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EXTRA

Keep Cool at Summer Shows

Injury Prevention

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Keep Your COOL at SUMMER SHOWS

Experts provide tips to help horse and rider safely handle extreme heat.

By Karen Brittle

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Heat and humidity pose many challenges for humans and horses. Competitors must use their own judgment about how to compete safely and must take special precautions to protect the well-being of themselves and their horses.

Extra free time, annual travel traditions and the promise of fair weather make summertime competitions especially inviting until it just gets way too hot. Riders often comment that it's not even the heat that's the problem—it's the humidity. In fact, there is a lot of truth to this statement. Heat, and especially humidity, pose many challenges and risk factors for both human and equine athletes. While show officials may cancel, postpone or adjust ride times and attire requirements due to weather-related warnings, the reality is that riders often need to use their own judgment about how to compete safely and when to call it off. When temperatures sizzle and you decide to ride, veterinarian Nancy Loving and medical doctor and USDF gold medalist Beth Glosten say preparation and awareness can help you protect both your own well-being and your horse's in the heat.

Keeping Horses Safe at Summer Shows

Loving has served as an FEI-sanctioned veterinarian for endurance riding and as team veterinarian for the USEF National Endurance Squad. Her experience training and competing with her own long-distance horses has informed her veterinary practices. In addition, Loving has competed in dressage and eventing and authored five books on equine health topics, including *All Horse Systems Go: First Aid for Horse & Rider* and *Go the Distance: The Complete Resource for Endurance Horses*.

Loving explains that performing in hot and especially humid climates can cause horses to sweat excessively, leading to loss of both body fluids and salt (electrolytes). According to Loving, "Even moderate losses of bodily fluid lead to dehydration,

Dusty Perin

To efficiently cool your horse, hose him off with water, scrape off the water and then apply more. You need to repeat this process until your horse's chest area is cool to the touch.

which causes poor skin circulation and less heat dissipation through further sweating, elevations in heart rates and poor recovery. Horse sweat is far more salty than human sweat. Loss of both electrolytes and fluids has significant effects on intestinal activity and on muscle function, potentially leading to synchronous diaphragmatic flutter (commonly known as "thumps") and myositis ("tying up"). Without effective heat dissipation, the horse may experience heat stress or heat stroke, both of which can lead to serious impacts on all organ functions, including neurologic coordination and mental acuity."

As dangerous as excessive sweating can be, another condition, anhydrosis, may occur where the sweat glands have exhausted themselves and the horse is unable to sweat to dissipate heat. While not a common condition, it can occur in very hot and humid climates in horses not acclimated to that climate, such as in the southeastern United States.

Loving emphasizes that at summer shows, all steps taken to keep a horse cool and out of the sunshine will help protect his well-being and improve his performance. Her top five tips for keeping horses cool at summer competitions are:

1. Set up to stay cool by stabling the horse in the shade and in a well-ventilated area throughout the show. Consider using fans to help create cool airflow.

2. Hydrate! Don't underestimate the importance of water and salt. Provide clean drinking water for your horse at all times. Unless a horse has been performing at gallop speeds, it is OK to let him drink his fill following aerobic-type activities. Loving says it doesn't hurt to interrupt the horse for a moment if he is guzzling too fast and then let him resume drinking after a short break. Likewise, provide free-choice salt. If your horse is undergoing prolonged exercise, Loving suggests it might be prudent to administer a dose (1 to 2 ounces) of electrolytes (which contain salt, not sugar) by syringe during the event or mix electrolytes into a wet mash for the horse to eat. She explains that depletion of sodium in the sweat causes the thirst reflex to diminish, which may reduce the horse's instinct to drink enough water. Loving explains, "This is primarily significant to horses who sweat for hours on end, such as those engaged in endurance-type sports." For most short-term activities, such as dressage warm-up and tests, simply supplying free-choice salt, either as a block or in loose form in a pan should suffice.

3. Soak the horse with cool water over all areas in front of the withers to help keep him cool and comfortable. After soaking, scrape the water off and then apply more water, repeating this process until the horse's chest is cool to the touch. Loving emphasizes, "In very hot and humid climates, it may be OK to soak the entire body, but in cooler or arid climates, keep water off the hindquarters to prevent tying up."

