

## Platelet Rich Plasma for treating chronic pain

When I'm interviewing people living with pain, I always start by asking 8 questions in the same order: 1 – how did your pain start, tell me the entire story from the beginning, 2 – where exactly is the pain, etc. Then the last question is always: “tell me very specifically how this pain impacts your quality of life?” At this point, more often than not, there is a brief pause and a look of surprise (no doctor has asked them this before), then the tears start to well up, the tissues come out, and the crying begins. Most commonly, the first words out of a person's mouth are “I feel much older than I am”. Also very common are “I've lost all sex drive with my partner and I've become mean towards him/her”, or “I have no motivation to meet anyone, I go to work then I go home”.

When people say their pain makes them feel older it's because it's true: their pain truly does make them physiologically older. When you're in pain, you breathe less, you exercise less, you sleep less, and your hormones fall out of balance.

A new treatment for pain is becoming popular among orthopedic and pain specialists: the injection of platelet rich plasma (PRP).

Most everyone thinks of blood platelets as being responsible for blood clotting after injury which is true. What many people do not know is that blood platelets serve two other important functions. Blood platelets are responsible for bringing white blood cells to the injured area to clean up the remains of dead and injured cells. Most importantly to this discussion, blood platelets release growth factors that are directly responsible for tissue regeneration. These substances are called cytokines and include platelet derived growth factor, epithelial growth factor, and other important growth factors.

PRP has been used for years in surgical centers around the US and abroad to improve the success of bone grafting (especially in dental surgery) and also by cosmetic surgeons for speeding healing time and decreasing the risk of infection after surgery. Only in the last few years have doctors and surgeons been experimenting with injecting PRP for the treatment of chronic pain. Tennis elbow, plantar fasciitis, Achilles tendonitis/tendonosis, rotator cuff tears, meniscal tears, osteoarthritis and chronic low back and neck pain are all being treated with the injection of PRP with the goal of regenerating degenerated connective tissue with reports of success.

A PRP treatment looks like this: a patient's blood is drawn and placed into a special collection kit. Using the person's own blood eliminates the risk of transmission of any blood-borne disease. This kit is placed in a centrifuge for 15 minutes and the platelets and plasma are separated from the red and white blood cells. Two thirds of the plasma is removed and discarded and the remaining plasma is mixed with the platelets. This higher than normal concentration of platelets is what gives us platelet rich plasma. The PRP is drawn into a syringe. The area to be treated is injected with a local anesthetic and after waiting five minutes for the anesthetic to take effect, the PRP is injected.

The injection technique is identical to prolotherapy/regenerative injection therapy, only the solution injected is different. Same instrument, different sheet music.

People generally report two days of being sore and then usually pain relief occurs within the first week and continues to improve over a period of months. To date, my experience is that one PRP treatment is the therapeutic equivalent of three or four prolotherapy/regenerative injection therapy treatments using dextrose.

One of the attractive aspects of this treatment is the use of a person's own blood to eliminate the risk of the transmission of disease. The same lab that has developed the preparation kit for production of PRP has also developed a method to collect a person's own stem cells which eliminates the need for embryonic, umbilical or placental stem cells. This procedure is much more invasive as it requires a bone marrow biopsy and it is quite expensive compared to PRP which is safe, easy and inexpensive.

On March 17<sup>th</sup>, 2007, Dr. Adelson lectured on regenerative injection therapy with the use of platelet rich plasma to the Taiwanese chapter of the Chinese Association for the Study of Pain.  
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