

Considering value to physicians, patients of reduced injection burden

Adjunct therapy can be used to reduce pain and anxiety, improve quality of life

By Dr Jason Friedrichs

As physicians, we are obligated to provide our patients with the highest quality care possible and to deliver this care at a fair cost. Laser treatment (MicroPulse) as an adjunct therapy to anti-VEGF injections allows me to ensure that my patients receive the gold standard of treatment with the added benefits of extending the efficacy period, controlling costs (for all parties), minimising pain and anxiety, and improving life quality.

Benefits of laser therapy

MicroPulse laser therapy is the next generation of laser therapy—it delivers the benefits of laser photocoagulation by inducing a biological response without the negative effects associated with continuous-wave laser therapy by inducing a biological response. Thermal elevation is controlled by chopping a continuous-wave beam into an envelope with repetitive short pulses. The tissue cools between the pulses, which prevents thermal buildup.

We have known the retina is capable of healing itself, and with this laser technology, we can finally stimulate the retinal cells to heal themselves without causing thermal destruction.^{1,2}

This modality permits us to treat the entire diseased area, including the fovea.³

The laser pulse stimulates a heat-shock protein response, which we know to be part of the healing, anti-inflammatory cascade. The treatment induces the response at a much higher rate than using a traditional laser, and without causing any thermal damage within the laser spot itself. Since no tissue is destroyed, the procedure is repeatable.

Who can benefit from this laser therapy?

Patients who present with virtually every form of cystoid macular oedema (CMO) from macular degeneration, diabetes, retinal vein occlusion, central serous retinopathy, or anything that I treat with anti-VEGF injections, can benefit from the laser treatment.

Treatment plan

My standard treatment protocol is to administer the initial anti-VEGF injection and measure response in one month. Since this laser treatment tends to work best when the macular thickness is under 400 µm, if the CMT is still too thick after the first injection, I administer a second anti-VEGF injection and bring the patient back two to four weeks post injection. Once CMT is 400 µm or less, I perform this laser treatment. The majority of my patients with any form of cystoid-type swelling are ready to receive the therapy after the first anti-VEGF injection.

The approach does not illicit an immediate response, and we typically do not see results for two to three months. During these first two months of treatment, the anti-VEGF therapy carries the weight of the treatment.

I follow the normal three-injection protocol, bringing my patients in monthly to see how they look. If there is no thickening, we forego the injection, but if any fluid remains (it usually does), I inject.

My goal, as always, is to get the macula completely flat, with no fluid. Then we enter a treat-and-extend type of protocol.

All things being equal, and across all disease variety and states, my patients require significantly fewer injections when they also receive this laser treatment than they would if I were to treat only with anti-VEGF injections.

Reducing patient burden

Reducing the number of anti-VEGF injections offers emotional and financial benefits to patients. When

IN SHORT

► Dr Jason Friedrichs discusses the next generation of laser surgery, which could lead to less frequent, less painful and less costly treatments without compromising outcomes.

facing the prospect of a needle in the eye, anxiety is inevitable. Patients fear the needle, and often the appearance of the eye post injection only compounds their anxiety. In contrast, the laser treatment is fast and painless; patients would much rather undergo laser treatment than an injection.

As the stimulated retinal cells regenerate and heal, we can usually extend the period between injections and treatments, consequently reducing the frequency of office visits, deductible payments, and out-of-pocket copays.

In my experience, I am able to reduce the injection burden for nearly every patient once I add in laser therapy.

Given the natural history of the disease and the historical treatment protocol, it seems that regardless of treatment, patients would require increasingly more injections over time, but with the laser treatment, they do not.

I have patients who previously required monthly injections able to extend to an injection every three or four months after they have received the treatment; others have not required injections for over a year.

There is no argument that decreasing the injection burden is a good thing for the patient.

We know that over time, the retina thins and function decreases; the more and longer we inject, the greater the chance of retinal atrophy.

Adding the treatment allows us to prevent atrophy or at least extend vision. Additionally, albeit a very low risk, we virtually eliminate any risk of infection caused by injection.

Practice benefits

My practice benefits fiscally by performing the laser treatment. Since introducing it to my practice, the out-of-pocket expense associated with purchasing VEGF has decreased by at least 35%. Insurance and Medicare/Medicaid reimbursement for the laser CPT code is greater than for injections. Further, since many of my patients no longer require an

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injection every month, I have opened up spots for new patients.

In addition, the laser system that I use—IQ 577 (Iridex Corp.) laser system with pattern scanning delivery—I also use for conventional continuous-wave treatment. It’s a versatile laser that I use to treat a multitude of retinal disorders and glaucoma.

Social responsibility

Taking less money out of the societal bucket is my duty as a physician. Just because we have an FDA-approved drug does not mean that I have to use it exclusively, especially if a complimentary therapy reducing the financial burden to society is available. All parties (including insurance companies) benefit when we can take an existing treatment and extend its efficacy period and reduce the amount of treatments.

Patient satisfaction

Patients faced with the lifetime burden of diseases with CMO now have new hope for less frequent, less painful, and less costly treatments without compromising outcomes. The treatment can extend and enhance and the results achieved through anti-VEGF therapy as well as postpone retinal atrophy and vision loss. The procedure is repeatable and can be used to treat multiple diseases, making it a highly versatile laser. These factors, plus the reduced injection burden, leave my patients satisfied with the procedure.

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