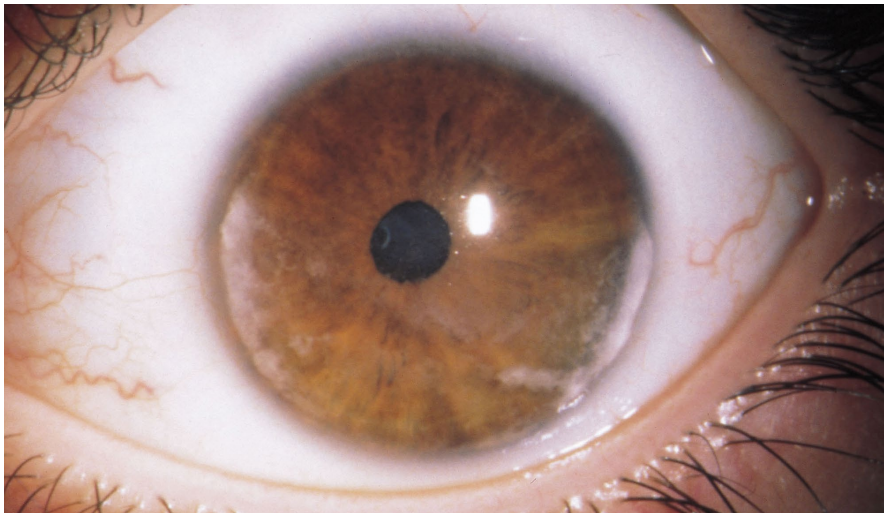
**NOTE:** This version of the article has been updated since print publication. In the original article, the photograph on page 3 depicted neuroretinitis, not optic neuritis. This version correctly shows optic neuritis.

# News in Review

COMMENTARY AND PERSPECTIVE



***JUVENILE ARTHRITIS.*** *Close monitoring is essential in patients with JIA, given the risks of chronic JIA-associated uveitis (seen here).*

UVEITIS

## New Guidelines Target Uveitis in Patients With JIA

**TO IMPROVE CARE FOR UVEITIS** associated with juvenile idiopathic arthritis (JIA), an expert panel has issued comprehensive recommendations for the screening, monitoring, and treatment for uveitis in children with JIA.[1,2]

The American College of Rheumatology and the Arthritis Foundation convened the panel of ophthalmologists, rheumatologists, patient representatives, and informatics methodologists.

**Urgently needed.** The guidelines are an urgently needed tool for remedying deficiencies in the care that children with uveitis receive, said panel member Gary N. Holland, MD, at the University of California-Los Angeles and the Stein Eye Institute.

"There has been great variation in treatment practices, and it has been apparent to both uveitis specialists and pediatric rheumatologists that not all children are receiving optimum care. We often see pediatric patients who have been undertreated or whose treatment has been delayed," Dr. Holland said.

"Some clinicians are not aware that uveitis in children with JIA is always a chronic disease needing long-term treatment. Uveitis will almost certainly recur if treatment is stopped immediately after initial control is achieved," he said. "Also, some clinicians do not follow patients sufficiently often to identify exacerbations of inflammation or uveitic complications before they result in tissue damage and vision loss. Moreover, there may be a lack of familiarity with current drug options—especially with their use in children."

**Panel highlights.** Noting the poor quality of the literature on JIA-associated uveitis, the panel said it had to combine the available, low-quality evidence (much of it in adults), observational data, and consensus expert opinion to develop the guidelines.

Some of the group's recommendations for children and adolescents with JIA are as follows:

**Frequent screening.** Children at high risk for developing uveitis should undergo an ophthalmic screening every three months. High-risk groups are children who have certain types of arthritis (including psoriatic arthritis and oligoarthritis), those who were younger than seven years at JIA onset, and those who have had JIA for four years or less, the panel wrote.