4. Monitor vital signs and behaviors before, during and after your ride. Loving suggests checking heart rate before and after exercise to ensure the horse's heart rate returns to a normal resting rate within 10 to 15 minutes after stopping exercise. If he seems overly warm, his rectal temperature should be checked as well. The horse's temperature should be less than 103.5 degrees Fahrenheit following exercise and should come down steadily to less than 101 degrees within 20 minutes. Likewise, check mucous membrane color, capillary refill time and intestinal sounds as part of your overall assessment of how your horse is recovering. (Capillary refill time is a rough indicator of how well your horse's circulatory system is functioning. It can be taken by applying momentary pressure to your horse's gum above an incisor and then counting the seconds it takes for the color to return to normal when you release the pressure.) Monitor his appetite and manure output as well as how much he drinks and urinates.

Horses who exhibit still-elevated vitals, restlessness, lethargy or who are sweating excessively 20 minutes after exercise may be experiencing signs of heat stress, which warrants medical attention.

5. Prioritize recovery. After your test, hose off your horse's legs and check for any swellings or scrapes. If you feel it is necessary, apply leg quilts and support wraps to help keep the lower limbs free of swelling following difficult exercise demands.

Keeping Riders Safe and Cool

Dr. Beth Glosten is a U.S. Dressage Federation bronze, silver and gold medalist as well as an "L" Program Graduate with distinction. She is the author of *The Riding Doctor: A Prescription for Healthy, Balanced and Beautiful Riding, Now and for Years to Come* and founder of RiderPilates LLC in Seattle, Washington. Prior to retirement, Glosten practiced as an anesthesiologist with a special academic interest in temperature regulation.

Glosten explains that understanding the physiological effects of heat on the human body can help riders prepare to stay safe and ride their best when competing at summer shows. She says three main strategies allow the body to maintain a narrow stable temperature (98.6 degrees Fahrenheit give or take a degree in either direction) for the function of our cells and organs, despite exposure to different environments and activity levels. According to Glosten, "The body's first defense is behavior. Think about what you would do if you walked outside on a sunny porch. You would seek the shade for protection from the sun's rays and you might find a location where there's a breeze or wave yourself with a fan. These are all behaviors that promote heat loss, which you initiate to protect your body from overheating, maybe without even thinking about it."

Two other important functions help us stay cool. Changes take place in our cardiovascular system: The blood vessels of the skin dilate (That's why some people get red in the face when hot). This allows more warm blood to circulate near the skin's surface, which in turn promotes heat loss to the environment via convection. The third body function is sweating, which promotes cooling by heat loss from evaporation of sweat from the skin.

Glosten says, "When you are anticipating competing or riding in the heat, you can use this knowledge of your body's three cooling mechanisms as a framework to prepare yourself optimally, stay as cool as possible while competing and help your body to recover quickly from the exertion." Her top five tips for staying cool when competing are:

1. Get physically fit and pre-hydrate. Glosten emphasizes that getting fit in the months before a competition will improve any rider's experience, but applies especially when preparing to compete in the heat. She explains, "The physically fit body will sweat more readily during exercise than the body that is not fit. A fit body also creates a sweat that is less salty, so you will be losing less salt through sweat. In this way, you're accessing your body's cooling mechanism more quickly and more effectively."

As the show day approaches, Glosten emphasizes the importance of pre-hydrating. She advises riders: "Arrive at the horse show without a deficit." This means drinking lots of water in the days leading up to the show and avoiding excessive intake of alcohol and caffeine, which can have dehydrating effects. Good dietary practices in general help with the body adapting optimally to the heat.

2. Recognize and honor the mind–body connection. Being mentally fit may be just as important as being physically fit. Glosten explains, "You will be starting from a better point if you are calm, you have developed tools within yourself to stay focused, you're not rushed, you're prepared and you stay organized. You'll cope more readily with the stressful circumstance of showing in the heat." Riders should do what they can to prepare in advance of the show and prevent day-of rushing: for example,

Know Your Horse's Vital Signs

It is always advisable to know your horse's specific vital signs when he is healthy, relaxed and at rest, as "normal" can vary slightly from horse to horse. The chart reflects normal ranges for horses and ponies.

