

Blephex A reproduction of a study by Dr Connor Published in the Review of Ophthalmology
Oct 2015

Blephex (RySurg; Palm Beach, Fla.) is a new in-office tool for use on patients with blepharitis, and, as such, it appears to also ease the signs and symptoms of evaporative dry eye associated with blepharitis.

The Blephex is a handheld tool similar in appearance to an electric screwdriver. The doctor or technician affixes a small disposable pad to the rotating end of the Blephex, and puts a small amount of lid cleaning soap on the pad. As the cleaning pad rotates at high speed, it's used to scrub away debris from the lid margins under topical anesthesia. From the dry-eye perspective, debriding the margins can open up the meibomian gland orifices, allowing the oil to return to the ocular surface.

Charles Connor, OD, PhD, professor at the Rosenberg School of Optometry at the University of the Incarnate Word in San Antonio, co-authored a prospective study of Blephex in 20 patients with meibomian gland dysfunction. (*Connor C, et al. IOVS 2015;56:ARVO E-Abstract 4440*) At baseline and four weeks after treatment, the investigators used the Efron scale for grading the level of MGD, and the patients also underwent TFBUT measurement and answered the OSDI questionnaire. At four weeks, MGD on the Efron scale improved from 1.65 to 0.76 ($p=0.01$), and TFBUT improved from 3.31 to 5.47 seconds ($p=0.05$). Symptom scores on the OSDI improved from an average of 43.74 to 20.33 ($p=0.01$).

Dr. Connor and his colleagues say Blephex appears to be an alternative for patients who are non-compliant with lid scrubs and warm compresses at home. "If the meibomian gland is still viable when you debride the thickened tissue on top of it, it will secrete and the patient will have a positive response," Dr. Connor says. "The cleaner used on the Blephex pad is basically the type of cleaner we've been using for years to clean lids; it's a soap designed to not induce a lot of irritation in the eye. In addition to cleaning off the thickened tissue on the lid margins, the soap will kill

bacteria there too. Blephex lasts about three to six months before requiring a retreatment.

"The Blephex treatment isn't an unpleasant experience for the patient, provided you use a little stronger anesthetic," Dr. Connor continues. "If you use proparacaine, it's a little too weak and patients feel the vibration more. But with tetracaine patients have less sensation, so when you run the Blephex across the lid margins the patient gets less irritation. We haven't had any patients say the treatment is painful, with the worst complaint being that it's mildly uncomfortable or that it tickled. My gut feeling is that the old traditional treatments also work, but patients don't really want to do them because it's one more thing they have to add to their daily routines. They either forget, or get lackadaisical about doing them. I don't know if Blephex works better than therapies we've done traditionally, but what's nice about it is I know that it's been done. I or my staff can do it, get a result, and not have to worry about the patient going home and doing anything."

Dr. Greiner has performed studies funded by TearScience. Dr. Lewis is a stockholder in Mibo. Drs. Vora and Connor have no financial interest in any product mentioned in the article.

1. Greiner JV. Long-term (3 year) effects of a single thermal pulsation system treatment on meibomian gland function and dryeye symptoms. *Eye Contact Lens* 2015 Jul 28. [Epub ahead of print]
2. Lane S, DuBiner H, Epstein R, et al. A new system, the lipiflow, for the treatment of meibomian gland dysfunction. *Cornea* 2012;31:4:396-404.
3. Vora GK, Gupta PK. Intense pulsed light therapy for the treatment of evaporative dry-eye disease. *Curr Opin Ophthalmol* 2015;26:4:314-8.



Blephex removes scales and debris from the lid margin using a rotating head, which opens up meibomian gland orifices.