaly's frequent collaborators is international fitness expert and innovator Linda Shelton, author, video producer and director, and a 2007 inductee into the National Fitness Hall of Fame. In the past 8 years, she and Isaly have worked together to create presentations and write educational materials, voice-overs and scripts. "We are like-minded in that we both thrive on exploring uncharted territory, creating new dimensions of training to bring to the fitness market," she says.

Cycling: His Happy Place

One thing about Isaly hasn't changed: his affection for cycling. "My Zen is when I'm on my bike, riding outside in the open air," he says. "I used to cruise around my neighborhood on a bike when I was a kid. I didn't know much about the sport of road racing until I started competing in triathlons in 1998. The physical training kicks my butt, and I experience a wonderful peace of mind."

His love for riding evolved into a passion for endurance events. He has competed in races like HooDoo 500, a 534-mile nonstop solo bike race in Southern Utah. More recently, he finished the Race Across America (RAAM), racing his bike 3,080 miles—from coast to coast—on a four-man team, finishing in just 6 days.

"The competitive component of racing gives me a sense of purpose for my training," he says. "I like to see how far I can push myself mentally and physically. Plus, I'm part of a community in racing, which I enjoy."

Opportunities for Personal Trainers in Group Exercise

Group fitness can create several opportunities for a certified personal trainer.

For example:

- providing another source for gaining long-term one-on-one clients
- creating additional revenue streams
- being a platform to help more fitness enthusiasts on a bigger scale
- improving skill sets for training a wide variety of clients with different goals and objectives

To find out more about expanding your training skills into group fitness, check out the AFAA Group Fitness Instructor courses at afaa.com/courses/group-ex.



"I think group fitness needs more trainer engagement and support, and personal training needs more from group fitness. Typically, you see two departments cohabiting under one roof, but they are disconnected."

—Alex Isaly

ISALY TAKES AN INCLUSIVE APPROACH TO CHOREOGRAPHY AND OFFERS MANY OPTIONS FOR A RANGE OF PARTICIPANT ABILITIES.

“My Zen is when I’m on my bike, riding outside in the open air.”

—Alex Isaly



Isaly merges a passion for team competition with his group exercise experience to help fellow athletes. “I set up training classes for bigger events like competitive races,” he says. “I knew others were looking for programs that would help them prepare for a marathon or triathlon. People want to be a part of something special with others who have common interests. Group fitness provides that platform.”

Building Professional Relationships

Throughout his career, Isaly has been a resource for fitness companies, associations and publications. How did that happen?

“I found that this industry is very relationship-driven,” he says. “A mentor told me that opportunities will come through referrals and genuine relationships. He also told me to work with integrity, be respectful,

stay humble, show gratitude in everything I do and always be learning. I’ve followed these suggestions.”

It all comes down to teamwork. “I believe in the power and strength of a team,” he says. “The team is where you will get the strength and knowledge to go beyond what was previously thought [possible].”

“I’m just excited to be an influencer and on the forefront of creating fitness platforms that will bring fitness professionals and enthusiasts together, provide that groundwork for training for the next big thing, and [let people] push each other to the finish line.”

What’s the key for other fitness pros looking to follow a similar path? “Begin by building genuine relationships with other leaders and companies in different areas of fitness and wellness,” Isaly advises. “Establish yourself as someone who is ‘multidimensional’ and can bring value from personal experience.”



Family Matters

“Family is the foundation and reason for everything I do,” says Alex Isaly. “If I didn’t have my family’s support in taking risks and pursuing opportunities, everything that I have accomplished over the last 10 years would never have happened. They have made several sacrifices, which have not been easy, but they are fully supportive of me not only pursuing my passion but making a difference. I consider this a blessing, and it motivates me to work hard. Plus, it’s important for me to demonstrate to my daughters that you can go after your dreams and accomplish things [even if] people may tell you otherwise.”

When asked about his crazy schedule jam-packed with flights, productions and interviews, he says that his wife makes it all possible. “My wife, Michele (seen here with daughters Abigail and Madelyn), provides an amazing support system for me and does a great job of keeping everything together. I am so grateful for her. When I am not working on my business projects, I can be found spending time with my family, on my bike or reading a good book.”

PHOTO BY MICHELLE ADAMS/MODERN PHOTOGRAPHY

An Attitude of Gratitude

“When I first met Alex, I was struck by his sincerity and honesty,” says Michael Kane, senior director of original programming and development for NBC Sports Group. “He is dedicated, hardworking and passionate about his family, his faith and the fitness space,” Kane says. “He has all this knowledge and is eager to share it. Alex is the type of person you root for to succeed.”

Isaly feels blessed to be helping others. “My philosophy is that everyone is capable of overcoming life’s obstacles and reaching personal greatness,” he says. “This applies to both fitness and life. Nothing is going to be perfect. You’ll always be faced with challenges. What is important is having a mindset that you *can* go through these obstacles and succeed.”

Blahnik admires how Isaly approaches situations from the perspective of a teacher, a coach and a student.

“He knows that in every situation there is always something to learn that will make him better at his work, and he carefully looks for opportunities for personal growth, even when he is leading the effort or the team,” Blahnik says. “He has an extraordinary ability to lift up everyone around him.”

And it all started when he made up his mind to pursue that one big change.



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APRIL DURRETT is an award-winning freelance writer and editor who has covered the health and fitness industry for 30 years. She is based in Sunnyvale, California.

A man in a grey hoodie and beanie is performing a pull-up on a metal bar in a snowy outdoor gym setting. The background is a blurred winter scene with snow on the ground and buildings. The text is overlaid on the upper left portion of the image.

*The Forecast:
A Wintry Mix of
Fitness Programming*



Don't let clients give cold-weather workouts the cold shoulder. This overview explores the benefits of training in the cold, along with some physiological challenges and special precautions.

BY MIKE BRACKO, EDD

There are many mysterious and wonderful things about exercising in cold weather. Many cold-loving athletes relish the fact that nothing can stop them from training outside. They seem to say, "I can beat Mother Nature." They welcome the challenge of finding the perfectly balanced layering system of clothes (not too hot, not too cold, just right!), and they smile at the wind on their face and the "crunch" of snow under their running shoes. Of course, others think walking from car to gym is enough outdoor activity during chilly winter weather!

Wherever you and your clients fall on this spectrum, science favors stepping outside, since cold-weather workouts can deliver unique benefits. However, researchers have also identified a number of concerns and cautions to keep in mind. Here is a summary of the evidence, along with specific ways to ensure safety among special populations, such as people with pre-existing health conditions, children and older adults. Fortunately, with certain precautions, outdoor exercise in the cold can be safe for almost everyone (Fudge 2016; Mayo Clinic 2016).

Benefits of Training in Cold Weather

The benefits of cold-weather training are similar to those of any kind of exercise—with some unique exceptions. Switching to different modalities in winter will automatically increase metabolic load as the body adapts to different movement patterns. Cross-country skiing is a good example. Whether we are skate skiing or doing classic style, we will have a higher metabolic load than if we were running (for example), simply because we're moving differently.

EXAMPLE ACTIVITY: CROSS-COUNTRY SKIING

Smith & Holmberg (2010) observe that cross-country skiing is one of the most demanding sports because the technique involves both upper and lower body as well as core stabilization, acceleration and deceleration. Lawless (2014) adds that endurance, altitude and variations in intensity (sprints) and distance further increase the demands.

VO₂ MAX FOR MALE ATHLETES

(in milliliters per kilogram of body weight per minute)

cross-country Olympic skiers	96
world-class cyclists	75–90
cross-country distance skiers	81–87
cross-country sprint skiers	75–81
elite marathon runners	70–85
elite swimmers	66–80

Sources: Tønnessen et al. 2015; Joyner, Ruiz & Lucia 2011; Jorgić et al. 2011; Peiffer et al. 2008.

Female athletes are usually 10 ml/kg/min below their male counterparts. For example, women cross-country distance skiers have a VO₂ max of 68–77, and sprint skiers have a VO₂ max of 64–73. Paula Radcliffe, who set the women's marathon world record in 1992, had a VO₂ max of 65–75 ml/kg/min (McClusky 2015).

OTHER EXCELLENT OPTIONS FOR COLD-WEATHER EXERCISE

There are many wintertime activities to help us get our metabolic load on. A popular new sport is fat-tire mountain biking



(“fat biking”). The bikes used are similar to regular mountain bikes except that the thicker tires stay on top of the snow. Most people ride in the city, on designated trails or (where allowed) on cross-country ski trails.

Snow shoeing has been around for decades, but the sport is being reinvented with lighter snow shoes and dedicated trails.

Alpine skiing and sliding sports (such as snowboarding, half pipe and slopestyle) do not have the higher metabolic load that other winter sports do; however, they can get participants into serious concentric and eccentric muscle contractions.

According to the *Compendium of Physical Activities*, the following popular winter sports have these metabolic equivalents of task (ASU 2011):

cross-country skiing, 5.0–7.9 mph, vigorous effort	12.5
snow shoeing, vigorous effort	10.0
cross-country skiing, moderate speed and effort	9.0
ice skating, 9 mph or faster	9.0
downhill skiing, vigorous effort	8.0
ice skating, general	7.0
downhill skiing or snowboarding, moderate effort	5.3
snow shoveling, by hand, moderate effort	5.3

Reminder: One MET equals the average resting metabolic rate for adults.

SOME FACTS ABOUT METABOLISM IN COLD WEATHER

There is a misconception about energy metabolism during cold-weather training. Many people think that when it's cold we have a higher metabolic load because the body must work harder to exercise and to keep warm. That is not necessarily the case unless, perhaps, a participant is not wearing adequate layers for the temperatures and wind chill.