Pulse	30 – 45 beats per minute
Respiration	8 – 16 breaths per minute
Temperature	95.5 – 101.5 degrees Fahrenheit
Mucous Membranes: Moist and pink in color	
Capillary Refill Time (CRT): 1 – 2 seconds	
Gut Sounds: Active gut sounds in four quadrants, two on each side of the flanks	

Dusty Perin

Dr. Beth Glosten emphasizes the importance of drinking lots of water in the days leading up to a show, and avoiding excessive intake of alcohol and caffeine, which can have dehydrating effects.

by having all paperwork, equipment and apparel in order and ready for use. Glosten points out that a prepared rider can allow herself to get ready for her ride slowly and deliberately, which will likely also help her horse stay relaxed and comfortable—regardless of the weather.

Interestingly, Glosten says the ability to stay calm and accepting of what is happening in one's environment helps a rider to avoid getting upset about the very fact that she is hot. Getting upset about the circumstance can only add to anxiety, which in and of itself can make a person feel warmer. She advises, "Know that you're taking care of yourself and remind yourself that you can adjust riding plans as needed to keep yourself and your horse safe."

3. Be efficient and practical in your warm-up. In general, Glosten recommends an off-horse warm-up (stretching and mindfulness preparation) prior to riding. She says, "Taking time to do some simple mindful movements and stretches can help you organize your body for riding. Then as soon as you sit in the saddle, you are ready to move with your horse, not needing much warm-up for yourself. This contributes to an efficient warm-up for your horse, which is so important on really hot or humid days."

Once you are in the saddle on a very hot day, Glosten's advice is simple: trust your training and don't warm up any more than is absolutely necessary. She says, "It's easy to use up your energy in the warm-up and be worn out by the time you get to your test. Instead, be really aware of using your time and energy wisely in the warm-up."

4. Self-monitor throughout the competition. According to Glosten, "At the horse show, you really want to listen to your body. Stay out of the sun when you can. Wear loose-fitting, light-colored clothing. Stay hydrated!" Hydrating means reminding yourself to drink water continually throughout the day—not waiting until you're thirsty to start drinking. Glosten also says that if you find yourself working in the heat for more than an hour, it can be helpful to incorporate a sports drink. Look for one that includes both electrolytes and carbohydrates to help the body replenish. According to Glosten, "The best measure of hydration is what your urine looks like. It should be pale and odorless, not concentrated and stinky. And if you're not peeing, it's a problem," she says.

Likewise, riders should monitor for muscle cramps and fainting or light-headedness, called heat syncope. Both can be strong signs that the body is not adapting well to the heat. Be aware that heat exhaustion—when the body has lost its ability to adapt to the environment—is a serious condition with vague symptoms such as headache, muscle cramps, fatigue, nausea, vomiting and disorientation. A person suffering from any of these symptoms needs to get to a cool place, hydrate and, if symptoms do not improve quickly, seek medical attention immediately.

5. Cool off after riding. Glosten says, "After your ride, you will naturally seek measures that allow you to cool down, such as a cool washcloth around your neck. Honoring these behavioral mechanisms to help your body cool go a long way to expedite a successful recovery."

Prioritize Well-Being

It is important to recognize that a summertime competition environment can pose special risks to horses and riders, so the well-being of both must always be prioritized. Glosten adds an important final thought: "All of the body cooling mechanisms that are in place for people are in place for the horse. What the horse doesn't have, however, is the ability to *tell us* he is thirsty or feeling way too hot. We have to use common sense and watch for signs about how the horse is coping. Likewise, we have controlled the horse's environment by bringing him to a horse show and, in doing so, taken away his ability to follow his natural behavioral impulses, such as seeking shade or slowing activity. All the more reason to recognize these challenges and make every attempt to prevent heat-related problems with good preparation and horse care."

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BACK IN THE SADDLE

A New Jersey physician and horsewoman helps her patients return to riding after an injury.

By Nancy Jaffer

Like other athletes, equestrians must cope with the physical problems that often crop up while they are pursuing their sport. But many physicians don't understand what riding entails and therefore cannot give good guidance about when and how to get back in the saddle after an injury. However, if a patient at the Union County Orthopedic Group in New Jersey asks, "When can I start riding again?" her physician is ready with a response: "We're going to send you to Dr. Betesh."

