



Mark A. Stengler, ND

## BREAKTHROUGH THERAPY HELPS HEAL JOINTS AND ORTHOPEDIC INJURIES

**W**hen pitcher Takashi Saito was with the Los Angeles Dodgers, he suffered a ligament tear in his elbow and was told that he would be sidelined for about a year if he had it surgically repaired. Instead, he underwent an innovative natural treatment called *platelet-rich plasma* (PRP) therapy. A few months later, he was pitching pain-free.

PRP is an emerging treatment in the growing field of *orthobiologics*, which combines cutting-edge technology with therapies that work by stimulating the body's healing processes. In PRP, a patient's own platelets—the blood component that contains major growth factors, naturally occurring substances that stimulate cell growth—are injected into an injured or arthritic area, enhancing the repair response of soft tissue. Until recently, orthopedic applications of PRP were mostly reserved for professional athletes, but now it is available to everyone through some family physicians and orthopedic surgeons.

At my clinic, Bronner Handwerger, ND, uses PRP therapy to treat patients like a professional football player who had a minor knee cartilage tear. He was able to resume training just three days after receiving PRP. Knee injuries such as his usually take weeks to heal. James Baum, DO, of Santa Fe, New Mexico, is one of many orthopedic surgeons around the country who offers PRP therapy for a variety of conditions. He has treated scores of patients, including a woman with debilitating

*spinal stenosis* (narrowing of one or more areas of the spine) who now is symptom-free after four injections. He treated another woman who could barely walk because of an arthritic hip. Now, after receiving several PRP injections, she is walking pain-free.

PRP appears to help many types of injuries (see box below). Other applications currently being studied include injecting PRP at the site of bone fractures and using it to help speed healing after connective-tissue surgeries. Although it has not yet been shown definitively whether PRP can regenerate cartilage, Dr. Baum believes that clinical research will mirror his own experience in stimulating cartilage regeneration—and that PRP will be crucial in combating the growing epidemic of osteoarthritis as the American population ages.

### What's Treatable With PRP?

PRP therapy can treat the knees, shoulders, elbows, feet, wrist and back for the following...

- Torn tendons or ligaments
- Strained rotator cuff
- Arthritic or inflamed joints
- Carpal tunnel syndrome
- Plantar fasciitis (an inflammatory condition that affects the tissue under the foot's arch)
- Torn or strained muscles.

### HOW IT WORKS

In a doctor's office, a few tablespoons of blood are drawn and run through a machine that separates out the platelets. The resulting fluid contains four to 10 times the blood's normal concentration of growth factors. Along with a local anesthetic, this mixture is injected directly into an injured or arthritic area (ultrasound may be used to guide placement). The procedure takes about an hour.

While there may be some soreness for a few days afterward, patients often have reduced pain and improved movement after just one treatment. Depending on the severity of the condition and an individual's healing response, injections may be repeated up to six times at two- to four-week intervals.

PRP therapy is extremely safe because the patient is injected with parts of his/her own blood. Infection at the injection site is extremely rare. (PRP therapy has not been reviewed by the FDA, which doesn't regulate surgical procedures.) The technique also is safer than many other conventional treatments commonly used to treat joint and connective-tissue injuries, such as cortisone shots, anti-inflammatory medications and surgery. These approaches all have drawbacks—cortisone can weaken tissue over time...anti-inflammatory drugs have potentially dangerous side effects, such as kidney and liver damage... and surgery is expensive and involves a lengthy recovery.

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PRP's effectiveness still is being studied, but in one Stanford University study, patients with chronic elbow tendonitis who were given one PRP treatment had a 60% improvement in pain compared to only a 16% improvement in those who received an injection of anesthetic only.

When seeking treatment with PRP, keep these points in mind...

- **Insurance.** Because PRP therapy is new, insurance may not cover it. Check with your insurer before scheduling a procedure. PRP costs about \$400 to \$600 per injection—based on your injury and the type of equipment used by the doctor—a fraction of what surgery costs.

- **Effectiveness.** This depends in large part on the quality and abun-

dance of the growth factors in a patient's blood. For some people, the results are permanent. Smokers don't respond as well to PRP, because they have reduced platelet activity. ■ ■

## Better Than Other Natural Injections

**P**RP therapy is similar to *prolotherapy*, another injection technique that stimulates the body's natural healing process and has been found helpful for arthritis and injured cartilage, tendons and ligaments.

**The difference:** Prolotherapy involves injecting an injured joint or tissue with a

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### Reference

A. Mishra et. al., "Treatment of Chronic Elbow Tendinosis with Buffered Platelet-Rich Plasma," *The American Journal of Sports Medicine* (2006).

harmless but mildly irritating substance, such as a dextrose (sugar) solution. This induces inflammation in the injured area, attracting growth factors that stimulate growth of collagen and other connective tissues. PRP therapy involves injecting growth factors themselves into an area that has a very poor blood supply. Prolotherapy is less expensive (starting at about \$125 per treatment) than PRP. Of the two treatments, I recommend PRP because it is more effective.