

PLATELET RICH PLASMA (PRP)



What is Platelet Rich Plasma or PRP?

When you spin blood in a centrifuge, it separates into three main components: the heavy red blood cells at the bottom, then the white blood cells and lastly the lighter plasma at the top. This top layer contains platelets which will lead to the release of growth factors and other healing substances when injected back into the body. This in turn results in a proliferation of cells needed for healthy healing and tissue regeneration. Your own blood is withdrawn, just like having a blood test at the lab, and then it is spun down to create these three layers. Part of the plasma layer with the most platelets is then injected back in your body a few minutes later, in the affected joint or tissue which is causing your pain, to begin the healing process.

Please take time to read the Prehab and Rehab Info Sheet and share with your physiotherapist.

Top Tips

- Avoid anti-inflammatories 3 to 7 days prior and 3 to 7 days after PRP
- Avoid corticosteroids (e.g. cortisone injections) 2 weeks prior to the PRP
- Consider a brief (even 4 mins is enough) intensive bout of exercise like a sprint/jog as close as possible to, but within 30 mins of the blood draw
- You can take Tylenol/Acetaminophen prior to coming
- Come hydrated and having eaten prior to the procedure
- Bring a driver if you have far to go afterwards: you can be stiff and sore!
- Wear appropriate/stretchy clothing
- Bring something to do while the blood is centrifuging
- Avoid massage, IMS, or deep tissue work for the first 2 weeks afterwards and sometimes for longer
- Avoid hot tubs and swimming pools for 48 hours afterwards
- Use ice, heat, epsom salts in the bath, tylenol or medications we prescribe if needed
- Exercise: there is a separate Prehab and Rehab Info Sheet with detailed information about this
- Work with a physiotherapist to make sure you are exercising correctly: book an appointment in the second week after PRP, or if knowledgeable, start your own exercises then

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How can I get the best results from PRP?

Response to PRP will be best if your body is in 'good condition' prior to coming for PRP. Look at these areas to do a checklist of what matters:

- Are you overweight?
- Are you on (multiple) medications? Some medications are anti-platelet and can inhibit their effect; anti-inflammatories, anti-cholesterol drugs, blood thinners. Other medications deplete substances needed to make collagen, such as PPIs (stomach acid drugs) and anti-depressants. For PPIs and anti-depressants, these can lead to depleted magnesium stores: make sure you are taking up to 600 mg magnesium per day (start gradually and increase). Please ask us before stopping any of these drugs, as you are on them for a reason and stopping them may lead to adverse consequences.
- Do you take supplements such as Vitamin D, magnesium glycinate, long-acting Vitamin C, fish oil, and multivitamins? Some of these are needed for your body to make good collagen once platelet-rich plasma sets the process in motion.
- Do you drink more than one glass of alcohol a day?
- Do you smoke?
- Are you struggling to deal with stress in your life?
- Are you looking after the whole person: emotions, physical, mental, spiritual, and community aspects of your life? Do you have enough time for rest, relaxation, meditation, prayer, community, and play?
- Are you exercising enough?
- Is your diet healthy or do you eat excessive carbs, 'white foods' such as pasta, wheat, potatoes, bread, and sugar, 'fake foods' such as pop/soda, margarine, sugar replacements like aspartame, or processed foods like baked goods, some cheese, pre-made food? Are you getting enough fresh vegetables, lean meat/chicken/fish, nuts/berries, and 'healthy' fats like avocados, olive oil, etc.?
- Are your hormones optimal? This includes estrogen, progesterone, and testosterone as well as thyroid hormone and adrenal hormones. If you are menopausal/andropausal you may wish to consider bioidentical hormone replacement.
- Genetic testing is becoming more affordable and there can be simple ways to prevent/lessen some chronic diseases by diet and supplements tailored towards any possible genetic issues.

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What is the difference between Platelet Rich Plasma and Prolotherapy?

First, what is the same? They are both excellent natural regenerative treatments which stimulate an inflammatory response in the body, leading to healthy new tissue formation and significantly better healing, with less need for pain medication. The difference is that prolotherapy uses concentrated dextrose to create inflammation. The body's response to this perceived 'acute injury' is to send platelets to the affected area, and through platelet release of growth factors, healthy healing occurs.

Platelet rich plasma bypasses this initial response by depositing the platelets in concentrated form right into the injured site, where they can do their work immediately, resulting in much faster healing. Most physicians feel one PRP treatment is about the equivalent of 3 prolotherapy injections over 3 months. Prolotherapy is the reliable truck, and PRP is the sports car. You may choose platelet rich plasma over prolotherapy in the following circumstances:

- you are an athlete
- you want healing as quickly as possible
- you can afford it (although one PRP treatment is less expensive than 3 prolotherapy treatments)
- you have tried prolotherapy but haven't had enough healing as a result
- you are trying to avoid surgery e.g. joint replacement
- you are wanting pain relief while you are on a long wait-list for surgery

How many PRP treatments will I need?

