

By Amanda E. Vogel, MA

Indoor Cycling: Guidelines & Safety Suggestions

Editor's note: This article is the second of a five-part series on guidelines and safety suggestions for various group fitness modalities. The genesis for these articles is you, the IDEA member. In our most recent readership survey, a whopping 100 percent of respondents said they wanted to see more space in IDEA publications devoted to injury prevention. In addition to the five injury prevention articles slated to appear in IDEA Fitness Edge this year, the entire June 2000 issue of IDEA Health & Fitness Source will be devoted to this topic.

Indoor cycling has “spun” a revolution in group exercise. Cycling’s reputation as a challenging, no-frills activity, enjoyed by beginners and elite athletes alike, has made it a welcome addition to group exercise schedules around the globe. But indoor cycling is still evolving. For this activity as for any group workout, instructors need to design fun, high-energy classes without compromising safety. Unfortunately, some recent cycling trends may, in fact, be contributing to injuries among participants. Cycling experts agree that what’s “in” is not always what’s safe or effective. How do we fare when it comes to cycling safety and training expertise? At this early stage, we would do well to step back, assess our journey and recommit to ensuring safe cycling on the road ahead.

Common Injuries

Instructors who are aware of the types of injuries associated with cycling can help participants dodge some common aches and pains. Although the majority of studies on cycling injuries have focused on the outdoor sport, the findings may apply to indoor cycling as well. Due to the mechanically stressful and repetitive nature of cycling, overuse injuries are common (Holmes et al. 1994). Add to the equation improper bike fit, contraindicated moves, poor program design or a combination of these factors and the injury risk is even greater.

Neck and back aches appear to be the most typical cycling injuries, with as many as 60 to 70 percent of riders complaining of pain in these areas (Mellion 1991; Salai et al. 1999). Shoulder pain, hand numbness and particularly knee injuries are also commonplace (Gregor & Wheeler 1994; Mellion 1991; Wilber et al. 1995). Making adjustments on the bike will often reduce the incidence and/or magnitude of pain or muscular tension while riding (Mellion 1991; Salai et al. 1999).

Equipment Setup

Getting the Right Fit

Stationary bikes are among the most complex and sophisticated pieces of equipment used in the group exercise setting. Instructors and participants need to be more involved with adjusting and handling their equipment before a cycling session than they would be before a conventional group fitness class. In fact, knowledge about proper bike setup is essential for injury prevention.

Aileen Sheron of Santa Ana, California, a master trainer with Star Trac® by Unisen Inc.'s Precision Cycling Program™, has noticed a trend

toward instructors neglecting to address bike fit. "Now that cycling has been around for a while, I think [teachers] are forgetting to fit people on the bikes," she says. Jay Blahnik of Laguna Beach, California, 1996 IDEA Instructor of the Year, developed the Precision Cycling Program and co-designed Star Trac's V-Bike™. He feels that while a slight misalignment may not cause significant problems for infrequent cyclists, a correct fit for committed riders is key. Chronic misalignments can eventually lead to injury, particularly in individuals who are predisposed. "The more often you ride, the more adjustments your bike is going to need for safety," he says. Blahnik likens proper bike fit to the need for proper form in other types of fitness classes. "If your knee is off by an inch when you do a lunge, no big deal twice a month, but if you are doing lunges every other day, . . . it's a huge safety issue."

Problems can also originate from improper pedal adjustment. Mark Santella, Spinning® master presenter, program director at General Electric's Plastics Fitness Center in Pittsfield, Massachusetts, and a member of IDEA's group fitness committee, says instructors need to have a thorough understanding of proper cleat placement. Because some participants don't wear special cycling shoes, knowing the best position for a regular fitness shoe is also important. "Most people shove their feet all the way forward to the end of the toe clips," he explains. "If you wear a size 6 shoe, that means the ball of your foot won't be centered over the pedal. [Since] the ball of your foot is where you transfer the power, [placing

it] in front or behind the center could create all sorts of injuries."

Comfort Versus Fit

Most indoor cycling participants are primarily concerned with feeling comfortable on the bike. However, adjusting for maximum comfort may not always result in the best fit. For instance, people who try to minimize saddle-related discomfort by lowering the seat increase their risk of developing knee problems.

Some bikes allow participants to adjust the fore and aft seating and even the handlebar placement. Blahnik advises instructors to be aware that the optimal seat position should place the knees in proper alignment with the pedals. Participants who push the seat far forward in order to more comfortably reach the handlebars may compromise their knees. "Keeping people comfortable on the bikes is important," says Blahnik, "but for maximum efficiency and safety, a more fine tuned bike fit is required." Often, adjustments for proper fit cause cyclists to experience a period of minor discomfort as the body adapts to a new riding posture (Burke 1994). Participants should ride a few sessions in the new position before making further adjustments.

To ensure your cycling clients commit to the proper position, encourage them to improve their comfort on the bike in other ways. Padded shorts and gel seats help relieve saddle-related discomfort. Numbness in the hands and wrist pain can be alleviated by cuing neutral posture and focusing body weight away from the hands. Blahnik also suggests counterbalancing the mechanical stress of cycling by adding seated posture breaks that incorporate

shoulder rolls, back extensions and neck releases.

