



Ben Lynch

On August 23, 2003, during a third down play in a game against the San Diego Chargers, Ben Lynch felt a pop in his knee and thought he had torn a meniscus or cartilage. "I walked off the field on my own and was disappointed, thinking I would

need surgery that would keep me out of the game for a couple of weeks," he says. Lynch never thought it would end his football season, let alone his career.

The offensive lineman for the Houston Texans had torn his anterior cruciate ligament (ACL). After the reconstructive surgery, Lynch developed an infection and complications that included pain and trouble sleeping. During his career he had several surgeries, but none failed to heal the injury or ease the pain like this one.

Five surgeries (knee washes, bone graft surgeries, etc.) failed to resolve the pain. When CAT and bone scans showed the grafts weren't working, and Lynch had developed color and temperature changes, his physicians discussed the possibility of CRPS/RSD. "I did an Internet search on it, and it wasn't pretty," he says.

Lynch's time is spent working on his recovery. "It is frustrating, because with all my other surgeries, how quickly I recovered was directly related to how much rehab time I put in," he explains. "RSD has a mind of its own."

Fortunately, friends and family members accept his pain, and he has a strong support system. Lynch is committed to sharing his story and his time with others as well, and would particularly like to see improved education on CRPS/RSD in the sports community. He strongly advises athletes, coaches and trainers to educate themselves about

Signs and Symptoms of CRPS I/RSD*

CRPS I /RSD is a diagnostic consideration for patients who have pain (moderate to severe) that is disproportionate to any inciting event (sprain, fracture, etc.) and has some of the following characteristics:

- The presence of an initiating noxious event (sprain, fracture, etc.)
- Pain is described as deep, aching, cold, burning, and/or characterized by increased skin sensitivity
- Continuing pain (moderate to severe) associated with allodynia, or hyperalgesia.
- The pain is disproportionate to any inciting event.
- Abnormal swelling in the affected part
- Abnormal skin color changes
- Abnormal skin temperature (greater than 1°C bilateral asymmetry)
- Abnormal sweating
- Abnormal hair or nail growth
- Limited range of movement, weakness, or other motor disorders (Paralysis, dystonia etc)

CRPS I /RSD is excluded by the existence of conditions that would otherwise account for the degree of pain and dysfunction

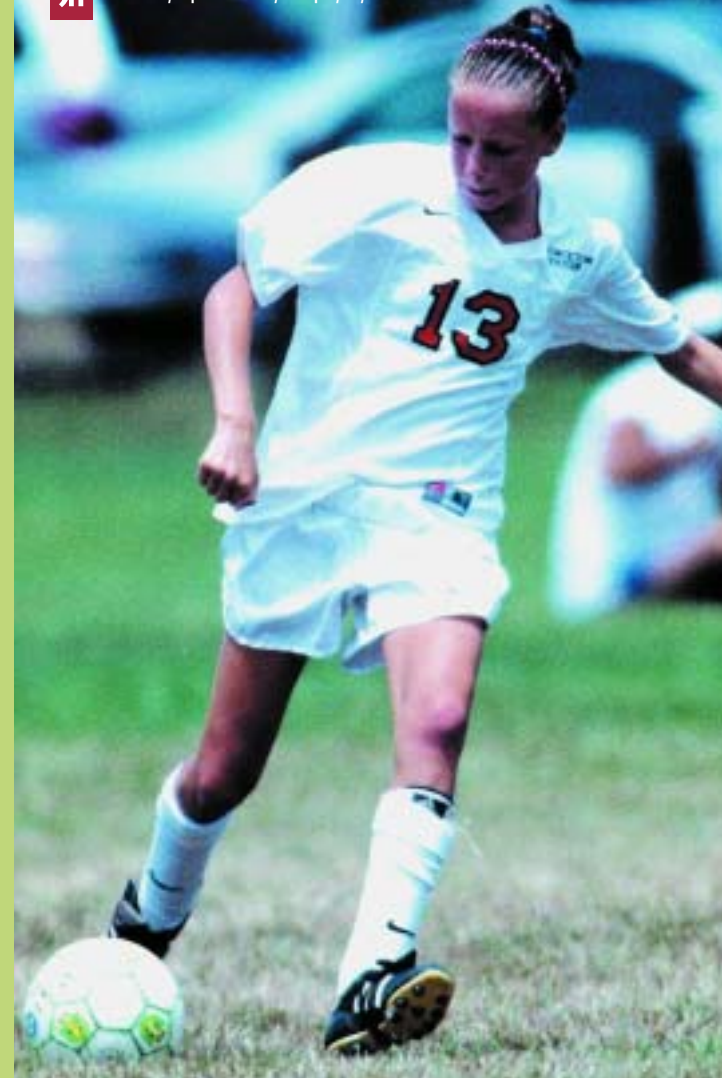
* The formal diagnostic criteria are per the recommendations of the Budapest consensus group: CRPS: Current diagnosis and therapy; Wilson, Stanton-Hicks and Harden; IASP press, 2005:chapter 4.

