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Sprains, strains, and worse injuries are unavoidable in sports, and playing through the pain comes with the territory for most athletes.

So how do they continue to excel with pain that would leave others sidelined?

New research confirms that athletes have a higher tolerance for pain than couch potatoes or even weekend warriors, and the finding could help investigators discover better ways to manage pain.

No Pain, No Gain?

Researchers in Germany reviewed findings from 15 studies comparing pain threshold and pain tolerance among athletes and non-athletes.

"Pain threshold" refers to the point at which pain begins to be felt in response to stimulation (heat, pressure, etc.), while "pain tolerance" is the maximum amount of pain a person can stand.

Athletes and non-athletes in the studies had similar pain threshold levels, but athletes consistently reported higher pain tolerance than normally active adults.

And the amount of pain athletes were able to tolerate varied by their sport, with those involved in game sports like football or soccer generally more tolerant of pain than those who participated in endurance sports.

But this was not always the case. One study found that cross-country skiers were among the most pain tolerant, along with football players.

Endorphins May Blunt Pain

The findings, which appear in the June issue of the journal Pain, strongly suggest that athletes have a higher tolerance for pain than others, but the studies did not explore the reasons for this.

Researcher Jonas Tesarz, MD, of the University of Heidelberg, tells WebMD that more research is needed to determine if increased physical activity helps control pain.

If the association is confirmed, the finding could have major implications for pain management.

Physical activity boosts levels of chemicals that mimic the effects of "feel good" and pain-relieving opioids, known as endorphins.

In runners, this chemical rush is known as a "runner's high."

Pain researcher Allan Basbaum, PhD, of the University of California, San Francisco, says he was highly skeptical of the theory that endorphins blunt pain until about four years ago.

That is when a group of German researchers proved that running and other strenuous exercise really does increase endorphin levels in the brain as well as the blood.

Basbaum chairs the anatomy department at UCSF and is the editor-in-chief of the journal Pain.

"Previous studies had looked at endorphins in the blood, but blood levels are irrelevant to what is going on in the brain," Basbaum says.

Playing Through the Pain

He adds that because athletes are highly motivated to keep doing what they do, they may also be far more likely than others to ignore pain signals and play through the pain.

"Most athletes don't ask themselves, 'Does it hurt?'" he says. "They ask themselves, 'How much pain can I put up with?'"

And people who can put up with the most pain may be most likely to become athletes.

"There may be a 'chicken and egg' component," Basbaum says. "Do they have a high pain tolerance because they are athletes, or are they athletes because they have a high pain tolerance?"

By Salynn Boyles

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