Common Teaching Errors

Riding in the Fast Lane

Once the initial excitement of teaching indoor cycling wears off, many instructors feel pressured to keep their classes fresh *and* well attended. The temptation to introduce higher-intensity and more elaborate cycling drills has some instructors inadvertently compromising safety. This has resulted in a trend toward faster and longer bouts of speed riding.

Building classes around high-velocity, low-resistance riding has some seasoned cycling trainers concerned. Blahnik regards this trend as “totally irresponsible” and contradictory to the well-established sport of cycling. “It’s very, very common to see [indoor cyclists] pedaling [at speeds] in excess of 200 revolutions per minute (rpm),” he says. “But the fastest cyclists in the world don’t cycle that fast! They pedal in a big gear [at speeds ranging] between 50 and 100 or 110 rpm.” Blahnik warns that cycling at an exaggerated cadence puts participants at a higher risk for injury.

Kristopher Kory from Naples, Florida, codeveloper of Keiser cycling programs and coauthor of *Power Pacing for Indoor Cycling* (Human Kinetics, 1999), agrees that speed riding jeopardizes safety because participants often lose control of their bikes. “People have a tendency to ride too fast without [using] adequate tension,” he says. “If a person slows down and feels the wheel take over, he or she does not have enough resistance.”

Sheron agrees that maintaining control is crucial for injury prevention.

“Instructors shouldn’t forget we are on a mechanical device. The more [we incorporate] radical movements and speed [into our classes], the greater chance there is that something will go wrong—and our participants will not be able to recover quickly enough.” Sheron predicts that indoor cyclists who consistently ride at fast cadences with low tension may become injury plagued. “You can do only so many repetitions on a joint before you’re going to push an injury.”

Some participants and instructors mistakenly think the faster the wheel spins, the harder the workout is. In actuality, current research on indoor cycling shows little relationship between fast pedaling and intensity (Williford et al. 1999). Studies have shown that high cadence does not translate to greater intensity or energy cost (Francis et al. 1999). To move quickly, cyclists need to employ low resistance levels, but doing so decreases efficiency. “Sure, you get a great burn if you stand up and pedal really quickly,” says Blahnik. “You also get a burn doing really fast leg lifts or arm circles, but we certainly have graduated past [those exercises].” He believes that many unsafe practices in today’s cycling classes are the result of misinformation about the science of the sport. Instructors who are committed to challenging yet safe cycling classes will enjoy long-term success. Or, as Blahnik puts it, “Speed is only sexy for a while.”

Setting the Rules of the Road

In step, high-impact and low-impact classes, designing choreography is standard practice and instructors are encouraged to be creative. But for in-

CYCLE SAFETY CHECKLIST

Before Every Class:

- Keep equipment in excellent working order.
- Check that the cycling area or room provides adequate ventilation.
- Survey the group for newcomers and provide orientation.
- Ensure that all students are properly adjusted on their bikes.
- Check that all students have towels and water bottles.
- Share the day’s lesson plan with your group.
- Review safety guidelines and rules for posture.

During Class:

- Allow for frequent water and posture breaks.
- Cue plenty of options and modifications.
- Watch for, and correct, poor posture and riding techniques.
- Stay focused on leading a safe, effective ride.
- Educate, educate, educate—both yourself and your participants.

door cycling, master trainers have adopted a more conservative stand—and so should other cycling instructors. “Being creative is wonderful,” acknowledges Santella. However, he recommends that instructors add flavor to their classes using music and course design, but stick with basic moves, such as standing and seated climbing, flats and occasional jumps. Blahnik is even more adamant, strongly cautioning against making up new cycling moves. “Instructors can be creative and have fun as long as they don’t stray from a scientifically sound framework,” he says. Sheron urges instructors to exercise common sense: “Stay away from unusual, exceptional movements like dropping the seat.” Safety should never be a trade-off for the sake of variation.

Sometimes, instructors take appropriate training techniques to extremes, perhaps believing that if a little is good, more must be better. Performing excessive jumps (lifting on and off the seat) is one example. Some cycling programs even sponsor competitions for the highest number of jumps. "Jumping 300, 400, 500 times is absolutely no measurement of someone's fitness; it's just a skill," asserts Blahnik. Santella promotes building classes around exercises that are true to the sport of cycling. "Movements on [an outdoor bike] are very subtle; they are not these ballistic jumps one after another," he points out.

Because cycling is a mechanically repetitive sport, drills that introduce extra repetition increase the risk for overuse injuries and can exacerbate existing ones. Always consider the purpose of your cycling exercises and make sure the benefits outweigh the costs.

Accommodating the New Rider

When indoor cycling first arrived on the group exercise scene, most instructors and students were new to the activity and everyone progressed together. Today, instructors and seasoned participants have improved their skills, confidence levels and physical abilities on the bike. Unfortunately, new participants often find it difficult to keep up.

