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In The Game

S P O R T S I N J U R Y R E H A B

Something to Cheer About

Preventing and Treating Cheerleading Injuries

By Karen M. Meade

RODNEY DANGERFIELD'S LAMENT about not getting respect could easily become a celebrated cause for today's cheerleaders. People can't help but laugh after seeing them portrayed as bubble-headed teenagers whose most important care is performing "the perfect cheer." (Case in point: "Saturday Night Live" characters Craig and Ariana).

A closer look into cheerleading, however, proves these characterizations grossly inaccurate and only further the negative stereotypes that surround cheerleaders.

Today's cheerleaders do much more than stand passively on the sideline shouting words of encouragement to the team. To prepare for their own regional and national competitions, nearly a million cheerleaders at the elementary, high school, college and professional levels¹, regularly perform complex gymnastic routines, partner stunts, pyramid formations and dance routines.

Yet cheerleading remains the stepchild of interscholastic sports programs, many of which still define it as an activity rather than a sport. As such, cheerleaders often have limited access to sports medicine services.

"Cheerleading is...out of the circle of sports medicine," says Joe Gieck, EdD, PT, ATC, head athletic trainer and professor of orthopedics and rehabilitation at the University of Virginia in Charlottesville. "While [cheerleaders] technically have the use of sports medicine services...they're isolated and tend to practice on their own," he observes.

This limited access to sports medicine services undoubtedly contributes to cheerleading injuries. Injured cheerleaders, in fact, lose more time from activity than any other group of athletes—an average of

28.8 days per injury at the high school level.¹ Unlike football players who can still play with an injury such as a broken hand or rib, cheerleaders need full function of all extremities to perform their routines, explains Mark R. Hutchinson, MD, director of sports medicine services and attending orthopedic surgeon in the department of orthopedics at the University of Illinois at Chicago. Dr. Hutchinson also serves as team physician for the University of Illinois at Chicago and the USA rhythmic gymnastics national team.

Common Injuries

The injuries cheerleaders sustain vary by activity. For instance, those who act as the base of support in pyramids and lifters in partner stunts—usually men at the collegiate level—experience more shoulder, wrist and back problems. At the high school level, however, where fewer boys go out for the cheerleading squad, girls must often lift and support their fellow teammates. As a result, these girls run an especially high risk of sustaining back problems, notes John Doherty, MS, PT, ATC, a Schererville, Ind., private practice owner who serves as head athletic trainer for Munster (Ind.) High School.

Conversely, cheerleaders who are on top of pyramids or who are lifted or tossed overhead are more likely to experience knee and ankle problems from landing incorrectly.

Injury causes are threefold: overuse, poor mechanics and lack of flexibility, says Brian Magna, MA, PT, ATC. Magna is director of Physical Therapy and Sports Medicine Associates, an Avon, Conn., facility that contracts athletic training services to area high schools.

Overuse injuries, especially those due to the "microtraumatic, repetitive nature of practice and competition," are most prevalent, adds Mary Lloyd Ireland, MD, director of the Kentucky Sports Medicine Clinic, Lexington, Ky., and team physician at Eastern Kentucky University, Richmond, Ky.

The most common cheerleading injuries are strains and sprains. In fact, such injuries account for 52 percent of injuries that cause cheerleaders to miss one or more practice or game.¹

Treating lower extremity strains or sprains involves assessing the severity of the injury. To assess knee sprains, Dr. Hutchinson uses a scale of 1 to 3 to evaluate the amount of ligament damage. A cheerleader with a grade 1 injury—no tearing of the involved ligaments—can expect to be cheering again in one to two weeks, while a cheerleader with a grade 2—slightly torn ligaments—or a grade 3 injury—completely torn ligaments—can expect to be sidelined for four to six weeks and two to three months, respectively.

Lower extremity sprain and strain rehab follows the basic RICE principle—rest, ice, compression and elevation. Once swelling and pain is under control, and the injured extremity is stable, it's then braced or taped to allow for controlled range of motion. The cheerleader can then safely strengthen the injured extremity with proprioceptive training.

Balance training is also an important part of lower extremity rehab, especially since cheerleaders must be able to land securely after a stunt—often on just one foot. Patients who don't have access to high-tech balance equipment can



PHOTOS BY JOSEPH LIANZA

use a balance board, jump on a trampoline or simply run in place, Dr. Hutchinson adds.

