

# Back Pain Relief from Plasma Shots

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One of my relatives (I won't say who) is wimpy when it comes to having blood drawn and getting shots. But if he ever develops chronic back pain, he may want to rethink that and join the queue of patients now turning to a therapy that uses injections of a person's *own blood* to promote healing. Called *platelet-rich plasma prolotherapy* (PRPP), the technique is safer and less invasive than surgery... and unlike nonsteroidal anti-inflammatory drugs (NSAIDs), which suppress symptoms temporarily, it can provide a permanent fix for certain types of back problems.

I called Gordon Ko, MD, medical director of the Canadian Centre for Integrative Medicine, who uses PRPP in his clinical practice. He explained that PRPP is a recent advance in the prolotherapy field. In general, prolotherapy involves injecting a mildly irritating agent directly into the painful area in order to provoke an acute inflammatory response. This causes an increase in the flow of blood, nutrients and stem cells to the affected tissues, and these in turn stimulate the body to heal itself.

Since the inception of prolotherapy, various substances have been injected (for instance, a sugar solution or cod-liver oil extract)—but foreign substances such as these sometimes created too *much* inflammation and/or caused extreme discomfort. *Breakthrough:* Recently, researchers discovered that better results occur when the injection consists of the patient's own blood, because the platelets are well tolerated and excessive inflammation is avoided.

According to Dr. Ko, PRPP can help cure or significantly relieve long-term chronic low-back pain for more than 80% of patients whose problems stem from injury or laxity in ligaments and/or tendons of the *sacroiliac joint* (where the base of the spine meets the pelvis). In addition, PRPP has been used successfully to treat other areas of the body where ligament or tendon problems lead to chronic pain, such as occurs with tennis elbow or Achilles tendinitis. PRPP injections also can help resolve muscle tears.

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People with certain nutritional deficiencies may need to have these addressed before PRPP can work to best effect. Patients who have a low blood platelet count, a blood-clotting disorder or an inflammatory disorder (such as rheumatoid arthritis or psoriatic arthritis), or who take a blood thinner such as *warfarin* (Coumadin), may not be appropriate candidates for PRPP.

## What Happens During PRPP Treatment

About one to four tablespoons of the patient's blood is drawn and then spun in a centrifuge for 14 minutes to separate the liquid plasma, platelets and white blood cells from the other blood components. This platelet-rich plasma contains about five times as many platelets as normal blood. The platelets are the primary healers, Dr. Ko explained, because they release growth factors that promote mechanisms called the *healing cascade* and *stem cell migration*.

After the patient is given local anesthesia, the platelet-rich plasma is injected directly into the painful



tissues. While the number of injections given depends on the patient's condition, a typical session would include about 10 injections. Each injection is done using ultrasound guidance to ensure exact placement of the needle, Dr. Ko said—because even a tiny slip might damage surrounding tissues, which can be very dangerous. As with any type of injection, PRPP carries a small risk for infection, bruising and bleeding.

**Recovery:** The injection site may be painful for a few days following treatment. *Acetaminophen* (Tylenol) can relieve this discomfort, but aspirin and other NSAIDs (ibuprofen, naproxen) should be avoided for at least two weeks (preferably longer) because they would diminish the inflammatory response needed for PRPP to work. To reduce swelling, an ice pack can be applied for 20 minutes three to five times a day as needed.

Many patients find that their chronic back pain improves after just one or two sessions, Dr. Ko said. Injection sessions typically are given two to three months apart to allow time for healing to occur between visits. *Cost:* About \$750 per session. Since PRPP is still considered experimental, most insurance companies don't cover it.

PRPP is very specialized work that requires specific training, so Dr. Ko recommended seeking treatment from a doctor of medicine, naturopathy or osteopathy who has been practicing prolotherapy for at least 10 years. Get a referral from your primary care doctor or from the American Association of Orthopaedic Medicine ([www.aaomed.org](http://www.aaomed.org)) or the Canadian Academy of Orthopaedic Medicine ([www.caom.ca](http://www.caom.ca))... then contact the practitioner you are considering to inquire about his or her experience. *Important:* After PRPP, Dr. Ko said, patients should get physical therapy to help rehabilitate dysfunctional muscles and improve core strength... but should avoid any aggressive manipulation treatment that could undo the beneficial effects of the PRPP.

**Source:** Gordon Ko, MD, is medical director of the Physiatry Interventional Pain Clinic at the Sunnybrook Health Sciences Centre and an assistant professor in the department of medicine at the University of Toronto in Ontario. He also is medical director of the Canadian Centre for Integrative Medicine in Markham, Ontario.

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