

# Words of Wisdom

When a safety manager explains what PPE he or she is recommending and why, that should be persuasive, says orthopedic surgeon Dr. Gregory C. Berlet, who sees the damage a severe crush injury leaves behind.

BY JERRY LAWS

**S**ome of the best safety talks I've heard were true stories told by people who had survived serious injuries. Talking with a man who helps seriously injured workers recover was just as educational and potentially much more useful.

Dr. Gregory C. Berlet, a board-certified orthopedic surgeon who specializes in foot and ankle surgery in the Columbus, Ohio, area, treats many patients who have suffered foot injuries from severe crushing impacts. He sees the damage firsthand and knows how long it takes these patients to recover.

During our July 8 interview, Berlet said most of his patients do recover from their injuries sufficiently to return to work. They work in various industries; he said the economy of Columbus, the largest city in Ohio, has a tech base but also a strong automobile manufacturing foundation because Honda of America Manufacturing makes vehicles there. Berlet said he does a lot of work for the company in its plant.

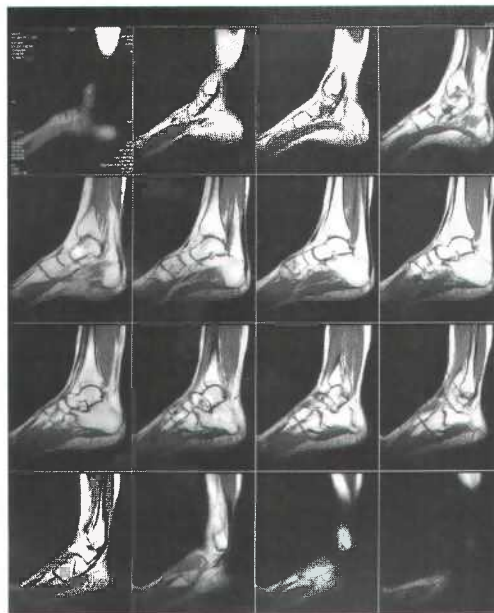
Overall, he said, "We see a lot of occupational injuries and lot of occupational foot injuries. It's a whole spectrum, all the way from a simple injury that has scared everybody — scared the employee, scared the workplace; they say, 'Boy, we dodged a bullet there' — all the way to a severe injury. The crushing injuries that I treat are some of the very worst. X-rays don't do justice.

"You see an X-ray and you say, 'OK, there are 26 bones in the foot, and you've successfully broken half of those.' What the X-ray doesn't tell you is the soft tissue injuries. The skin, the nerves — quite honestly, the soft tissue component is often more difficult to treat than the broken bones."

"A crush, by nature, pushes everything down in that zone of injury. It's all been injured. And the challenge for us is that sometimes these injuries are underappreciated," continued Berlet, who is chairman of education for the American Orthopaedic Foot & Ankle Society (AOFAS).

"They'll look at an X-ray, and they'll say, 'You've not broken any bones, you should be OK.' And the issue with a crush is there's very significant soft tissue damage," he explained. "A soft tissue injury can lead

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to amputation, and it's not because the foot is not salvageable, it's because the foot is too painful and simply no longer functions."

I asked how often he sees that outcome. "Frequently," Berlet responded. "You have to understand my practice: I'm the end of the food chain, if you will, and it's not uncommon that I would be referred patients that have seen other physicians who've said, 'There's nothing I can do.' And they're coming to me for the Hail Mary."

Again, these patients' X-rays may not look so bad, but "it's the soft tissue component that we simply don't have good surgical or pharmacological solutions for," he said. "You hear people talk about pain syndrome, and that's really where soft tissue injuries come in."

He explained that such patients experience continuing pain long after the crushing impact occurred. "You don't want one of these injuries," Berlet said.

### Investing in Protective Footwear

The injuries Berlet treats could have been lessened or even prevented, had the worker been wearing appropriate protective footwear. "There is no doubt that a dollar spent in prevention will save hundreds in an injury," Berlet said, adding that the right solution is a comprehensive approach:

- surveying a workplace to assess its hazards,
- issuing the right PPE,
- explaining to the workers why it is required,

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■ and then having a disciplinary system in place to address non-compliance.