Molkov & Zaretsky (2016) note that 80% of energy generated in the muscles during exercise is wasted (i.e., dissipated). As the body heats up, the thermoregulatory system may halt or suppress metabolic heat production; therefore, exercising in a cold environment merely trades one type of thermogenesis for another as the body seeks homeostasis.

Other researchers have examined whether fat metabolism increases at colder temperatures. Gagnon et al. (2013) conducted a small study to compare energy substrate use during walking and running in temperatures of 32 degrees Fahrenheit versus 71.6 F (0 degrees Celsius/22 C). Participants were 10 lightly clothed males who walked or ran for 60 minutes at 50% and 70% of VO₂ max. In the cold, there was a higher reliance on fat as the predominant substrate, as had been seen previously in cycling studies.

Further, exercise VO₂ is generally higher in the cold, but the difference between warm and cold environments decreases as workload increases (Doubt 1991).

Special Precautions for Special Populations

We've reviewed how cold-weather athletes fare while training in cold weather and how it affects their physiology, but what about clients with special considerations? These clients must take special

Signs That It's Time to Send Clients Inside

Cold injury can result in permanent damage, so it is important to know the signs, spot them early and get to a warm location as quickly as possible. Although it's not likely that you'll be training clients in harsh conditions for long periods of time, here are a few things to watch for:

FROSTNIP is a mild form of frostbite in which tissue is damaged by freezing. Frostnip does not result in permanent damage to the affected skin.


Early signs: Changes in skin appearance (turning red, white, blue-white, gray-yellow or waxy/hard),

stinging or prickling sensation, followed by loss of feeling or numbness.


HYPOTHERMIA is an abnormally low body temperature.

Early signs: Intense shivering, slurring of speech, fatigue and coordination loss.

Sources: AAD 2018; AAP 2018; Mayo Clinic 2018.

A woman in a red jacket and blue beanie is skiing on a snowy mountain slope. She is smiling and looking towards the camera. The background shows snow-covered mountains and a forest of evergreen trees. The sky is blue with some light clouds.

Cross-country skiing is one of the most demanding sports because the technique involves both upper and lower body as well as core stabilization, acceleration and deceleration.

A person wearing a blue jacket and dark pants is riding a mountain bike through a shallow stream. The bike is splashing water, creating a large spray of droplets. The background shows a snowy mountain slope with evergreen trees under a blue sky with white clouds. A rainbow is visible in the background on the right side.

Even if a person has a pre-existing health condition, specific precautions can be followed to make the exercise session safer and more beneficial.

Is It Ever Too Cold to Train Outside?

The research on cold exposure could scare anyone away from the idea of outdoor winter workouts. However, some studies investigating the effects of cold on exercise performance have focused on subjects who were not dressed properly or were exercising in cold water (Oksa 2002). Generally, studies have not investigated exercise in cold weather when people were

dressed properly, so there's no need to shy away from the chill factor.

Of course, it is wise to keep an eye on the weather and wind chill. Frostbite risk is less than 5% at temperatures of 5 F (-15 C) or higher, but when the wind chill level drops below -18 F (-28 C), even a half hour of skin exposure can result in frostbite (Mayo Clinic 2016). And being outdoors in freezing

precipitation or a blizzard may be both unpleasant and unsafe, particularly if visibility is low and the ground is icy. The National Weather Service (weather.gov/alerts) provides customized forecasts, advisories and warnings that can help you make the call (NWS 2018).

Bottom line: Consider whether or not a client is accustomed to and actually enjoys exercising in the

cold. Dressing appropriately, carrying snacks and fluid, and training with a partner or a group of athletes can alleviate discomfort and mitigate many safety concerns. A proper warmup is required, as is stopping to take off or put on clothes to improve comfort when needed. As with anything in fitness, common sense goes a long way.

precautions if they are to train safely in colder temperatures. Of course, many of these people will be the same clients who need accommodations in a gym setting or more temperate climates.

Below are some basic concerns for a few of the more common special populations. Some of these concerns may surprise you. For a client in any of these groups, it is wise to be in close contact with the participant's healthcare team to ensure the safest and most successful outcomes.

PEOPLE WITH DIABETES

Kenny, Sigal & McGinn (2016) conducted a review of the literature investigating diabetes and exposure to extreme temperatures with reference to core temperature regulation, cardiovascular adjustments and glycemic control. The research revealed that those with diabetes can be more vulnerable to injuries and illnesses related to cold temperatures. Injury risk can be reduced by maintaining glycemic control, maintaining or increasing cardiovascular fitness, and preventing diabetes-related complications.

Diabetes can reduce circulation to the hands, feet and other extremities (nose, ears, face), which can increase the risk of frostbite. Those who have diabetic neuropathy (nerve damage due to diabetes) are particularly susceptible because their ability to feel temperature changes is blunted. The ability to keep core temperature stable may also be compromised in people with diabetes. Thus, dressing appropriately is key.

Diabetes medicines and supplies are sensitive to the cold, as well. Most blood glucose meters work best above 50 F, and insulin and some other diabetes medicines should not be allowed to freeze (CHOP 2016; Neithercott 2012; JDC 2018). Tucking items inside clothing or storing them in an insulated pack may help them stay warm enough.

Clients who check blood sugar should tell the fitness professional how often they will need to do this during cold-weather exercise (CHOP 2016). Keeping hands warm will make it easier to get a drop of blood from a finger for use in a meter (Neithercott 2012).

PEOPLE WITH HEART DISEASE

Low temperatures, biological factors (including age) and air pollution may contribute to the higher risk of cardiovascular diseases that has been observed in research (the exact mechanism is not known). Clients should certainly be aware of the risk, but experts still recommend engaging in regular physical activity, along with dressing warmly and following a healthy diet (Fares 2013).

Much of the research literature on heart disease and cold temperatures has focused on heart attacks during exposure to cold or while shoveling snow, not during exercise programs. For people with CVD, the increased risk of cold-weather workouts may stem from a combination of high altitude, freezing temperature and inadequate conditioning (e.g., weekend warriors on the slopes). Research has shown that the risk of heart attack for winter tourists was highest during the first 2 days of their trip (THI n.d.). The recommendation is to give the body a few days to acclimate to environmental changes before engaging in high-exertion activities.

Breathing in cold air sometimes causes angina pectoris (chest pain or discomfort) in people with coronary artery disease. Covering the mouth with a scarf or mask during time outdoors may help to prevent this. Many people with CVD may be able to exercise



safely outdoors in the winter after consulting with their doctor. Even so, fitness professionals must be aware of the warning signs of heart attack (and stroke) and should err on the side of caution (AHA 2015; THI n.d.).

PEOPLE WITH ASTHMA

According to the American Academy of Allergy, Asthma and Immunology (2018), cold, dry air can trigger exercise-induced bronchoconstriction (EIB), with symptoms presenting in the first 5–20 minutes, even among people who do not normally have asthma. Wheezing, shortness of breath, tightness in the chest and coughing can be signs of EIB. Cold weather can make symptoms worse for people with asthma (Healthline 2018). In addition, air pollution and exercising in cold, dry air may cause airway hyperresponsiveness or even injury if steps are not taken to mitigate the effects.

Rundell and Sue-Chu (2013) found a higher frequency of asthma among athletes who competed and trained outside in cold air. Kennedy and Faulhaber (2018) recommend reducing exercise intensity and covering the nose and mouth with a scarf to humidify the air. Schachter, Lach & Lee (1981) found that a cold-weather mask helped protect exercisers with asthma. Taking time to warm up and cool down can also lessen the symptoms of EIB, but rescue medications and other measures can be taken, with a doctor's guidance, if necessary (AAAAI 2018).

CHILDREN

Because kids have a higher ratio of surface area to body mass, their rate of body heat loss is faster than that of adults (AAP 2018). When children exercise in the cold, the surface-area-to-body-mass ratio is compensated for by improved peripheral vasoconstriction and metabolic heat production. Peripheral vasoconstriction can be a risk factor for chilblains, frostnip or frostbite. Cold air may also cause EIB (Bar-Or 1994). Because of these factors, youth athletes must wear properly layered clothing, including a scarf, mask or other covering of the mouth and nose.

OLDER ADULTS

The National Institute of Aging (a division of the National Institutes of Health) warns that older adults face a twofold concern

Dehydration: A Wintertime Risk That Surprises Clients

Water loss from exercise respiration is greater in cold weather owing to the dryness of the air. This can increase the risk of exercise-induced bronchoconstriction and asthma among outdoor exercisers. The airways of the lungs are lined with a thin layer of fluid; when we breathe dry air (cold air is very dry), the fluid evaporates faster, and the airways

can become irritated and swollen (Healthline 2018). Dehydration also increases the risk of frostbite (AAD 2018). Therefore, proper hydration is even more important when exercising in the cold.

Best practices: Before exercising in cold weather, consume enough fluid to cause urine to be clear;

this is a sign of good hydration. Take fluid along with you when training, and be diligent about stopping to sip water throughout the workout. Drink your favorite fluid after training.

Switching to different modalities in winter will automatically increase metabolic load as the body adapts to different movement patterns.



regarding temperature: First, they can lose body heat faster than younger people. Second, owing to physiological changes, they may be less able to sense such temperature changes.

For a variety of reasons, chronic medical conditions can exacerbate these concerns. Some conditions, like thyroid problems and diabetes, cause challenges with thermoregulation and diminished blood flow, both of which can make it difficult to stay warm. Conditions that affect dexterity or cognitive function (e.g., arthritis, Parkinson's disease, and memory loss or dementia) can make it more difficult to add layers of clothing or use good judgment regarding when to stay indoors. Further, ingesting alcoholic beverages or certain medications, including cold medicines, can affect thermoregulation.