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CRPS/RSD and other chronic pain disorders so that injured players can be diagnosed and treated early. Sports, especially football, can be brutal. "There are different levels of pain. You play 20+ games in the course of the season and you are taught to play with pain. Pain is your body telling you something isn't right. We have to be better educated so that we understand the difference between an ankle that is only sprained and one that is developing RSD," he says.



Reflex Sympathetic Dystrophy Syndrome Association



CRPS/RSD and Sports Injuries: Prevention is the Name of the Game

A football player feels a pop in his knee and subsequently has surgery to repair his anterior cruciate ligament (ACL). The ACL, the main support structure of the knee, is injured frequently by both girls and boys who play sports; most of the time, the knee heals and the player returns to the game. However, researchers are finding that sports injuries and the surgery that often follows them can be a leading cause of complex regional pain syndrome (CRPS), also known as reflex sympathetic dystrophy syndrome (RSD). CRPS/RSD is a neurological syndrome characterized by severe and relentless pain associated with autonomic changes. Experience has shown that early diagnosis promotes more successful outcomes. Tragically, many physicians are not familiar with its telltale symptoms and do not consider the diagnosis in their examination.

Pain is common for those who play sports, but excessive pain can be a sign that something is seriously wrong. CRPS/RSD is believed to result from a malfunction of part of the nervous system that develops in response to an event the body regards as traumatic, such as an injury or surgery. Nerves misfire, sending constant pain signals to the brain. In addition to moderate-to-severe pain, tell-tale symptoms include hypersensitivity to touch, abnormal swelling, abnormal skin color, changes in skin temperature, sweating, limited range of movement, and movement disorders in the affected area. (see sidebar)

Although the syndrome can develop after any injury, researchers are finding that common orthopedic surgical procedures increase the risk of CRPS/RSD. The table below shows the numbers of cases of CRPS/RSD that develop in a single year following surgery. It is astounding!

Can CRPS/RSD be Prevented?

Although there are no foolproof ways to prevent CRPS/RSD, new research shows some ways to lessen the probability of its occurrence. Scott Reuben, MD, Professor of Anesthesiology and Pain Medicine and Director, Acute Pain Service, Department of Anesthesiology, Baystate Medical Center and Tufts University School of Medicine, has published research that suggests preemptive regional anesthesia, such as a stellate ganglion block, intravenous regional block, and epidural block, may help decrease the recurrence of CRPS/RSD post-operatively.

Additionally, studies have shown preemptive multi-modal analgesia, which uses a variety of pain medications and treatment in patients before and after surgery, reduced the incidence of CRPS/RSD. A study comparing patients who received the preemptive multi-modal analgesia to a group who had received standard treatment showed the standard treatment group had higher pain scores after a 6-month rehabilitation program and, after one year, they reported a higher incidence of complications compared to the preemptive multimodal group. The standard group also



reported long-term complications, such as a higher incidence of anterior knee pain, a greater number of patients requiring repeated arthroscopy, and a higher incidence of CRPS/RSD.

Who Can Get CRPS/RSD?

Anybody. Despite increasing research interest, we still don't know which patients are at risk for developing post-operative CRPS/RSD. However, it may be clinically useful to assess the level of distress and pain intensity in patients having surgery. Pre-operative pain has been shown to be a predictor of chronic pain after a variety of surgical procedures and particularly after total knee arthroplasty. Greater preoperative pain intensity could change the central nociceptive processing pathways, thereby increasing the likelihood of developing postsurgical CRPS/RSD.

What Can You Do?

Educate yourselves. Make sure you understand the signs, symptoms, and potential risks of CRPS/RSD and if you suspect that one of the athletes you are treating has it, make sure they are directed to the appropriate treatment. Awareness is our best defense in the war against the disability of pain caused by CRPS/RSD.

For more information, please visit www.rsds.org.

CRPS/RSD Can Develop After Surgery

Procedure	Number performed per year	Resulting Cases of CRPS/RSD per year
Athrosopic Knee surgery	657,000	15,100 – 26,300
Carpal tunnel surgery	366,000	7,700 – 18,300
Ankle fractures	257,000	35,000
Total knee arthroplasty	247,000	20,000 – 32,1000
Wrist fractures	194,000	13,600 – 71,800
Fasciectomy for Dupuytren's Contracture	20,000	900 – 8,000
Total	1,741,000	74,300 – 191,500

Gottshalk A, Raja SN, Severing the Link between Acute and Chronic Pain, *Anesthesiology*. 2004;1063-1065.

References

- Gottshalk A, Raja SN, Severing the Link between Acute and Chronic Pain, *Anesthesiology*. 2004;1063-1065.
- Reuben SS, Preventing the Development of Complex Regional Pain Syndrome after Surgery. *Anesthesiology* 2004;101:1215-1224. 5K 7/2005