Seeing these patients “brings up multiple issues about workplace safety, from is the work environment properly secured to prevent injury, all the way down the road to, is the worker actually using the safety gear as has been recommended? What I see a lot of — and I’m not thinking of any particular manufacturer — a lot of the injuries I see could have been prevented if the recommended footwear was actually used,” he said. “For a variety of reasons, workers don’t always wear protective gear as recommended. So if the workplace has been properly analyzed to have a certain amount of risk, those risks could be appropriately mitigated by wearing shoes with a firm sole, a non-slip sole, the protective toe cap, or steel toes. In many cases, I think they’re not taking the advice of their work safety managers.”

It might be a question of not understanding why PPE is needed.

Many employers subsidize the cost of protective footwear, after all. Berlet suggested that managers explain the investment and the requirement to workers this way: “We’re doing it because we really care about you. We’d rather have you wear it instead of driving you to the emergency room.”

Berlet said he would not expect most people to understand how a protective shoe is constructed. “But it’s not arbitrary; there’s very good science behind it,” he said. “There’s a sole of certain thickness. The toe cap.”

He said when he asks people who are struggling with foot pain how they choose their shoes, often they’ll answer that a shoe salesperson recommended it and because the shoes look good. When a safety manager explains what PPE he or she is recommending and why, that should be persuasive — and it should spill over to home use, Berlet said. Thus, workers should realize the footwear that protects them on the job should also protect them during chores such as mowing the lawn, he said. “It’s just like a basketball shoe: You pick the appropriate shoe for the activity.”

Even less-serious injuries are costly to treat and rehabilitate, he said. The medical cost is definable, but the larger issue is lost productivity, said Berlet. A worker who previously had to stand much of the work day to perform a manual laboring job will need retraining, for example.

Berlet said he has yet to treat anyone who has sustained such

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**Patients with severe crushing foot injuries may experience continuing pain long after the crushing impact occurred.**

an injury twice. "I have not. I think that it's a painful lesson to learn," he said. "I've never seen anybody have a crush injury twice in a work environment, I think that's a lesson that you only need to learn once."

It is clear that recovery takes longer and is more difficult if the injured worker is overweight or obese, he said. "It's harder for me to rehabilitate you; I sometimes have to use specialized techniques, such as putting you in a pool for water therapy because you cannot support your body mass. . . . So I have a hard time finding cause and effect between obesity and injury, but I have no trouble connecting the length of recovery, and the challenges of recovery, being definitely harder in a heavier patient."

He said in each case, he wants to understand the mechanism involved in an injury — how much force was brought to bear and how long it was applied to the foot — because it directly correlates to the amount of damage done. Most injured workers have a pretty good idea how much weight was applied and for how long, he said.

However, Berlet said he doesn't find it useful to explore why the

injury happened. "That direction of inquiry is not productive," he said. "I need to get that patient back to health, and in fact some of that blame and finger pointing ends up being counterproductive because they're wasting a lot of their emotional energy on being mad at somebody instead of spending their emotional energy on getting themselves better."

He said he tries to be realistic with patients and their employers and believes it is important to set the expectations for both parties. "A component provider, physician, should be able to ballpark both the timeline for treatment and the timeline for return to work," Berlet said. "Once the broken bones are healed, that's when the therapy comes into play. These tendons, ligaments, muscles — we want them all to start moving again. Therapy is a controlled environment to get them back to work properly."

In the end, most patients just want to get their lives back. Their goal is to get back to work and get back home to be with their families, he said. **OHS**

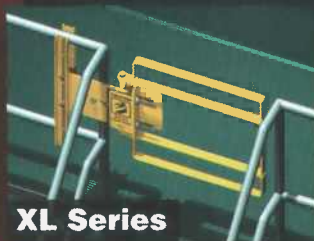
*Jerry Laws is editor of Occupational Health & Safety magazine. Dr. Gregory C. Berlet and colleagues founded FootSourceMD.com to provide patients in the United States and Canada with convenient access to reliable resources and products recommended by physicians. He specializes in foot and ankle surgery, arthroscopy, and sports medicine.*

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