With so many factors in play, the NIA suggests that older adults talk with their healthcare provider to ask if they are at greater risk for hypothermia and what guidelines they should follow (NIA 2018). Fitness professionals working with this population would benefit from addressing these questions during a preparticipation health screening or, with existing clients, prior to adding cold-weather workouts to current programming.

Despite these concerns regarding outdoor workouts, the NIA reports that physical activity is extremely beneficial to older adults in terms of functionality, independence and self-control, disease

prevention and management, balance and fall prevention, increased energy, better sleep, improved mood, and reduced symptoms of depression and stress (Go4Life n.d.).

A Fun Way to Vary Fitness Programming

Generally speaking, exercising in cold weather is safe and fun. Even if a person has a pre-existing health condition, specific precautions can be followed to make the exercise session safer and more beneficial. With proper preparation and a positive attitude, cold-weather exercise can be one of best experiences for you and your clients. It's worth the extra effort, but the only way to know that for yourself is to layer up and open the door.



MIKE BRACKO, EDD, CSCS, is a fitness educator, writer and presenter. He is also a TriggerPoint® master trainer, a certified hockey skating coach and the hockey/fitness consultant for weighted Ballast Blankets™.

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When Size Matters: 3 Ways to Put Phase 3 to Work for You

THE NASM OPTIMUM PERFORMANCE TRAINING™ MODEL OFFERS GUIDELINES FOR SAFE, EFFECTIVE HYPERTROPHY TRAINING. THESE PROFESSIONAL COMPETITIVE BODYBUILDERS SWEAR BY IT FOR THEMSELVES AND THEIR CLIENTS—AND THEY SHARE THEIR TIPS FOR MAKING IT WORK FOR YOU.

BY LAURA QUAGLIO

“Most of my training in my adult life has been with the Phase 3 guidelines. I just didn’t know it until I became certified with NASM 15 years ago,” says Aaron Guy, NASM-CPT, CES, PES, FNS, and competitor with the National Physique Committee. “Hypertrophy is my favorite style of training. I tend to spend a lot of my year within those parameters.” That should come as no surprise: Guy and the other two experts who were consulted for this article are professional competitive bodybuilders, as well as Master Trainers for NASM.

Megan Johnson McCullough, NASM-CPT, is additionally a NASM Master Instructor, an AFAA group exercise instructor, a fitness writer, and a doctoral candidate in health and human performance. She began lifting weights in high school because, as she explains, “my superstar role models in the NBA did it.” But she had no guidance

or training, even as a basketball player at the collegiate level.

“I’m sure I got quicker, faster and stronger, but there was no real measure of this,” she says. “Had I known the OPT model, maybe I would have gone pro, right?” Eventually, of course, she did go pro—as a natural bodybuilder.

For McCullough and NASM-CPT Andre Adams, the NASM OPT™ model provides the structure and acute variables needed to achieve a specific result, which, in their case, is often maximum muscle enlargement. “As a professional bodybuilder [with the International Federation of Bodybuilding and Fitness], I use these methods and adapt them to my specific goals to balance an aesthetic competition look with functional health and overall well-being,” says Adams, who also holds the NASM PES, FNS, WFS and WLS specializations; is well-known in the fitness industry; and is sponsored by supplement maker 1st Phorm.

Here, these three experts on hypertrophy training share their best practices to help

you adapt the NASM OPT model to suit your own needs and those of your clients.

Making Gains in the Offseason

When Guy was competing more regularly, he followed NASM’s guidelines for hypertrophy fairly closely (see “Summary of Phase 3: Hypertrophy Training,” right). “I did 3 sets of 10 reps of an exercise, often increasing the weight until the third set, where I could safely get between 6 and 10 reps,” he says. Sometimes Guy’s rest periods exceeded the 60 seconds, particularly with a “more demanding exercise” such as a squat or deadlift.

During the offseason, Guy also added Phase 4: Maximal Strength training to his workout for about 4–6 weeks. This helped him increase his 1-repetition max and, in turn, his weight loads during the precompetition training, in which his goal was to improve size and symmetry.

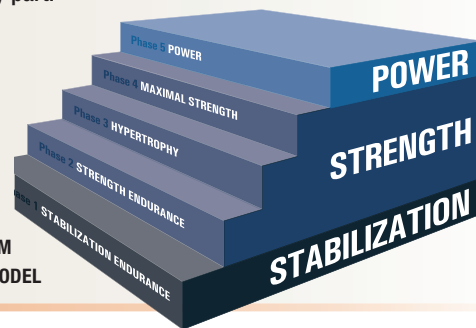
“I rarely cycle to Phase 5, because power and athletic training aren’t my end goals,” says Guy, who is also certified as a Level 1 Sports Performance Coach with USA Weightlifting and KettleBell Concepts. “But I do enjoy some explosive exercises and superset them with strength-based training from time to time.”

Adams also cycles through various phases of the NASM OPT model to make gains in size and strength (see “Andre Adams’ Offseason Training Plan,” below). “In my offseason, I change my routines up every 4–6 weeks, floating between Phases 3, 4 and 5, because I really enjoy lifting heavy and packing on size,” he says.

Summary of Phase 3: Hypertrophy Training

These are the NASM OPT Model Phase 3 acute variables for resistance exercises in hypertrophy training. However, as our experts can attest, it is also important to pay attention to the flexibility, core, balance, plyometric and SAQ guidelines offered in *NASM Essentials of Personal Fitness Training*, 6th ed. (Jones & Bartlett Learning 2018). Generally, the frequency recommendation for hypertrophy training is 3–6 times per week, with 2–4 strength exercises per body part.

- 3–5 sets
- 6–12 reps
- 2/0/2 tempo
- 75%–85% intensity
- 0- to 60-second rest interval



THE NASM OPT™ MODEL

McCullough, too, adds some Phase 4 work in the offseason (though she notes there really isn’t an offseason in bodybuilding), but her focus in Phase 3 training is on volume and intensity.

“I use progressions to continuously challenge my body. This means heavy lifting that increases in load with each set but also increases over time,” she says. “As a natural bodybuilder, it’s hard work and eating [right] that generate results.

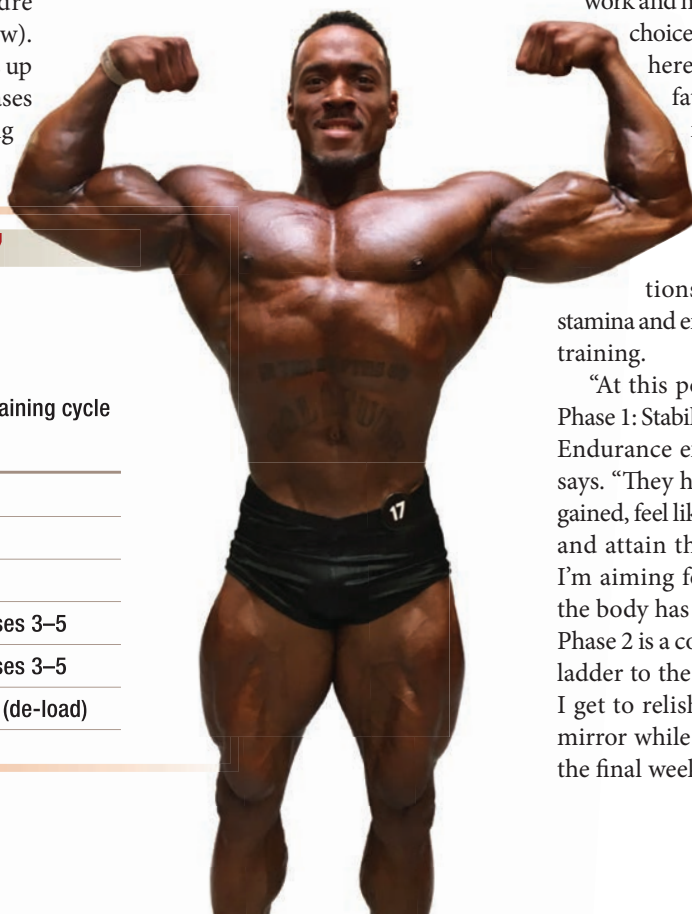
Even more so, it’s patience. Muscles take their time growing, but it’s the constant, persistent and sheer drive to win—day after day, workout after workout—that adds up.” (For variety, check out her drop set workout, right.)

Getting Competition-Ready

In the month leading up to a competition, Guy and Adams both focus almost entirely on Phase 3 training while adding cardio work and making major changes in food choices and caloric intake. The goal here, of course, is to shed body fat and get lean without losing muscle gained previously.

While the men maintain this routine throughout competition prep, McCullough finds that her dietary restrictions eventually sap her of the stamina and energy needed for hypertrophy training.

“At this point, the work is done, and Phase 1: Stabilization and Phase 2: Strength Endurance exercises are my savior,” she says. “They help me keep the muscle I’ve gained, feel like I can survive the workouts, and attain the lean, symmetrical shape I’m aiming for. It sounds silly, but after the body has been pushed, going back to Phase 2 is a comfort zone. I’ve climbed the ladder to the top of the phases, and now I get to relish the reflection I see in the mirror while literally ‘enduring’ through the final weeks.”