Usually 1 to 3. It does vary from person to person, as it depends on individual healing responses. Sometimes due to degeneration/aging/injury, follow up treatments are needed annually or thereabouts.

What if I am taking anti-inflammatory medication like Celebrex or Advil?

You should discontinue the use of anti-inflammatories for 3 - 7 days before and 3 - 7 days after the injection, except for cardiac patients taking baby aspirin (81 mg daily). Anti-inflammatories include Ibuprofen/Advil, Naprosyn/Aleve, Celebrex, Voltaren, Mobicox, Arthotec and many others. Prednisone is also anti-inflammatory. Avoid Turmeric capsules (but using the spice is fine) during the same timeframe.

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Does PRP hurt?

Having any injection can hurt! Local anaesthetic is injected into the skin prior to injecting the PRP and this prevents you feeling the skin puncture. Anaesthetic cannot be used in the deeper tissues because it inactivates the PRP. Most people feel the injection as a deep-seated but short-lived pain. We suggest you take some Tylenol prior to coming in for your appointment (or even Tylenol 3 if you are bringing a driver), and eat and drink prior to coming. For those people who have a lot of anxiety about any injections, you can take medication to help you relax (if you are bringing a driver). You will be offered a prescription for pain medication and most often patients hold on to the script, only filling it if they feel it necessary. Epsom salt baths and heating pads can also help. We can discuss this at the time of your assessment appointment. NOTE: Injections into the knee joint probably hurt the least of all. You will be offered a prescription for pain medication if you need it. Just avoid those anti-inflammatories.

What are the risks of PRP injection?

Complications are rare. They can include bruising and a very low risk of infection. Remember, experiencing pain for a few days post-injection is not a complication but in fact the desired effect of inflammation starting the healing process.

What is the cost?

Platelet-rich plasma injections are not an insured service with BC's Medical Services Plan. Please ask us about the fee: you will be billed privately for this. PRP is more expensive than prolotherapy because it utilizes specialized collection kits and centrifuging. A typical PRP treatment costs about \$500.

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Important Post-Treatment Instructions

- Expect some pain after treatment for a few days. This is normal. This pain is due to the inflammation generated by the platelets, and is part of the healing response.
- Use Tylenol 3 (1 or 2 tablets every 4 – 6 hours as needed), or Tramadol 50 mg tablets (1 tablet every 4 – 6 hours as needed for pain). These pills may make you drowsy, so it is best not to use them if you will be driving or operating equipment. Use epsom salt baths and re-heatable beanbags as needed.
- Take it very easy for a few days. Don't use narcotics (Tylenol 3 or Tramadol) if you don't need them. They can cause constipation, so increase the fibre in your diet and take a laxative if needed.
- DO NOT USE NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs like ibuprofen or naproxen), or full dose ASPIRIN for at least the next 3 – 7 days. This is very important and will negate the effects of the PRP by preventing the inflammation needed for repair, to start the healing process. (If you take low dose Aspirin 81 mg per day, you should continue this). DO NOT SMOKE!
- After the first 2 – 3 days, the temporary pain increase will lessen. You will have some days where the pain is worse and others when it is improved. This is a good response.
- ACTIVITY: please see the Prehab and Rehab Info Sheet for full details.
 - For the first 2 days, you should do a little activity like short walks: keep moving but no formal exercises.
 - On day 3, move the limb/joint through its full range of motion without resistance. Move it around.
 - On day 7 – 14, start doing isometric exercises with the limb. Gradually increase resistance. It is vital to move the limb to stimulate proper healing, but it is also so important to increase your activity GRADUALLY. Cross train for your cardio workout as you are able. (Swim, deep water running, upper body bike, recumbent bike, elliptical, walk, etc.).
 - Formal physiotherapy should start during the second week.
- Keep track of your symptoms.
- Some like to repeat the PRP in about 6 weeks. However, you won't really know your response to PRP (regenerative changes) prior to two or three months. Do not use any NSAIDS/anti-inflammatory pills for the week before your next injection.
- Follow-up need is variable. Sometimes it is very helpful to have trigger point or nerve block injections to the surrounding area about a week or two later, if you have any ongoing discomfort. Others do well by following the 'ACTIVITY' instructions above or the Prehab and Rehab Info Sheet. Please discuss with us which follow-up will be best for you.

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