One of the biggest concerns about indoor cycling is the growing misconception among instructors and the general public that the activity is strictly for hard-core, superfit people. Julie McNeney, the 1999 IDEA Program Director of the Year and vice president of operations at The Fitness Group in Vancouver, British Columbia, is a for-

mer Cycle Reebok® master trainer. She urges instructors to be conscientious about accommodating people new to cycling or new to exercise altogether. She, Kory and Sheron all agree that novice indoor cyclists often work out at an unsafe intensity, regardless of their fitness levels. "Some instructors think the only way they can be successful is if they 'kill off' the class," observes Sheron.

According to McNeney, it's common for instructors to prepare classes for a population that is fitter than the actual clientele. "The participants want to keep up with the instructor and end up working at a level that is beyond their physical abilities," she says. Kory concurs that some instructors like to "show off" their riding skills, while less fit participants struggle to keep pace. He recommends that instructors "ride with the beginners at least 70 percent of the time, cuing options and modifications throughout the class."

Sheron and Blahnik are confident that beginners and experienced cyclists can ride successfully side by side in the same class. Although each member of the group needs to work at a different intensity, everyone can pedal in relative synchronization. "Music pacing and leg movements will be on the same level, but [each participant should use] different gears," explains Sheron. "No one has to look at the speed of someone else's legs and feel intimidated."

McNeney suggests there is even a hidden benefit to having to accommodate the needs of both experienced and novice riders in the same class: Instructors can organize a "buddy system" by partnering beginners with regular riders. "That way, a new individual will have additional one-on-one attention

during the class," she explains. Santella agrees that when instructors can effectively lead classes comprising varying fitness levels, "the program will flourish."

Addressing the needs of beginner and deconditioned clientele should be an ongoing effort. Santella, Sheron and McNeney all stress the importance of familiarizing clients with the indoor cycling experience *before* they ride in a regular class. Santella recommends coaching deconditioned clients so they will eventually "feel confident and able to manage a class of greater intensity." He believes that if clients are to enjoy successful, low-risk cycling, they need to be educated about appropriate training zones. Sheron says that introductory classes designed to teach the basics of biking technique and bike fit "are the key if we want to bring new people in the door." And McNeney advises instructors to be diligent about checking for newcomers before every class. "It's the instructor's responsibility to ensure that the new participant is given a review of terminology and is properly set up on the bike."

Santella observes that clients of all fitness levels are drawn to indoor cycling because they seek a challenging class that pushes them to work harder than they would on their own.

Accordingly, incorporating intensity into the class is "delivering what the customer wants." However, he stresses that an experienced and qualified teacher can challenge participants without causing them to overtrain. Santella proposes that instructors coach classes off the bike in order to devote full attention to participants' safety. Kory agrees, saying instructors "should get off their bikes, walk

around, and offer encouragement and safety tips to *all* the students.”

Beyond Cycling Certification

Learning the ins and outs of safe, effective cycling takes time. Are group fitness instructors equipped to handle indoor cycling after a standard one-day or weekend certification course? What about experienced cyclists who have no formal fitness training? No way, say cycling master trainers, who stress the importance of standard fitness certifications in addition to cycling education.

“[Experienced cyclists] make some of the greatest teachers, but [without the fitness knowledge] they can also be the highest-risk teachers,” warns Blahnik.

What seasoned outdoor cyclists lack in fitness certifications, group fitness instructors lack in hands-on experience. Master trainers agree that instructors should commit to riding an indoor or outdoor bike and should learn about the sport of cycling before attempting to lead an indoor cycling class. According to Sheron, new teachers need to hone their skills, build confidence and expand their cycling knowledge: “[As with] any other class, the more you practice, the better—and more confident—you’ll be.” Kory recommends riding for no less than one month before teaching.

Santella, however, says you need “at least a ‘season in the saddle’ to understand [concepts like] cadence, bike positioning, . . . floating cleats and hydration.” He underscores the need for education and experience. “The cornerstone of safety is the training.” Blahnik agrees that knowledge about cycling is fundamental when preparing safe, effective classes. He urges instructors to “take responsibility for

learning the bigger picture” through education, certification courses and riding experience. “The best cycling teachers are the ones who have taken multiple training courses.” Sheron concurs and advocates ongoing training: “What you don’t pick up on your first go-around, you can pick up later on.”

Paving the Road Ahead

Indoor cycling fuses aspects from the sport of outdoor cycling, mind-body fitness and traditional group exercise. With such a multidimensional framework, it can be difficult for cycling instructors to find their niche. “The biggest mistake instructors make is trying to be someone they’re not,” says Sheron. Optimal safety doesn’t have to be boring or overly serious. Instructors should ultimately strive to deliver fun and lively classes. But in the end, the more safety conscious we are as instructors, the smoother the ride will be for our participants. 

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PREVENT OVERTRAINING

Recent research shows that some indoor cyclists may unintentionally train at inappropriately high intensity levels (Bradford et al. 1999). The experts interviewed for this article offer their tips to help you monitor overtraining in your participants.

- Educate riders about appropriate training zones.
- Encourage participants to wear heart rate monitors.
- Coach participants from off your bike.
- To discourage competition, arrange bikes so the group is facing away from the mirrors.
- Plan regular recovery periods and posture breaks.
- Encourage riders to feel comfortable choosing lower-intensity options.