Andre Adams’ Offseason Training Plan

Adams says his 12-week offseason training cycle might look something like this:

Weeks 1–2	Phase 3
Weeks 3–4	Phase 4
Weeks 5–6	Phase 5
Weeks 7–8	Blend of Phases 3–5
Weeks 9–10	Blend of Phases 3–5
Weeks 11–12	Phases 1 & 2 (de-load)

Megan McCullough's Upper-Body Drop Set

Have you run the rack? To bust through a plateau and make great gains, try “Megan’s Trio.” Choose three sets of dumbbells in 5-pound increments; for example, 30, 25 and 20. Do the following moves 8–12 times with the heaviest dumbbells, then repeat the entire sequence with successively lighter weights (“run the rack down”).

1. standing overhead press
2. standing or seated biceps curl
3. one-arm row (knee on bench)

“By then, I’ve just about capped out at the weight,” she says. “I need to challenge myself with new exercises.”

That’s good for her psyche, not just her physique. “At this point, I have developed a love-hate [relationship] with whatever I’m doing,” she explains. “I’m at my max, so it’s mentally hard to keep at it, and I’m bored. Not to mention I wake up at 3:45 a.m. to get my training in, so I have to look forward to what I’m doing.”

When Guy feels he is beginning to plateau, he adds new exercises, too, or changes up the order of his split routine. Though he used to focus mainly on bilateral exercises done with machines and free weights, targeting one body part per day, he recently compacted the program, working on a pair of muscle groups each day for challenge and efficiency.

As for Adams, he taps into his favorite “shocking” techniques, such as power lifting, partial-range repetitions and high-volume, high-frequency

training. “Our bodies are always in a state of adaptation, so I change things up every 2–4 weeks,” he says.

Letting the calendar trigger changes can be okay for yourself, notes Adams, but with clients, communication is key to knowing when a change is required. “Closely monitoring your clients’ progress will help you identify how they are feeling,” he says.

Addressing Compensations and Injuries

A short time ago, Guy received a diagnosis of femoroacetabular impingement (extra bone growth at the hip joint). It humbled him—and showed him the importance of cycling through the full range of the NASM OPT model.

Working with a physical therapist and using his own CES training, Guy rounded out his routine to address existing compensations and allow for recovery and healing. His new workout (below) includes many additions: more core and balance training, as well as light cardio, active stretching and self-myofascial release. “Foam rollers generally aren’t enough to get into my soft tissue,” he notes, “so I use more aggressive modalities, such as lacrosse balls, Olympic bars and percussion tools like the Hypervolt by Hyperice®.”

A few weeks into this new program, Guy’s pain decreased enough that his need for anti-inflammatories became almost nonexistent. “This experience made me understand how my clients feel when dealing with the psychological and physical aspects of treating injuries,” he says. It also has him sold on including more Phase 2 training throughout the year.

Says McCullough, “When the kinetic chain needs some work, individualized programming needs to be done to make sure heavy lifting is implemented safely and correctly.” For the past 2 years, she has been working to address some of her own compensations caused by an old college injury. “Following an ACL and meniscus tear from college basketball, my glutes and hamstrings were weak, which made my gluteus medius and lower back take the brunt of squatting,” she says. After plenty of hard work—training on machines



For his part, Adams notes that this is not the time to go for gains. “I try to maximize blood flow and nutrient delivery without the added inflammation or stress of lifting extremely heavy weights,” he says. “During that ‘cutting phase,’ I change up my exercises and nutrition plans every 2 weeks while staying within the structure of NASM OPT Phase 3.”

Tackling Plateaus

“Hypertrophy training is not an overnight process,” says McCullough. “I need 4–6 weeks to fully let my muscles experience the right amount of overload gradually, safely and effectively.” By week four, she says, it’s time to switch things up.

Aaron Guy's Post-Injury Approach

After being diagnosed with hip impingement, Guy modified his routine with the help of his physical therapist. Guy now does slow, controlled light cardio (with as little hip flexion as possible) and performs strength exercises with lower weight and controlled movement. These are some of the moves he added:

balance: single-leg balance and reach

core: glute bridges (single and double leg)

gluteus medius and abductors: lateral tube walking

frontal-plane stability: single-leg Romanian deadlifts

legs: single or double closed-chain exercises with very low weight and Bulgarian split squats (replacing traditional split squats)



in a fixed axis (such as the leg press) and “relentless single-leg touchdowns”—she can now perform a barbell squat with proper technique and “enough load to be effective.”

Adams notes that using the assessments recommended by NASM can be helpful in identifying and avoiding injury, but it can also allow the fitness professional to address another consideration related to hypertrophy: aesthetics.

Programming With Aesthetics in Mind

“There are many acute variables that are customized for each athlete depending on his or her personal strengths and weaknesses,” says Adams. “For example, I might start with our standard overhead squat assessment to identify muscle imbalances and mobility challenges. But this must also be integrated with the athlete’s specific goals, which will include aesthetics. For example, if the athlete has dominant quads and is lacking strong hamstrings and glutes, then the approach is slightly different to address both overall well-being and aesthetic competition-related goals.”

For McCullough and other female bodybuilders, aesthetics often comes with an added layer of challenge: the societal judgments that are frequently directed at fit women. Her advice? Be persistent and ignore the unsolicited commentary. “When it comes to females, if you want muscles, ignore the scale, ignore the stereotypes and start lifting,” she says. “My look is still natural, feminine and athletic.”

Taking Time for Rest and Recovery

When this trio was asked what else to keep in mind with hypertrophy training, the answer was unanimous: recovery. This begins with proper fueling.

McCullough recommends “real, clean food.” She adds, “The tear down of fibers needs to be given the right environment to grow and repair.”

“If eating right after a workout is hard for you, as it is for me,” says Guy, “try a protein supplement to tide you over until your next meal.” Adams takes this one step further, noting that, for him, supplements provide the most efficient refueling method after an intense workout during his “growing phase.”

Of course, recovery also means giving muscles time to use those nutrients to make

The Lowdown on Low-Load Blood Flow Restriction

LL-BFR training—also called occlusion training and KAATSU®—has been used in clinical rehabilitation settings for years among populations with functional deficits preventing the use of high mechanical loads. Among healthy athletes, it has served for decades as a means of gaining strength and hypertrophy. KAATSU, in fact, has been used since 1966, when Japanese researcher Yoshiaki Sato first invented it. (In Japanese, *ka* means “additional” and *atsu* means “pressure.”)

A 2016 review of 12 papers on BFR in athletes concluded that LL-BFR can result in gains in strength and hypertrophy in well-trained athletes (Scott et al. 2016). That same year, results from a questionnaire on the use of BFR for a wide variety of reasons (including hypertrophy, but also for depression and arthritis) reported safe, beneficial results with no serious side effects, regardless of age, gender or physical condition (Yasuda et al. 2017).

Further, a 2018 meta-analysis and systematic review of the effects of LL-BFR versus conventional high-load resistance training showed that both methods produced similar gains in muscle mass “regardless of the absolute occlusion pressure, cuff width, and occlusion pressure prescription” (Lixandrão et al. 2018).

As more research is done on BFR, fitness professionals may want to further investigate the benefits, drawbacks and applications of this technique, especially if clients are inquiring about BFR use for hypertrophy.

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necessary repairs and gains. “I sometimes train my aesthetic weak points on off days,” says Adams, “but mostly I recommend you eat and rest and try to reduce inflammation [before] the next intense training week.”

After a particularly intense hypertrophy session, however, it’s Guy’s specific recommendations that may be most welcome. “Take some time to pamper yourself. Get a massage. Try some acupuncture. Do something that brings you happiness and

helps you relax,” he says. “You work out hard. Treat yourself from time to time.”



LAURA QUAGLIO
still remembers the split routine she used in her 20s when working out with her superfit mom. Though they lift separately now, Mom (now in her 70s) is still an endless inspiration.

Nutrition [FOOD NEWS & FACTS]

RESEARCH:

Low-Carb Diets & High-Performance Athletes

Whether you call it keto, Paleo, Atkins®, training low or something else, low-carb eating continues to be popular in the mainstream. But what are the implications for athletic performance in the gym or on the field?

A panel of sports nutrition experts met to discuss macronutrient needs for physical activity, with the results published in *Nutrition Today* (2018; 53 [1], 35–39). Author Mitch Kanter, who holds PhDs in physiology and nutrition, reported: “One factor that remains as true today as it did decades ago is the athlete’s indispensable need for carbohydrate,” as it is “the substrate most efficiently metabolized by the body and the only macronutrient that can be broken down rapidly enough to provide energy during periods of high-intensity exercise.”

Still, the experts expressed concern that many athletes—especially those who regularly exercise strenuously—aren’t getting *enough* carbohydrates. Convened by the Alliance for Potato Research and Education, the panelists noted that research suggests physically active people can adapt to a ketone-promoting diet, but they emphasized that staying with this kind of diet long-term is potentially detrimental. Concerns included

- athletic performance decrements;
- impairments to cognitive performance, focus and mood;
- increased perception of fatigue; and
- a greater susceptibility to skeletal muscle damage.

The “training low” concept was deemed “potentially more faddish than practical,” especially because it leads to reductions in training intensity. Panelists were strong in their assertions that low-carbohydrate stores make it difficult to sustain the intensity levels at which most competitive and serious recreational athletes perform.

TALKING POINTS

So how can fitness professionals successfully respond to clients who ask about low-carb diets? Nancy Clark, MS, RD, CSSD, a sports dietitian in the Boston area and author of *Nancy Clark’s Sports Nutrition Guidebook* (2013), has some input.

“Many sports-active people try to stay away from carbs, fearing they are fattening or addictive. Not the case. Carbohydrates are not fattening. Excess calories of *any* type are fattening,” she says. The key word here is “excess.” “When people get too hungry, they crave carbohydrate for quick energy, and they can easily overeat bread, cookies, pasta and so on,” Clark says. “The problem is not those ‘addictive’ carbs. The true problem is [allowing yourself to get] too hungry.”