Stress fractures are another common problem among cheerleaders, especially when they practice or perform on hard surfaces, such as wood or concrete. Treatment includes ice, taping and resting the affected extremity.

The key to preventing stress fractures is twofold, according to Dr. Ireland. Cheerleaders should practice on mats or grassy surfaces and wear shoes that provide appropriate support, she says. They also should cross-train to avoid injuries that arise from repeatedly practicing tumbling runs and other stunts, Dr. Ireland adds.

Along with stress fractures, wrist instability is another problem, especially for those who lift other cheerleaders overhead. Most cheerleaders with these injuries respond to traditional hot and cold modalities, bracing, strengthening and resistive exercises. Some, however, do require surgery to correct carpal instabilities, Dr. Gieck says.

When treating cheerleaders with wrist instabilities, Dr. Hutchinson first prescribes ice and nonsteroidal medication to decrease inflammation. Patients then gradually strengthen wrist extensor and flexor muscles by performing resistive exercises. The added stability taping or bracing provides can also help prevent reinjury.

Cheerleaders are also at risk for developing shoulder problems, including rotator cuff tendinitis, impingement and instabilities, Dr. Hutchinson explains. Treating such injuries involves reducing swelling and controlling pain with ice and nonsteroidal medications, followed by rotator cuff strengthening, scapular stabilization exercises and cuff muscle co-contraction. According to Dr. Hutchinson, most patients whose injury didn't come from a single, traumatic incident, will respond to this conservative treatment and not require surgical intervention.

Back problems, especially low back strain, can plague cheerleaders who must lift other cheerleaders and support them on their backs in pyramid

moves. Early diagnosis with oblique view X-rays is key, since undiagnosed and treated back sprain can develop into spondylolysis or a spinal stress fracture, says Dr. Ireland.

Once diagnosed, back sprain can be treated with moist heat followed by a lumbar stabilization program that includes abdominal and leg strengthening and hamstring flexibility exercises. Swiss ball exercises—performed either in the training room or in the clinic—can enhance spinal stabilization, says Doherty.

Fortunately, catastrophic injuries, such as spinal cord and head injuries are rare in cheerleading, says Dr. Ireland. She knows of just one incident in Kentucky in which a cheerleader sustained quadriplegia from an incorrect landing.

The best way to prevent serious injury, however, is to follow state safety rules that restrict dangerous moves, such as three-person vertical lifts and basket tosses (moves in which a cheerleader is thrown into the air and then caught in the arms of another cheerleader). In addition, cheerleaders should never practice or perform without proper supervision and spotting. The coach should also be trained in first aid and have an emergency plan in place.

To help cheerleaders get back in shape, Magna prescribes an aerobic conditioning along with weight training.

Injury Prevention

While the concept of getting cheerleaders in shape before they start cheering may seem like common sense, many programs don't include the strengthening and conditioning programs that other interscholastic athletic programs do. This is due, in part, to the fact that many schools don't recognize cheerleaders as athletes—something quite erroneous, Magna says.

"Even though more schools are including cheerleaders as part of their interscholastic sports teams, a lot of people still don't have an awareness of just how much of an athlete a cheerleader has to be," he observes.

But cheerleaders themselves are partly to blame for this misconception. "If cheerleaders train and condition themselves

like athletes, then they'll be respected as athletes," Dr. Hutchinson asserts. Part of the problem, he continues, is that some don't do that and, as a result, hurt themselves.

But convincing cheerleaders and coaches to take time away from their routines to run or lift, isn't easy, Doherty says. "To be honest, they don't listen too well," he admits. "They [just] want after-the-fact sports medicine...They're not too interested in prevention," he laments.

Dr. Ireland has experienced resistance from cheerleaders and coaches as well. "Since cheerleading is a developing sport, coaches and cheerleaders have to trust

the medical community more," Dr. Ireland says. "If they'd let us, we could help them keep kids from breaking down in the middle of the season.

"We, as health care providers, need to educate coaches and have more of an emphasis on prevention. If we do that, everybody will be happier," Dr. Ireland predicts. ■

Reference

1. Hutchinson, M.R. (1997). Cheerleading injuries: Patterns, prevention, case reports. *The Physician and Sportsmedicine*, 9(25): 83-96.

Karen M. Meade is associate editor of ADVANCE.

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