Naomi Betesh, DO, a member of the practice, understands the patient's concerns because she, too, is involved with horses. A casual rider in her youth, the mother of three went back to the sport three years ago at age 42, when she started taking lessons and bought her own mount. Her involvement has led to a broader understanding of equestrians' ailments. "Part of being able to rehab is knowing when you can go back to your life," observes the doctor.

Working with riders came naturally, since Betesh was already doing rehabilitation and pain management, treating people with back pain, sacroiliitis, neck pain and other injuries, all of which are common to riders. "I realized after talking to people in the barn that a lot of them either had chronic injuries and didn't know how to deal with them or weren't riding because of them," she says.

The doctor saw a need for people to learn how to prevent injuries and rehab the chronic conditions they have, which led her to start a program called "Saddle Up Equestrian Injury Rehabilitation."

Common Rider Injuries

The incidence of lumbar-spine injuries in riders most often can be attributed to improper posture coupled with unstable core muscles. The core muscles include pelvic, abdominal and lower-back muscles that allow the body to remain upright and keep the spine in a proper position. Thirty percent of all riding injuries are related to the lumbar spine and that number is even higher among competitive riders.

When the core muscles are not functioning at their optimum, the rider tends to hunch forward, causing the spine to be in a flexed position. In this position, the normal forces absorbed by the intervertebral discs become exaggerated and can lead to disc injuries. Most commonly, these injuries are herniated lumbar discs, causing pain in the lower

back, hips and legs. Herniated discs can also cause burning, numbness or tingling in the lower extremities. In equestrians, herniated discs often occur as a result of the repetitive concussive forces generated by the horse, which are absorbed by the spinal discs. Small micro-ruptures begin to weaken the discs. That eventually causes the gelatinous fluid of the disc to protrude into the spinal canal or irritate the spinal nerves. Herniated discs can make riding especially painful because the pain tends to intensify with activity.

Since a large amount of the communication between rider and horse occurs through the seat, lower-back pain is a common complaint. Overuse injuries in the lower back usually have an insidious onset of pain, but riders often seek treatment only when they are in too much pain to ride or the pain affects their performance.

Using a multidisciplinary and nonsurgical approach, Saddle Up Rehab is geared not only to helping alleviate pain, but also to preventing injuries. Riders are encouraged to work on strengthening their core and correcting training errors such as riding lopsided or leaning forward or backward too much, which puts a lot of pressure on the back.

The Importance of Exercise

A rider's fitness level is important for a number of reasons. Even dismounted, riders still face plenty of opportunities for hurting themselves. "Everything's connected," says Betesh. "If your abdominal muscles are weak, you'll use your back or hips more and overcompensate by using your knees. We see a lot of shoulder wear and tear from what goes on in the barn and some elbow tendinitis, too."

Betesh points out that it's important for riders to build endurance. "Once you get tired, you tend to go back to old habits and muscle memory and then you start to compensate," she says. "For instance, if my core is weak, I can still remember to engage it the first time I go over a jump. But after the fifth time, things start to fall apart. When people are tired, they tend to make more training errors."

Betesh does exercises every day and recommends that her patients do the same, but cautions riders not to get overwhelmed. "If a busy schedule means you can't work out for a half hour, I tell patients the benefits are cumulative. If you can find five or 10 minutes to work out and make it into a habit every day or at least every other day, it adds up."

She says on the days a patient isn't riding, it would be good to do some

Nancy Jaffer

Ankle stretches can be done on the stairs at your home or on the mounting block as you're warming up for your ride.

Simple Tips for Injury Prevention

- Stand on a stool when putting a saddle on your horse or when putting it away on an elevated rack in the tack room. Holding something heavy when your arms are raised risks injury because that's a weak position, in contrast to doing it with arms parallel to the ground.
- Look at your equipment and take note of how heavy it can be as a subtle reminder to be careful when moving it.
- Mount using a mounting block. If you get a leg up or mount from the ground, you may end up using your shoulders to boost yourself.
- Instead of carrying full water buckets, use a wheelbarrow or fill empty buckets with a hose while they're hanging in the stall.

Helmet Safety

I don't understand why someone rides without a helmet," says Dr. Naomi Betesh. At the same time, she warns, "Helmets don't protect from all brain injuries. Sometimes people think, 'I'm wearing a helmet,' so they do things they wouldn't otherwise do."