Ultimately, Clark echoes the panelists’ sentiments: “The body preferentially burns carbohydrate. For optimal [athletic] performance, the foundation of each sports meal should be grain-based foods, starchy vegetables and fruits.”



MYTH: PLANT FOODS ARE NOT SOURCES OF COMPLETE PROTEINS



You may already know that nine of the 22 essential amino acids—the building blocks of protein—cannot be produced by the body. A “complete” protein source is a food that contains all nine of these.

It’s particularly important for people cutting back on animal products to understand plant proteins and ensure that all of the essential amino acids are included in the diet. Amanda Boyer, MS, RDN, CD, NASM-CPT, owner and nutrition therapist at Wholehearted Nutrition (wholeheartednutrition.org), has some helpful information. “Plant-based foods that are high-quality [complete] sources of protein include quinoa, buckwheat and soy, which includes edamame and tofu,” she says.

However, incomplete plant proteins—such as grains, nuts, beans and legumes—can be consumed with complementary plant proteins to create a complete protein source. For example, pair a whole-grain food with nuts, nut butter, beans, legumes or vegetables, says Boyer. She offers these delicious duos: peanut butter on whole-grain bread; a burrito bowl with black beans and brown rice; and a whole-grain wrap with spinach, tomato, onions, cucumber and avocado.

Boyer notes affordability as a side benefit to swapping in some plant proteins. Plant-based sources of protein also provide nutrients not found in animal foods, such as fiber and some antioxidants. “Both animal and plant proteins can serve different and wonderful purposes in a person’s diet,” she concludes. “It doesn’t have to be an all-or-nothing experience. It really comes down to a person’s preferences, abilities in the kitchen and unique belief system as to how they approach food.”

ALCOHOL:

Is One a Day Still Okay?

Is moderation still the key when it comes to alcohol consumption? No, according to a comprehensive study published in *The Lancet*.

Denouncing previous reports promoting the protective effects of occasional alcohol consumption, the worldwide study calls for global medical guidance to be revised. The researchers do acknowledge that moderate drinking may protect against heart disease and diabetes; however, they say the risks of cancer and other illnesses outweigh perceived benefits. This is contrary to national guidelines that suggest drinking one or two glasses of beer or wine

per day is generally safe for women and men, respectively. “The widely held view of the health benefits of alcohol needs revising,” according to the report.

The study reviewed levels of alcohol use and their health effects on people aged 15–95, in 195 countries, between 1990 and 2016. Its findings: Alcohol led to 2.8 million deaths in 2016 and was the leading risk factor for premature mortality and disability among people aged 15–49, accounting for 10% of all deaths.

The study, which has 120 co-authors, concluded that the level of alcohol consumption that minimizes harm across

health outcomes is “zero . . . standard drinks per week.” The decline in life expectancy for a 40-year-old who drinks between 100 and 200 g weekly is 6 months, on average, compared with someone who drinks between 0 and 100 g, according to the study. Drinking 200–350 g of alcohol per week is linked with a 1- to 2-year decline in life expectancy, while imbibing more than 350 g aligns with a 4- to 5-year average life expectancy drop.

The American Council on Science and Health is challenging the results, stating



that among other flaws, the study didn’t adjust for confounders. It remains to be seen whether or not the United States and other countries will modify their alcohol consumption guidelines.



Feeling Good About Omega-3s

A recent pilot study published in the *Journal of the American College of Cardiology* has shown a link between a higher omega-3 index and lessened symptoms of depression in people who suffer chronic heart failure (CHF) and major depressive disorder (2018; 6 [10], 833–43). The goal of the research was to test the “effects of long-chain omega-3 fatty acid supplementation on omega-3 levels, depressive symptoms and other psychosocial factors,” as well as other CHF-related measures.

A relatively small cohort of 108 people with both CHF and major depressive disorder were put into groups taking a daily 2-gram dose of one of three oils: EPA (eicosapentaenoic acid), an EPA/DHA (docosahexaenoic acid) combo, or corn oil (as a placebo). EPA and DHA are types of omega-3 fatty acids found in fatty layers of shellfish and cold-water fish, plant and nut oils, walnuts, flaxseed, and fortified foods.

After 12 weeks, the EPA/DHA group showed significant improvement in depressive symptoms and social function. With about 6.5 million adults now living with chronic heart failure, and 16 million adults in America experiencing a major depressive episode in 2016 alone, this pilot study is a welcome precursor to further studies.

Weight and the Workplace

Baby showers, birthday bashes, company lunches, breakroom snacks . . . What effect do these have on the waistslines of American workers? Recently, scientists from the Centers for Disease Control and Prevention sought to answer that question.

By examining data from the weeklong USDA Food Acquisition and Purchasing Survey, presenting author Stephen J. Onufrak, PhD, and colleagues noted that 22% of the more than 5,200 people in the cohort had obtained food or beverages at work at least once a week. Though most of these snacks were monetary freebies, they “cost” the employees an average of nearly 1,300 calories per person per week. Further, the choices themselves left much to be desired, nutritionally speaking: Workplace selections were typically high in empty calories, sodium, refined grains, hydrogenated fat and added sugars. Interestingly, demographics influenced the choice to dig in, with white, female and college-educated employees the most likely to partake.

In a press release provided by Nutrition 2018, the annual meeting of the American Society for Nutrition, Onufrak suggested that employers may want to create “healthy meeting policies” to “encourage healthy food options at meetings and social events.” He added, “Worksite wellness programs . . . have been shown to be effective at changing health behaviors among employees. We hope that the results of our research will help increase healthy food options at worksites in the United States.”

Fitness professionals can improve that possibility: If you administer exercise programming in a workplace, consider sharing this article with your corporate contacts. (You can also find a helpful PDF called “Tips for Offering Healthier Options and Physical Activity at Workplace Meetings and Events” on cdc.gov.) Other fit pros may simply want to share this calorie wake-up call with clients so they won’t “counteract” their workout during the workday.



Live Longer: Don't Go Too Low-Carb

Recent research from the Medical University of Lodz, Poland, noted that long-term adherence to a low-carb diet could actually shorten one’s lifespan (European Society of Cardiology 2018). In an analysis of nearly 25,000 people from the National Health and Nutrition Examination Survey, a research team led by Professor Maciej Banach found that those who consumed the least amount of carbs were 32% more likely to die prematurely from any cause, with even higher risk differentials in death from heart disease, stroke and cancer. **If a client’s workout goal is a longer, healthier life, following a low-carb program may run counter to that aspiration.**



5 Reasons to Grab Easy-Open Pistachios

These popular tree nuts have numerous health benefits, and they're lower in calories and fat than other nuts, according to a literature review published in *Nutrition Today* (2016; 51 [3], 133–38). Here are just a few things this beautiful nut can do for your body:

GIVE THE BRAIN A BOOST

Researchers at Loma Linda University Health in California discovered that regularly eating nuts improves brain waves, as measured with an EEG. Pistachios created the greatest gamma wave response, associated with learning, processing, retention and other key cognitive functions (*FASEB Journal* 2017; 31 [1], Suppl.).

IMPROVE GUT MICROBIOTA

Data from two randomized, controlled, crossover feeding studies showed that both pistachios and almonds could increase the number of potentially beneficial microbiota in the gut—but the effect of pistachios was “much stronger” (*British Journal of Nutrition* 2014; 111 [12], pp. 2146–52).

REDUCE DIABETES RISK

The *Nutrition Today* summary mentioned above also reported that pistachio intake seems to be inversely related to an increased risk of type 2 diabetes. Pregnant women in particular should pay attention to this: A study in *PLOS One* reported that adding even more extra-virgin olive oil and pistachios to a Mediterranean diet reduced the risk of gestational diabetes (2017; 12 [10], e0185873).

PROTECT CARDIOMETABOLIC HEALTH

A study in *Nutrition Journal* reported that eating a snack combo of tree nuts (like pistachios) and dried fruit (like raisins) could improve blood sugar control and lower the risk of diabetes and/or cardiovascular disease (2016; 15 [23]).

INHIBIT CANCER CELLS

In 2017, scientists at the Institute of Nutrition at Friedrich Schiller University in Germany found that both raw and roasted pistachios inhibited the growth of colon cancer cells while bolstering chemopreventive effects (*Nutrients* 2017; 9 [12], 1368).



PISTACHIO FOCACCIA



Tempting Ways to Use Pistachios

Ready to “get crackin’” and incorporate pistachios into your everyday meal plan? You don’t always have to eat them by hand. The American Pistachio Growers offer plenty of ideas on their website (americanpistachios.org) for how to put more pistachios on your plate. Here are a few to pique your culinary curiosity:

- sprinkled on top of a rice or açai bowl
- mixed with avocado for pistachio molé
- ground into flour
- baked into focaccia bread (shown, left)
- puréed into a green-tea smoothie
- rolled into no-bake date balls

Find recipes for these and other pistachio dishes at americanpistachios.org/recipes-and-snacking.



ALEXANDRA WILLIAMS, MA, works in the Exercise Science and Sport Studies Department at UC Santa Barbara with a lot of students who need to improve their nutritional intake.



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YOU CAN'T TELL BY LOOKING, BUT ANY OF THESE EXERCISERS MIGHT HAVE AN EATING DISORDER.

Could Your Client Have an Eating Disorder?

EATING DISORDERS MAY BE MORE COMMON (AND DEADLY) THAN YOU THINK: LEARN THE SIGNS TODAY SO YOU CAN HELP CLIENTS ADDRESS ISSUES EARLY—AND SEEK OUTSIDE HELP WHEN NEEDED.