**Close monitoring of stable cases.** If uveitis is under control, the panel strongly recommended that ophthalmic monitoring take place no less frequently than once every three months. Additional monitoring should take place within one to two months each time topical glucocorticoid dose or systemic therapy is altered.

**Glucocorticoids in chronic anterior uveitis (CAU).** For initial therapy, prednisolone acetate 1% topical drops are recommended over difluprednate topical drops. Frequent topical glucocorticoids should not be used as long-term treatment; instead, the panel recommended switching to a glucocorticoid-sparing immunosuppressive agent.

**Systemic immunosuppression for active CAU.** Treatment with subcutaneous methotrexate instead of oral methotrexate may be more effective. Addition of a tumor necrosis factor (TNF) inhibitor in severe cases should utilize one of the monoclonal antibodies (e.g., adalimumab or infliximab), because etanercept, a different type of anti-TNF agent, has not been found to be effective for control of uveitis.

**Real-world reflections.** Dr. Holland noted that the guidelines reflect infor-

mation from various sources, not just from medical experts. "One of those sources was patients themselves, who expressed preferences among treatment options, making the guidelines applicable in real-world situations," he said.

And although all children with chronic anterior uveitis would ideally be evaluated and treated medically in a team approach by a uveitis specialist and a pediatric rheumatologist, that is not always possible, Dr. Holland noted. "These guidelines will be especially useful for physicians outside of urban areas who may not see large numbers of children with uveitis and whose patients do not have easy access to pediatric rheumatologists or uveitis specialists." —*Linda Roach*

1 Angeles-Han ST et al. *Arthritis Care Res.* 2019; 71(6):703-716.
2 Angeles-Han ST et al. *Arthritis Rheumatol.* 2019; 71(6):864-877.
**Relevant financial disclosures**—Dr. Holland: None.

GLAUCOMA

## Distracted Driving Risks Outlined

**USING A MOBILE PHONE WHILE DRIV-**ing can be deadly, as this combination is responsible for more than a quarter of car crashes.[1] Now researchers at Duke University's Visual Performance Lab report that the risk is even greater when glaucoma is added to the mix.[2]

"Patients with glaucoma exhibit a disproportional decrease in driving performance compared to normal subjects when talking on a mobile phone," said Felipe A. Medeiros, MD, PhD, at Duke University in Durham, North Carolina. "Their reaction times and ability to detect peripheral objects suffered more than those of healthy subjects when driving distracted."

The study suggests that of two individuals driving 70 mph while talking on the phone, the driver with greater visual field loss will travel an extra 76 feet before responding to a hazard, compared with a driver with a relatively preserved visual field.

***CAN WE TALK?*** *In the test, vehicle speed was kept constant at 45 mph, so that the driver only had to operate the steering wheel and respond to phone prompts and visual stimuli.*

**Do you talk and drive?** The researchers surveyed 112 patients with glaucoma and 70 healthy controls to determine prevalence of phone use among drivers. Of those with glaucoma, 32 (28.6%) said that they "rarely" or "sometimes" used mobile phones while driving, other than for emergencies. In

CATARACT

## Oral Sedation for Cataract Surgery

**ALTHOUGH INTRAVENOUS SEDATION QUELLS THE** perioperative anxiety of cataract surgery patients, its use requires preoperative fasting, placement of an IV line, and costly monitoring by an anesthesia provider in an operating room setting. Could patients instead be calmed effectively with oral sedation, which is more convenient and less costly?

A study by a team of Boston University ophthalmologists found similar levels of satisfaction with both IV and oral sedation among patients undergoing cataract surgery—and the same was true for the surgeons who performed the procedures.[1]

**Study specifics.** For this prospective masked study, 85 patients were randomized to either oral triazolam (n = 42) or IV midazolam (n = 43). All participants—the patients, their surgeons (n = 11), and anesthesiology staff—completed surveys on postoperative day 1 regarding their satisfaction level with the two approaches to sedation.