Betesh, who is board-certified in traumatic brain injury, emphasizes, "When you have a fall, you do not have the judgment to decide whether to get back on your horse. You are not in a position to make that decision. It is better to stay on the ground and be checked out. Studies with children show that a second concussion within a certain amount of time is cumulative. You can wind up with a worse brain injury even if you had two small concussions."

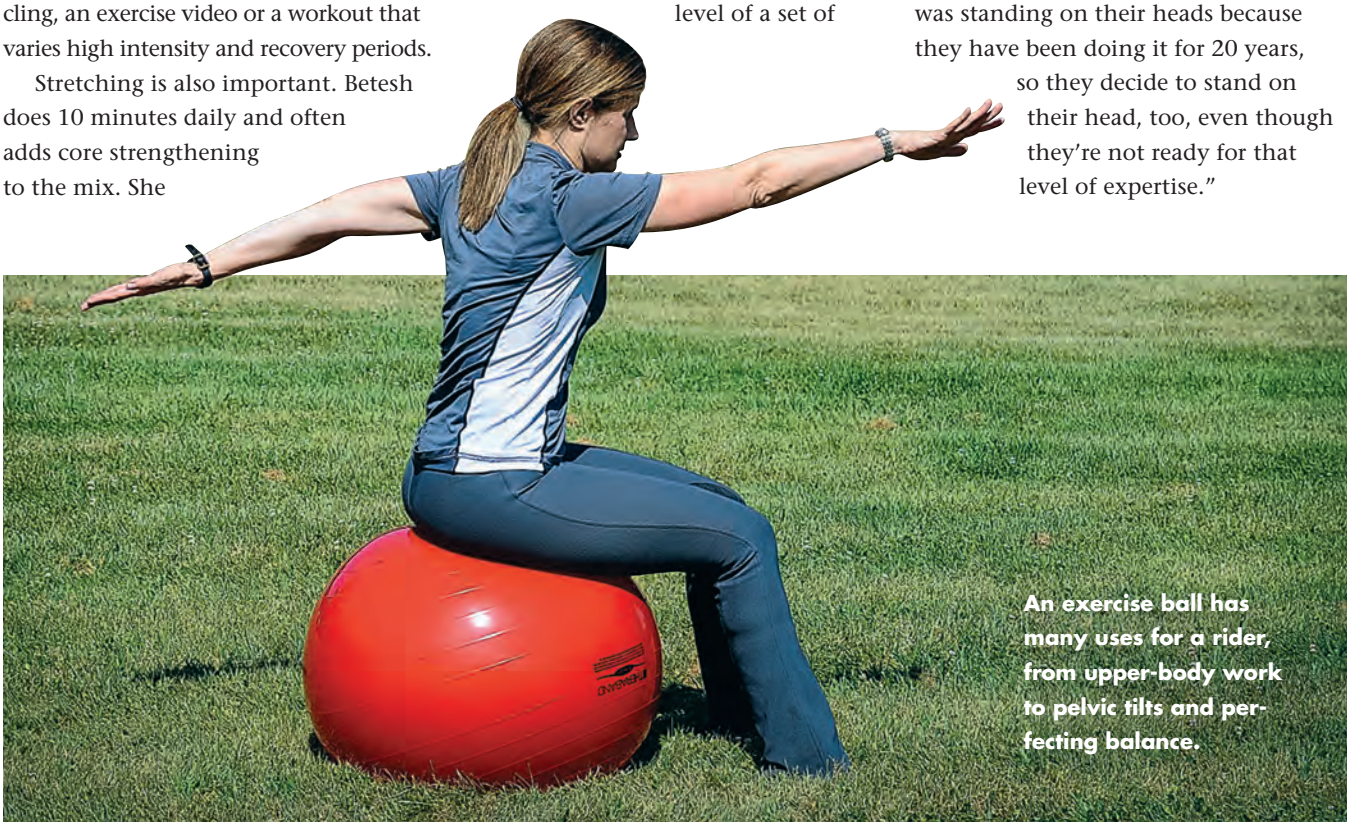
The brain needs a chance to heal after a head injury. "If you are diagnosed with a concussion while at a show, don't stay to watch," says Betesh. "Go home or to your hotel and rest."