BY JESSI HAGGERTY, RD

As fitness professionals, we don't receive much (if any) training when it comes to eating disorders and disordered eating. Yet, being that an estimated 30 million individuals in the United States (20 million women and 10 million men) will have a diagnosable eating disorder at some point in their lives, the likelihood that some of our clients are among them is extremely high (NEDA 2018a).

Because we interact with these clients 1–3 times per week, we are in a unique position to recognize an eating problem in the early stages and, perhaps, use our professional coaching skills to help prevent it from developing into a full-blown eating disorder.

Unfortunately, it can be difficult to find the line between what is “normal” and what is “disordered,” especially when working in an environment that can promote prac-

tices that *mirror* eating disorders, such as fairly strict adherence to new dietary or exercise regimens.

Further, the eating disorder “image” we often see portrayed in the media is a young, emaciated woman. The reality is that people with eating disorders come in all ages, weights and genders, and a disorder is more often marked by behavioral and emotional signs than by an “underweight” body mass index.

Why Fit Pros Need to Know More

Because eating disorders are so complex in nature, our ability to help our clients is somewhat limited to how we, as fitness professionals, understand or “define” these disorders—which may differ significantly from the clinical definitions. For all of these reasons, it is vitally important that we educate ourselves at least minimally about these conditions—and understand when it's necessary to refer out to a health professional, such as a registered dietitian, an eating disorder specialist and/or a therapist.

What follows is a summary examination of eating disorders you may encounter in your career, beginning with the most com-

mon. (Interestingly, these are not anorexia nervosa and bulimia nervosa, though those are certainly the most well-known.) Included are the signs and symptoms that may be most easily noticed in the context of your professional relationship with a client, but much more information is available on each condition from the National Eating Disorders Association (NEDA) at nationaleatingdisorders.org. By becoming better informed about the signs and symptoms of these conditions, you can improve your ability to assist your clients in an even more holistic way.

Otherwise Specified Feeding or Eating Disorders

Most eating disorders that don't meet the criteria for anorexia nervosa or bulimia nervosa are clinically referred to as **otherwise specified feeding or eating disorders** (OSFED). Signs and symptoms of OSFED can include, but are not limited to, the following:

- dieting or inadequate energy intake
- weight loss (regardless of size)
- orthorexia (obsession with healthy or "clean" eating)
- excessive or compensatory exercise
- body dissatisfaction

Binge Eating Disorder

Aside from OSFED, **binge eating disorder** is the most common eating disorder among Americans (NEDA 2018b). BED presents with recurring episodes of excessive food consumption over a short period of time, often to the point of physical discomfort. This is usually accompanied by feelings of loss of control, shame and guilt.

It's important to note that BED is not due to an inherent "addiction" to food; more often than not, bingeing is back-loaded by dieting or food restriction. So, while it may sound counterintuitive, the antidote to binge eating disorder is *not* food restriction.

Signs and symptoms of BED can include, but are not limited to, the following:

- weight cycling
- frequent dieting or "failed" diets
- strong body dissatisfaction
- intense stress and shame around eating
- feeling "out of control" around food

Anorexia Nervosa

Anorexia nervosa (AN) is marked by severe restriction of energy intake, which

Steps to Starting a Referral

Just as you wouldn't wait till the last minute to train for a marathon, you don't want to delay searching for resources until a client's behavior raises a red flag. Here's what you need to know to begin the referral process when and if the need arises:

Get Referral-Ready

To make sure you have resources available, reach out to local registered dietitians, therapists and eating disorder treatment centers and make a list of qualified clinicians. I recommend that every gym or fitness facility have this resource on hand! You will want it at your fingertips when you begin the conversation with your client.

Ask Open-Ended Questions

Keep in mind that this is an extremely sensitive subject and that your client is likely going through a very hard time. Refrain from "calling out" behaviors or pointing fingers. Instead, approach the topic with curiosity and by asking open-ended (not yes-or-no) questions. For example:

- "It seems like thoughts about food are a big stressor in your life. Can you tell me more about that?"
- "I've noticed that you're spending a lot of extra time at the gym between our sessions. Tell me a little bit about what you're trying to accomplish."

As your client answers, practice active listening: Really pay attention to how the client responds to these questions. Sometimes you might be able to offer some simple education around how to schedule frequent meals throughout the day or how the body needs time to recover after a workout. Other times you might realize that a client requires help that is beyond your scope of practice.

Ask for Permission to Refer

If you feel a client needs help beyond what you can provide, it's important to ask permission to refer out. For example:

- "It sounds like your diet is preventing you from getting the fuel you need for our sessions. Would it be okay if I referred you to a dietitian who can help make sure you're eating adequately?"
- "It sounds like you're using exercise as an outlet to deal with stress and anxiety. Would it be all right if I referred you to a therapist who specializes in this area?"

Note: Document this discussion in your client notes.

Know When It's Time to Press Pause

Unfortunately, some clients will be resistant to treatment, but eating disorders and exercise addiction are not to be taken lightly. If clients resist help, you'll have to let them know you cannot train them *until* they seek a higher level of care to treat their eating disorder—for example, by speaking with a registered dietitian, an eating disorder specialist and/or a therapist.

Bottom line: When in doubt, refer out!



Because eating disorders are so complex in nature, our ability to help our clients is somewhat limited to how we, as fitness professionals, understand or "define" these disorders—which may differ significantly from the clinical definitions.

leads to significant weight loss at the expense of physical health. This is often accompanied by an intense fear of gaining weight. It's important to note that AN is *not* necessarily marked by an “underweight” BMI. The disorder can affect people of all sizes; just because a client isn't thin or underweight doesn't mean he or she isn't suffering from AN.

Here are some signs and symptoms to look out for:

- dramatic weight loss (regardless of size)
- extreme fatigue
- joint pain or stress fractures

- thinning and loss of hair
- intense fear of gaining weight
- covering up in layers
- depression and/or anxiety
- perfectionistic or competitive tendencies

Bulimia Nervosa

Bulimia nervosa (BN) is marked by recurring episodes of bingeing, followed by a compensatory behavior designed to minimize the impact of the binge. There are two types of BN: **purge type**, which is bingeing followed by episodes of vomit-

ing, laxative use or diuretic use; and **non-purge type**, which is bingeing followed by excessive exercise or fasting.

Individuals with BN will likely use language that indicates a lack of self-control around food. It's also likely they will voice their feelings of guilt about bingeing. They may ask you to work them excessively hard to compensate for a binge, or they may talk about the extra time they put in at the gym to offset their excessive calorie intake.

Here are some signs and symptoms to look out for:

- swelling of cheeks, mouth or jaw; mouth sores
- dehydration or excessive fluid intake
- fatigue
- self-induced vomiting (calluses on backs of hands)
- excessive or compensatory exercising
- depression and anxiety
- low self-esteem
- strong body dissatisfaction
- perfectionistic or competitive tendencies

The Challenges of Screening

The screening process is much more complex than just checking off a list of signs and symptoms and then sending your client to a treatment center. Someone with an eating disorder will likely not present with all of the symptoms listed here, or he or she may present with symptoms that are not listed. And, again, many of the signs and symptoms of OS-FED, BED, AN and BN—such as fear of gaining weight, perfectionistic tendencies, or compensatory or excessive exercise—might be considered “normal” behaviors in a fitness or gym environment. These factors make eating disorder screening particularly difficult for fitness professionals, but all the more necessary.

Simple Screening Strategies

It's important to be continuously on the lookout for warning signs and clues from your clients. Here are a few ways you can be more mindful of potential eating disorders when first getting to know a new client:

START A CONVERSATION

Keeping communication open and building trust will go a long way toward en-



Play a Role in Prevention

While early screening and intervention can set a client up for successful recovery, being aware of the signs and symptoms of eating disorders can help you ensure from the beginning that you are not fostering or contributing to a potential problem. Here are some ways to create an environment that is conducive to *preventing* an eating disorder before it starts:

Encourage adequate energy intake. Refrain from diet talk or recommendations (this includes talking about your own diet) and promote the concept of fueling and refueling before and after a training session.

Refrain from before-and-after comparisons. Avoid weigh-ins, body fat check-ins and “transformation” photos.

Focus on function, not form. Create programming that builds internal body awareness and function rather than focusing on external body dissatisfaction or superficial “results.”

Think about what clients see. Limit clients' exposure to mirrors and be sure your marketing materials do not feature the sociocultural “thin ideal.”

Lead by example. Fake it if you have to! Refrain from talking about your own body dissatisfaction or dieting attempts. Instead, talk about how you are working to appreciate your body, and share how you are trying to be flexible with your own food and exercise habits.

I strongly believe that if we want to play a role in the prevention of eating disorders, we have to be willing to be a little brave and go against the grain by practicing and promoting body appreciation, flexible eating and exercise behaviors and by fostering an environment of inclusivity.

abling you to spot potential problems. Ideally this starts the moment you meet a client, carries through the initial preparticipation fitness assessment and is reinforced at each follow-up session.

In particular, watch for overall goals that are extreme or unrealistic, such as dramatic weight loss (regardless of the client's size) or an overambitious exercise regimen. While these mindsets can unfortunately seem normal in personal training sessions, it's important to keep in mind that, for some clients, they may signal disordered eating.

ASK "WHY?"

When clients tell you about their goals, ask "Why?" Then, practice active listening. Do they want to lose weight to have more energy? To feel less winded playing with their kids? To be able to bike to work?

