

FOCUS: SPORTS MEDICINE

UB clinic tackles concussions head-on

Sabres' center among patients who find adding exercise to recovery regimen seems to speed healing from injuries

By Jay Rey

Any good hockey fan in this Sabres' crazy town knows the story by now. Center Tim Connolly was out of action for months with symptoms from a concussion he suffered last May during the play-offs. In December, he sought help at the University at Buffalo's Sports Medicine Institute. More than two months later, he was skating again and symptom free.

"It was a tremendous help," said Connolly, who played his first game in nearly a year last Saturday. "The difference was really noticeable."

But the story goes beyond Connolly being ready for the playoffs. His high-profile recovery from post-concussion syndrome has cast a spotlight on UB's Sports Medicine Institute, where experts treat everything from tennis elbow to ruptured tendons to torn rotator cuffs. Connolly helped bring attention to the pioneering treatment specialists are using for athletes—and regular folks, living each day with painful, life-altering concussion symptoms.

"It gives you new hope," said Bill Rose, a Kenmore resident who has been suffering from concussion symptoms for eight months.

The treatment, developed by Dr. John J. Leddy; Barry S. Willer, a psychiatry professor; and Karl F. Kozlowski, an exercise specialist, goes against the conventional approach for remedying post-concussion syndrome: rest and medication. Instead, it prescribes a regulated exercise routine.

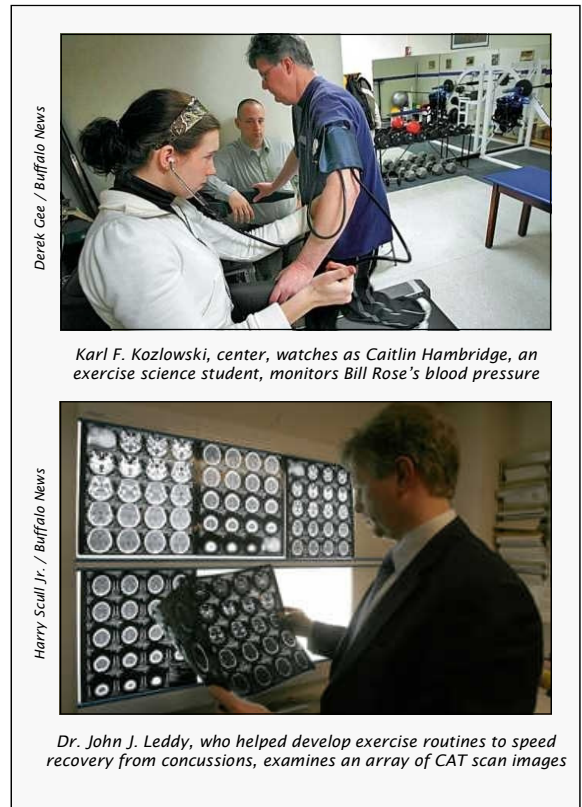
"It's more than just a brain injury," said Leddy, a clinical associate professor of orthopedics and rehabilitation services at UB. "It's the whole body being affected," said Willer, a UB professor of psychiatry and rehabilitation sciences. "What we're saying is treatment should be the whole body, as well."

A division of University Orthopaedic Services, the Sports Medicine Institute is tucked away in the School of Medicine and Biomedical Sciences on the South Campus, with satellite offices in the Northtowns, Southtowns and Niagara County. It includes surgeons, primary-care physicians, physical therapists and trainers to treat and rehabilitate a gamut of knee, shoulder, ankle, elbow, foot, hip or spine injuries suffered by athletes and non-athletes.

At the Institute, Leddy, Willer and Kozlowski recently started a concussion clinic, the only one known to use the exercise based protocol. After blows to the head, Willer said, 5 percent to 10 percent of people experience symptoms, such as headaches, nausea, fatigue, irritability, disruptive sleep and "foggy thinking" that last longer than three weeks.

A year ago, the three set out to determine if athletes who suffer from post-concussion syndrome could exercise at a level that wouldn't bring out symptoms, but allow them to stay conditioned while recuperating. A patient's threshold for exercise was tested, and a low-level workout program - maybe 10 or 15 minutes - was tailored for each individual, Kozlowski explained. "I ask them to go five or six days a week with the exercise program, either on a treadmill, elliptical or stationary bike."

Over the weeks, patients kept track of their symptoms. When following up after three weeks, the researchers found that patients tended to get a little bit better. New regimens were tailored for them. After several months of this routine, concussion symptoms went away for at least five patients treated so far, the researchers said. Successful outcomes include a UB soccer player, a high school cross-country runner and a member of the UB women's basketball team. At least one patient was symptom free after four or five weeks.



"All the patients who have been treated, thus far, have had significant improvements in the quality of their lives, and returned to sport or work," Leddy said.

"That's what surprised us the most," Willer said, "that it has worked as well as it has."

For years, concussion care had focused only on the brain, but recent research has showed concussions also create metabolic changes elsewhere in the body, such as irregular heart rate, Leddy said. He explained that they hypothesized that the system controlling blood flow to the brain does not function properly in people with concussions and that balance can be restored faster with controlled exercise than rest alone.

Willer drew a comparison to needing a day or two to feel normal again when suffering from jet lag.

"There's evidence to suggest the same thing happens with concussions," he said. "What we think we're doing with the exercise is helping a person regain control of [his or her] auto-regulatory system."

Five other patients continue in treatment. They include Rose, a supervisor for a local trucking company, and Milwaukee Brewers third baseman Corey Koskie, who suffers from lingering symptoms since falling while chasing a fly ball in a game last July. Rose, 52, has had symptoms since August, when he slipped from a tractor trailer and fell on his head.

"Basically, it's a constant migraine headache, so you can't concentrate," he said. "My vision blurs all day long for different periods of time. It affects your memory and your coordination." Rose can't work or drive. He spends much of his day around the house and depends heavily on his wife, Cindy. It's frustrating, he says. "Every day, you wake up you're dealing with it," Rose said. "It's like waking up in Buffalo and there's snow on the ground every morning. You get sick of it, and you can't do anything."

Connolly says he knows the frustrations and admits skepticism that the treatment at UB would work. "I wasn't confident," Connolly said recently after practice, "but I had been having concussion symptoms for about six months, and I had been everywhere, and I was willing to give it a try." Leddy also spotted injuries to Connolly's neck and jaw, and supplemental treatment was coordinated with his therapy at UB. Connolly said he didn't become healthy overnight. But he said he stuck with the program and gradually got better. More recently, a stress fracture in his leg, not concussion symptoms, kept him out of games until last week.

Rose, meanwhile, has been undergoing treatment at UB for seven weeks with no noticeable improvement. But he said that trying something to help his cause, rather than waiting it out with rest and medication, was empowering and "very encouraging."

While confident the new treatment can help reduce concussion symptoms, the specialists stressed that it's too early to call it a cure and that some patients respond faster or better than others. For some, symptoms may not completely go away. "We're not going to know for a while, until we have more patients," Leddy said.

"It's not science yet; we're trying to work it out," Willer said. "When you get into it, we end up with more questions than answers. We're looking forward for others to do research in this area so we can compare notes."

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