Although the thought of discarding a $500 helmet is upsetting, it's important to remember that if you hit your head while you are wearing a helmet, it needs to be changed or inspected. Some manufacturers will examine the helmet for you to see if it's all right. Some also will offer a discount on a new helmet.

type of aerobic exercise. The goal is five days of exercise a week. So if you're riding three days a week, you might consider aerobic exercise on the other two days. It could be swimming, brisk walking, cycling, an exercise video or a workout that varies high intensity and recovery periods.

Stretching is also important. Betesh does 10 minutes daily and often adds core strengthening to the mix. She particularly likes planks, lunges, squats, hip openers and yoga exercises such as downward dog and cobra. She suggests that a new rider do ankle stretches, placing the ball of the foot on the lower level of a set of stairs while holding on to a handrail for balance and dropping the heel as if it were in a stirrup. She also recommends stretching after a shower because the body is warm then or after going for a walk as a way to warm up. "The key thing is you have to work with your routine," she says. "Once I get to the barn, I'm busy getting the horse ready and focusing on her needs. For me, the routine works better at the house."

While she likes yoga and Pilates, Betesh notes, "It's important if you're a beginner that you go to a class and don't try to follow directions from a video on your own at first because it looks simple. Without having someone to correct the way you do it, you don't know if you're doing it properly and easily can get injured." She also advises using common sense when trying these exercises. "We have patients who are injured doing yoga and Pilates because they push things a little harder than they should. Everybody in their class was standing on their heads because they have been doing it for 20 years, so they decide to stand on their head, too, even though they're not ready for that level of expertise."



Nancy Jaffer

An exercise ball has many uses for a rider, from upper-body work to pelvic tilts and perfecting balance.

Returning to the Saddle

It's important to be realistic when discussing getting back on the horse after an injury, but eager riders often abandon common sense. "If you come in and say, 'I'm in pain and I can't go to the store and I can't work,' we're not talking about horseback riding," says Betesh. "You need to be able to do your daily functions without pain before you're ready to get back on."

Betesh also notes that when it's time to ride again, "You can't just go back to where you were. You need to take a step back when you get on again. That may mean getting on a different horse or it may mean walking and trotting on your own horse for just five minutes before calling it a day. Don't hesitate to have a professional prepare the horse for you, which may include longeing the horse, as you start back to riding. The trainer can assess the horse's level of energy and prepare him to the point where he is ready for a rehabbing rider to get on."

Meanwhile, a rider needs to assess her level of fitness and experience and not run the risk of going beyond what her body can handle. "It's really important to work on proper form before you jump higher or go beyond your comfort level in dressage," says Betesh. "You're much more prone to injury if your form isn't right."

If you've had problems with your horse, she points out, it's time to assess him in relation to yourself. "One important thing for people to realize is when the horse is not the right match for them. Especially as you get older, you need to make sure that horse matches your ability. We're not as strong as we were when we were 15 and we don't bounce as well either."

Even if you do have the right horse, you need to make sure your strength, ability, fitness and balance match his. An older horse who seems safe but is at a far higher energy level than his rider may end up pulling while being led, for instance, and a rider who either doesn't know how to deal with that or lacks the strength to do so could sustain shoulder problems as a result.

In the big picture, Betesh cautions, "It's important to know when you do have an injury, when to stop riding or when to cut back on what you're doing."

To read more about rider wellness, you can visit dressagetoday.com.


Nancy Jaffer

Nancy Conner follows Dr. Naomi Betesh's advice for standing on a stool to put away a saddle on a high rack in the tack room.


Photo Credit

Dr. Naomi Betesh (pictured riding Allegria) focuses on a multidisciplinary approach to chronic pain, including interventional procedures, acupuncture, electrodiagnosis and rehabilitation medicine. She is board-certified in physical medicine, rehabilitation, pain management and traumatic brain injury and is certified in acupuncture. A graduate of New York College of Osteopathic Medicine, she was inducted into the National Osteopathic Honor Society. After completing a preliminary medicine internship at the Mt. Sinai School of Medicine/Elmhurst Hospital, where she was named Intern of the Year, Betesh completed her residency training in physical medicine and rehabilitation at Mt. Sinai School of Medicine, where she was elected chief resident. After her residency, Betesh completed a fellowship in pain management in the anesthesiology department at the Mt. Sinai School of Medicine. She is a partner in the Union County Orthopedic Group in Union County, New Jersey (unioncountyortho.com).