Listen for answers that are motivated by shame or fear. For example, "Because I'm embarrassed about my arms" or "Because I'm afraid of gaining weight." These can be red flags signaling a possible eating disorder on the horizon.

REVIEW THEIR MEDICAL HISTORY

Part of your initial preparticipation screening should include having clients fill out the Physical Activity Readiness Questionnaire (PAR-Q) and provide you with a medical history (NASM 2018). Generally, this includes asking about surgeries, injuries and chronic conditions (including mental health diagnoses) as well as occupation, lifestyle and other factors that may affect their fitness routine.

Be sure to remain within your scope of practice at all times, and refrain from giving clients advice. With permission, consult with a client's physician(s) about his or her health information and medications (NASM 2018). Ideally, the physician will alert you if there is any concern or history of disordered eating. Remember: Asking for a detailed history shows that you're interested in this person as a whole—and not just concerned about his or her fitness routine.

BE CURIOUS!

If at any time your client says something that raises a red flag and you're unsure of how to proceed, keep the conversation open by being curious. Also keep an eye out for extreme changes in diet, body shape or size. A simple "Tell me more about that" can go a long way.

If we want to play a role in the prevention of eating disorders, we have to be willing to be a little brave and go against the grain by practicing and promoting body appreciation, flexible eating and exercise behaviors and by fostering an environment of inclusivity.

WHEN IN DOUBT, REFER OUT

If it becomes evident that a client is suffering from an eating disorder—or you simply worry that this *may* be the case—don't hesitate to refer the person to a registered dietitian, eating disorder specialist and/or therapist who deals specifically with dis-

ordered eating and eating disorders (see "Steps to Starting a Referral," page 63).

Be aware that you may have to stop training a client until he or she is in the recovery phase of treatment for an eating disorder. Make sure clients are cleared by their doctor before returning to the gym.

Don't Underestimate the Importance

Eating disorders are the most fatal mental illness (Smink, van Hoeken & Hoek 2012). As a fitness professional, you can play a huge role in the health of your clients outside of the gym—and maybe even save a life. For more information, visit the National Eating Disorders Association website at nationaleatingdisorders.org.



JESSI HAGGERTY is a registered dietitian and an NASM-certified personal trainer who specializes in eating disorders. She runs an online course for personal trainers on eating disorders, nutrition and body image.

Learn more at www.JessiHaggerty.com.

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Physiology and Disordered Eating

The NASM Weight Loss Specialization helps CPTs understand and address psychological obstacles facing weight loss clients.

As noted on page 63, there is a wide spectrum of eating disorders and disordered eating behaviors with symptoms ranging in extremes. According to the *NASM Weight Loss Specialist Manual*, "Many individuals do not meet the strict criteria for anorexia nervosa or bulimia nervosa that are listed in the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 4th ed., DSM-IV), but they practice disordered eating behaviors that do not reach a clinical level" (NASM 2012, p. 31).

Ultimately, any type of disordered eating has the potential to affect an exerciser's performance and efficacy. For example, disordered eating can contribute to myriad physical health issues, among them:

- dehydration
- electrolyte disturbances
- low blood sugar
- low blood iron
- decrease in skeletal muscle mass

To learn more about the mechanisms by which disordered eating can impact metabolism, as well as other aspects of working with weight loss clients, go to nasm.org/products/CEU161K.

Feeling Stressed? Building Your Resilience Skills Will Help



MANAGE LIFE'S UPS AND DOWNS WITH THESE STRESS RESILIENCE TIPS—AND THEN TEACH THEM TO YOUR CLIENTS.

BY ANGIE MILLER, MS, LPC

Resilience is the ability to rebound, maneuver the unexpected and turn adversity into opportunity. Physical resilience comes naturally to trainers, coaches and fitness pros. It's as though we were born with springs on our feet, and we keep getting back up no matter what it takes. Surrender isn't an option.

Emotional resilience, however, is another matter. For all of our training in kinetics and physiology, many of us need help with strengthening our emotional resilience—especially when stress is involved. And our clients need help, too.

I've dealt with these issues for years in my work in fitness, education and counseling. Read on for some of my favorite tips on building resilience in the face of stress.

5 Ways to Build Stress Resilience

Resilience seems to be instinctive for some people. But even if you don't bounce back

with ease, you can still develop it. Think of resilience as an emotional muscle that becomes stronger through practice and repetition. Each of these five strategies for building stress resilience comes with a reflection exercise to help you master the concept and make it a part of your everyday existence.

1. Practice Optimism

In the book *Resilience: The Science of Mastering Life's Greatest Challenges* (Cambridge University Press 2012), optimism is defined as “a future-oriented attitude, involving hope and confidence

that things will turn out well.” The authors describe optimists as people who believe the future will be brighter and situations will work out for the best (Southwick & Charney 2012).

To practice optimism, we have to regularly reappraise and change the way we look at situations to build a more positive outlook. It's important to pay attention to what we are paying attention to! Are we focusing on the problem and putting our energy into complaining? Or are we figuring out how to manage the situation, zero in on a solution and move forward?

When you face a challenge, remember a time when you've turned adversity into opportunity. It's great to hear heroic stories of others who have overcome obstacles and gone on to achieve greatness, but what about the obstacles *you've* overcome?

Bullying, divorce, job loss, financial setback, love, grief—you've been there, right? And you've also heard your clients' stories. Recognize how far you've come and remind yourself, "This isn't the worst thing I've been through. If I made it through _____, I can make it through this." Remember that setbacks are a chapter in your book. They're not the end of the story.

REFLECTION: Think of a time in your life when you felt really optimistic. Paint a detailed picture in your mind or write it down.

Is that time now? If not, when have you felt peak optimism? Where were you in your career, and what was your relationship status? How old were you? Whom were you spending the most time with?

How can you create a life where you experience that sense of optimism again?

CLIENT FOCUS: Share this exercise with clients as you coach them to focus on all the positive gains they've made during their time with you. Remind them of their progress.

2. Focus on Flexibility

Rigidity is not our friend. The more attached we are to our plans, schedules and ways of thinking, the more committed we become to believing things should go a certain way. This just leads to stress and anxiety when things don't work out the way we expect. We're more likely to snap when unforeseen things stand in our way. Then we blame, accuse and refuse to address the situation productively.

Southwick & Charney say resilient people tend to be more flexible in

how they think about stress and respond to situations. Adaptability helps them apply unique strategies to match different situations. When life changes, they change with it.

While that may sound like a simple task, it is easier said than done. Relocating, for example, can throw you pretty far off your center. A move can leave you reeling with a sense of loss as you attempt to recreate your community and build new networks. Don't make the mistake of trying to rebuild the life you had; move forward and build a new one.

REFLECTION: How many times a day do you say "should" with regard to yourself or someone else? That is, how often do you find yourself thinking that you or someone else *should* have done or said something or that things *should* have gone a certain way?

"Should" statements—e.g., "I should," "ought" or "must"—lead to shame and guilt, create resentment, and kill motivation. They're strong judgments and expectations based on our view of the world. It's not that they're wrong, but the more we let these feelings define our experiences, the more likely we are to feel disappointed when things go differently.

Once you recognize your *shoulds*, challenge them. Start by asking, "What if things go a different way? Can they still turn out okay? What if my idea about how things should go isn't the same as someone else's idea? What if neither of us is right or wrong?"

CLIENT FOCUS: Catch your clients in the act of saying they "should

have" eaten better or worked out harder. Remind them that they are doing the best they can and that adding shame or guilt to the process is not productive.

3. Strengthen Your Social Network

We are social creatures. We function better, feel better and live better when surrounded by support. Social support has been found to improve our psychological well-being by improving our coping skills and lowering our risk for mental illness, including depression (Ozbay et al. 2007). Social support offers a sense of belonging and connection, increasing our ability to manage the effects of stress.

REFLECTION: How strong is your social network? Is it better or worse than it was a year ago or 5 years ago? What can you do to build it?

CLIENT FOCUS: Accountability and community help people stick with their programs and promises. Encourage your clients to find a workout buddy, get their families involved in healthy habits or create a small-group training opportunity.

4. Live a Purposeful Life

Those who are resilient tend to have a strong purpose in life. They live with intention, and they stay true to it even when life changes unexpectedly. Their lives reflect their values, beliefs, passions and strengths.

Fitness professionals are primed for a purposeful life owing to the nature of the industry itself. You are in the perfect position to help people change their lives for the better through intentional movement. This serves a dual cause: You feel purposeful, and that has a ripple effect on those you work with.

When we live our lives according to our values, passions and strengths, work doesn't feel like work. The people we spend time with add strength and positivity. The world seems to be as it should be. It's not that we don't suffer setbacks. We just find our way back with less suffering because we have a strong foundation, and we build from there.

REFLECTION: Can you think of times in your life when it felt like you were swimming upstream, when everything you were doing was an effort? How about times when you couldn't wait to get out of bed in the morning?



Don't Let Stress Get to You

Would you like to explore more ways to manage stress and help your clients do the same? *Stress Gets Personal*, a course that focuses on sources, symptoms and management techniques related to stress, will take you through a variety of mental and physical ways to reduce and control stress. For example, research supports the notion that writing about problems or worries can be helpful. Being in denial or holding back feelings about upsetting events can be psychologically harmful and perhaps physically damaging. People who are reluctant to talk about negative experiences, or who have no ready listener, may find a session with pen and paper a comforting and useful substitute for talking. (Read more about this in the Training Edge section, page 10.)

Other healthy approaches to self-care and stress management include getting a good night's sleep, reducing excess noise, accentuating the positive, and stimulating your brain with memory games and puzzles.

