Platelet-rich plasma (PRP) eye drops are an option when conventional therapy fails to resolve dry eye disease (DED). The biological composition of PRP and natural tears is similar. In addition, PRP therapy supplies several essential growth factors, vitamins, and cytokines that can facilitate the recovery of damaged corneal and conjunctival epithelium, thus reducing the signs and symptoms of ocular surface disease (OSD).

Although the use of blood-based products for the treatment of OSD is increasing, many optometrists are not prescribing PRP eye drops, perhaps because they do not have all the facts about this treatment modality. This article will examine five common myths related to the use of PRP in the treatment of patients with DED.

**MYTH NO. 1: THERE IS NO EVIDENCE THAT PRP IS EFFECTIVE**

Despite variability in how PRP is derived or prepared, most clinical studies have confirmed that PRP eye drop therapy is effective for the treatment of moderate to severe DED, both the evaporative and aqueous-deficient forms and including neuropathic and LASIK-induced DED.\(^1\)\(^5\) For an example of the results of PRP therapy in a patient with DED related to Sjögren syndrome see the Figure on page 62.

In addition, studies have demonstrated that PRP therapy can promote the healing of dormant corneal ulcers that have not resolved with other forms of treatment.\(^2\) PRP therapy has also been shown to significantly reduce the mean frequency of recurrent corneal erosions in patients with epithelial basement membrane dystrophy.\(^3\)
MYTH NO. 2: PRP AND AUTOLOGOUS SERUM ARE THE SAME

Although autologous serum and PRP are both blood-based products, PRP is superior to autologous serum because of the former’s richer concentration of growth factors and other platelet-derived factors. The crucial difference between the two products is that autologous serum does not contain platelets because they are eliminated during the process of making autologous serum. In contrast, PRP contains two-and-a-half to eight times the concentration of platelets found in whole blood.6

Platelets function like tiny power houses for healing because they contain the growth factors needed for tissue recovery. Eliminating platelets significantly lowers the level of growth factors in autologous serum compared to the levels found in PRP.2,6

Another difference between autologous serum and PRP is that the former can contain inflammatory cytokines, which can harm the ocular surface of patients with active autoimmune diseases such as secondary Sjögren syndrome.7 Autologous serum is often diluted with saline to reduce the concentration of inflammatory cytokines and transforming growth factor beta.7,8 This process also dilutes the concentration of healing growth factors in autologous serum. PRP, in contrast, is not diluted with saline before it is dispensed.

MYTH NO. 3: ACCESS TO PRP IS LIMITED

This used to be true, but access is increasing. PRP is being used in many medical fields to regenerate tissue and accelerate wound healing. Currently, there are more than 40 different systems available that make PRP for medical use.9 Optometrists can implement a PRP system in their own practices or work in conjunction with local laboratories and pharmacies to make PRP eye drops. Optometrists can prescribe PRP as they would any

AT A GLANCE

- Although PRP eye drops are not an entry-level treatment for OSD, they should not be reserved as a last resort.
- PRP and autologous serum are both blood-based products, but the crucial difference between the two is that autologous serum does not contain platelets; they are eliminated during the process of making autologous serum.
- Optometrists can implement a PRP system in their own practices or work in conjunction with local laboratories and pharmacies to make PRP eye drops.

Figure. The patient shown here has DED related to Sjögren syndrome. Fluorescein staining before (A) and after (B) 2 months of monotherapy with PRP eye drops shows resolution of corneal staining.

Research has also suggested that PRP therapy can help restore the ocular surface through more potent proliferative and antiinflammatory effects than observed with autologous or allogeneic serum tears.2
other drop. PRP eye drops are often administered four to six times per day for 3 months, and therapy is repeated as needed.

**MYTH NO. 4: PATIENTS ARE NOT WILLING TO PAY FOR PRP**
PRP eye drops can be expensive, and the cost is not typically covered by insurance providers. However, patients who receive a prescription for PRP eye drops are often in considerable distress. In my experience, when patients are educated about the potential benefits of PRP therapy, they are frequently willing to try it. A lack of insurance coverage is an issue with other treatments for OSD as well. Thermal pulsation and intense pulsed light therapy, for example, are not covered by insurance, and their costs can be prohibitive. The job of an optometrist is to educate patients about the treatment options and let them decide for which they are willing to pay.

Patients may favor using PRP eye drops because this treatment option does not contain the preservatives, stabilizers, or additives found in artificial products.

**MYTH NO. 5: PRP IS A LAST RESORT AND IS ONLY PRESCRIBED BY OPHTHALMOLOGISTS**
PRP eye drops are not an entry-level treatment for OSD, but they do not have to be a last resort. DED can seriously affect a patient’s quality of life, and early diagnosis and treatment are key to preventing inflammation and preserving the ocular surface.

The TFOS DEWS II report recommended treatment with blood-based products as third-line therapy for the management of DED. It can be argued, however, that the potential advantages and safety profile of blood-derived eye drops compared to traditional therapies warrant the use of PRP eye drops as a second-line therapy.

**PROMISE ON THE HORIZON**
DED is a complex and insidious pathology, and its prevalence is high. Regenerative strategies have emerged as a promising therapy for treating DED, but more standardization and comparative studies are necessary. For now, when conventional therapy does not adequately address moderate to advanced DED, PRP therapy may be a helpful next step.

---


**WANT TO KNOW MORE?**
Interested in learning more about the use of PRP? Hear Dr. Madan discuss her experience treating patients with dry eye disease using this treatment option in an episode of TO THE POINT, an ocular surface disease podcast hosted by Leslie O’Dell, OD, FAAO, and Jackie Garlich, OD, FAAO. To listen visit bit.ly/TTPMadan.