For more information about *Stress Gets Personal*, visit afaa.com/courses/stress-gets-personal.

CLIENT FOCUS: Offer clients positive feedback when they share their passions and reasons for living. Often remind people of their strengths.

5. Meditate to Master the Art of Self-Care

Meditation can promote peace, calm and mental clarity. It helps us stay mindful, in the moment and free of distraction. When our minds feel filled to capacity, our thoughts can overwhelm us. Meditation can clear some of that space, helping us relax and unwind. It drives down stress and anxiety, leading to greater focus and concentration. Research supports the positive effects of meditation in areas of the brain associated with learning and memory (Holzel et al. 2011).

REFLECTION: You can practice meditation formally or informally. Formally means taking time out to intentionally sit, stand or lie down to meditate. It may include some type of guided meditation. Informally means bringing mindful awareness to everyday activities like eating, exercising and work. It means applying conscious awareness to

whatever you are doing in the moment. You're in touch with all of your senses and devoting your full attention to the activity, which could be as simple as folding clothes or eating a piece of chocolate. (See "Meditation Made Simple: Tips for a Powerful Practice," below, for more.)

CLIENT FOCUS: Encourage clients to be mindful of their movements and breath as you work with them. Promote the benefits of meditation for stress relief and exercise recovery.

You are in the perfect position to help people change their lives for the better through intentional movement. This serves a dual cause: You feel purposeful, and that has a ripple effect on those you work with.

Key Traits of Resilient People

Resilient people know where they're going and how to get there. If they discover roadblocks or end up somewhere unexpected, they make the most of the situation. Resilient people adapt to stress by "bending," not "breaking" (Karatsoreos & McEwen 2011). They mitigate the effects of

stress with healthy coping mechanisms that help them manage setbacks.

While the strength of the human spirit can be remarkable, some of us are naturally resilient and some are not. But even those

who lack a natural inclination to turn a frown upside down can learn to be resilient. We can adopt skills and traits that build stress resilience and transform our lives. These lessons then enable us to teach our clients, members, family and friends how to build stress resilience so they can transform theirs.



ANGIE MILLER, MS, LPC, is a mental health therapist, fitness educator and wellness speaker. She owns Angie Miller Fitness, an online fitness company, and speaks at mental health and fitness conferences worldwide, where she champions the connection between physical and emotional well-being. She is an NASM Master Instructor and produces educational videos for AFAA. Learn more at angiemillerfitness.com.

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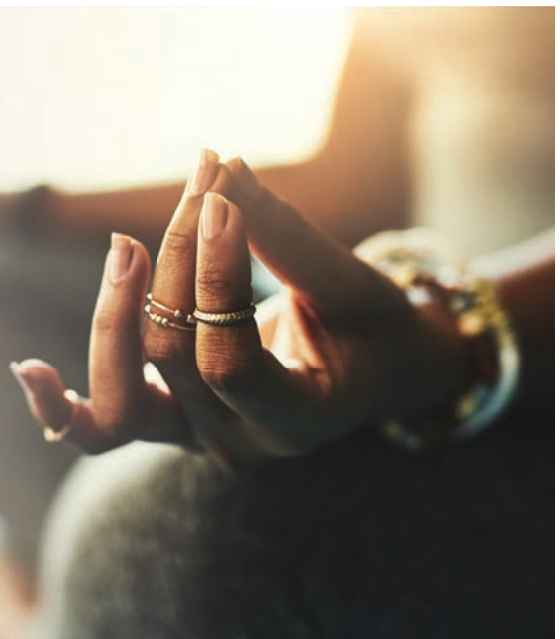
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Meditation Made Simple: Tips for a Powerful Practice

- Start with 3–5 minutes a day and add more time as your awareness increases.
- Try to meditate at the same time each day to establish a habit; make it part of your daily routine.
- Practice meditation in the same place—a calming, serene location free from clutter. Personalize it with candles or calming objects or even an object you can focus on during practice.
- Sit or lie down in a comfortable location—in a chair or on a mat. If you're sitting, sit up tall like a mountain, dignified, unwavering and still. Allow your posture to reflect your commitment through strength and awareness.
- Close your eyes or focus on an object you've chosen.
- Breathe slowly, deeply and gently, not forcing your breath in any way. Keep your mind focused inward or on the object. If it wanders, gently bring the focus back to your breath.
- When your thoughts wander, avoid chasing, condemning or judging them. Let each thought go, like a leaf floating down the river or a cloud passing in the sky. Then bring your breath back to center and continue with your focus. Repeat this process if your mind wanders again.





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BY TONY NUÑEZ, PHD



WHAT DOES CURRENT RESEARCH SAY ABOUT HIGH-INTENSITY CIRCUIT TRAINING, EXERCISING TO PREVENT BREAST CANCER, AND THE VALUE OF OXYGEN-DEPRIVATION TRAINING?

CAN WE CUT DAILY WORKOUT TIMES IN HALF AND STILL MEET WEIGHT LOSS GOALS?

It's well-known that a combination of aerobic and resistance exercise works best for long-term weight loss and health. However, the exercise recommendation for healthy weight loss is at least 250 minutes of aerobic activity and two resistance training sessions per week. Seeking an alternative to this substantial time commitment, researchers investigated whether high-intensity circuit training (HICT) could elicit similar benefits in half the time. They also analyzed the longevity of training adaptations after the program concluded.

The 40-week study recruited 49 inactive but healthy premenopausal women aged 33–45 who were either obese or overweight. Three groups were established at random: control (C), training (TR) and training-detaining (TRD). For the first 20 weeks, the TR and TRD groups did HICT, performing 10–12 exercises 3 days a week and progressing from 23- to 41-minute training sessions. For the second 20 weeks, the TR group kept training, but the TRD group stopped. The scientists measured weight, waist-to-hip ratio, metabolic rate, percentage of body fat, aerobic capacity and strength in all groups before, during (week 20) and after (week 40) the training.

After 20 weeks of training, the TR and TRD groups both showed significant improvements in all health and performance measurements. The TR group continued to improve through the 40-week mark—boosting strength and endurance, reducing body and fat mass, and cutting exercise time in half. While the TRD group's gains retreated sharply after training ended, their health and performance measures stayed above baseline despite 20 weeks of inactivity.

REFERENCE: Batrakoulis, A., et al. 2018. High intensity, circuit-type integrated neuromuscular training alters energy balance and reduces body mass and fat in obese women: A 10-month training-detaining randomized controlled trial. *PLOS ONE*, 13 (8), e0202390.

WHAT'S THE LINK BETWEEN EXERCISE, OBESITY AND BREAST CANCER?

People who are overweight or obese tend to have poorer cancer outcomes than people of lower weight. Scientists suspect the cancer link might be associated with inflammation in body fat tissues. Research suggests that an increased release of white blood cells that trigger inflammation—known as **pro-inflammatory macrophages**—could lead to the development, progression or recurrence of breast cancer in women. In healthy people, exercise and weight loss decrease fat-tissue inflammation, potentially decreasing the pro-inflammatory response.

Researchers recruited 20 obese women who had completed radiation and/or chemotherapy after receiving a stage I–III breast cancer diagnosis. One half took part in a 16-week aerobic and resistance training exercise intervention; the other half served as

the control group. The scientists progressed the exercise program throughout the study, and participants were asked to maintain their dietary intake.

The researchers noted that the women who exercised saw clinically significant reductions in body weight, percentage of body fat, waist-to-hip ratio, and pro-inflammatory macrophage and hormone release compared with baseline measurements and the control group. This small pilot study yielded promising evidence that exercising more might reduce pro-inflammatory macrophage release, even when diet is unaltered, in female breast cancer survivors.

REFERENCE: Dieli-Conwright, C.M., et al. 2018. Adipose tissue inflammation in breast cancer survivors: Effects of a 16-week combined aerobic and resistance exercise training intervention. *Breast Cancer Research and Treatment*, 168 (1), 147–57.

WHAT'S THE BENEFIT OF HYPOXIC TRAINING?

Working out in hypoxic conditions (where oxygen levels are low) creates more metabolic stress than exercising in a normoxic environment (i.e., at sea level). Thus, hypoxic training has many fans among serious fitness enthusiasts. But how well does it work? Most research on hypoxic exercise has centered on aerobic training. A recent study shifted gears, using whole-body, high-intensity circuit training (HICT) to test the effects of hypoxia on repeat sprint ability (RSA), aerobic performance (VO_{2max}) and resting energy expenditure (REE).

Twenty-eight college-aged, resistance-trained men joined the 8-week training study, divided into hypoxia and normoxia groups. All had pre- and post-training measurements taken for RSA (10 30-meter sprints with 30 seconds of rest between sprints), VO_{2max} on a treadmill and REE.

Results were mixed. With 8 weeks of training, the hypoxic group improved its fatigue index between repeated sprints, though sprint speed did not improve. The hypoxic group also improved velocity, time to exhaustion and VO_{2max} during the aerobic treadmill test.

By contrast, the normoxic group saw no improvements in its measurements. Despite the documented gains in the hypoxic group, neither group showed significant differences in blood markers associated with improved aerobic or anaerobic performance.

REFERENCE: Ramos-Campo, D.J., et al. 2018. Effect of high-intensity resistance circuit-based training in hypoxia on aerobic performance and repeat sprint ability. *Scandinavian Journal of Medicine & Science in Sports*, 28 (10), 2135–43.



TONY P. NUÑEZ, PHD, is an assistant professor of human performance and sport at the Metropolitan State University of Denver. He is an active researcher and presenter in the exercise physiology and fitness field.

Have a question for our expert? Send it to AmericanFitness@nasm.org.

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