On a scale of 1 to 6 (with 6 being the highest score), patients' mean satisfaction score was 5.34 ± 0.63 (range, 3.75-6) for those who had received oral sedation and 5.40 ± 0.52 (range, 4-6) for those who received IV sedation (p value for noninferiority = 0.0004).

For surgeons, the mean satisfaction score was 5.11 ± 1.11 (range, 2.83-6) for oral sedation and 5.45 ± 0.78 (range, 3.4-6) for IV sedation. For anesthesia providers, those scores were 4.97 ± 1.10 (range, 2.17-6) for oral sedation and 5.35 ± 0.78 (range, 3-6) for IV sedation.

**Complications.** The only major intraoperative complication, a posterior capsular tear, was in the IV group. Eleven patients (12.9%), eight of whom were in the oral group, required supplemental IV anesthesia or sedation for intraoperative anxiety or discomfort.

**Next steps.** The researchers are extending their study to a cohort of nearly 400 patients, and they will try to determine risk factors associated with "anxious outliers" who are unsuitable for oral-only sedation, said coauthor Crandall E. Peeler, MD, at Boston Medical Center.

"Where we work, in a busy urban, academic medical center, there's a lot of demand for outpatient OR space," Dr. Peeler said. "If we can show that patients are comfortable with oral sedation for cataract surgery, then maybe we could move some low-risk surgeries from an OR setting to a procedure room, thereby improving efficiency and convenience for our patients and potentially saving money for the health care system in general." —*Linda Roach*

1 Peeler CE et al. *Ophthalmology*. Published online April 16, 2019.
**Relevant financial disclosures**—Dr. Peeler: None.

Felipe A. Medeiros, MD, PhD

comparison, 22 of the healthy controls (31.5%) reported that they rarely or sometimes talked on the phone while they drove. What's more, 38 (34%) of the patients with glaucoma and 36 (51.4%) of controls said that they felt "capable" or "very capable" of driving while talking, indicating that they were unaware of the risks.

**Driving simulator.** Next, a randomly selected subgroup of 37 patients with glaucoma and 28 controls "drove" with and without a handheld phone at 45 mph on a simulated road. The researchers measured their response time to the appearance of peripheral diamond-shaped targets on the virtual road.

**Slower to react.** Reaction times to peripheral stimuli were longer in glaucomatous than in healthy patients, both with and without the phone: Without the phone, reaction times were 1.05 seconds in glaucomatous eyes, versus 0.76 seconds in healthy eyes. With the phone, those reaction times increased to 1.86 seconds in patients with glaucoma, versus 1.14 seconds in controls.

And disease severity affected reaction time: Each 5-dB decrease in standard automated perimetry binocular mean sensitivity was associated with an increase of 0.88 seconds in reaction time.

**Advising patients.** Dr. Medeiros advised doctors to tell patients with glaucoma about their potential increased risk of accidents.

And hands-free options aren't a good solution, as the evidence suggests there is not much difference between hands-free and handheld phones, Dr. Medeiros said. "That's because we have an inherent limited ability to divide our attention. In either scenario, you would be driving under distracted attention," he said. "Having glaucoma further limits our ability to drive safely."

*—Miriam Karmel*

1 National Safety Council. www.nsc.org/portals/0/documents/distracteddrivingdocuments/attributable-risk-estimate.pdf. Accessed June 17, 2019.
2 Ogata NG et al. *JAMA Network Open.* 2019;2(4):e192169.
**Relevant financial disclosures**—Dr. Medeiros: NEI: S.

PUBLIC HEALTH

# Clinics Continue to Promote Bogus Eye Treatments

**CLINICS USING WEBSITES TO MARKET** "stem cell therapy" directly to the consumer—for everything from age-related macular degeneration (AMD) to retinitis pigmentosa (RP)—are proliferating, according to a study from the University of Rochester.[1] And the consequences can be devastating.

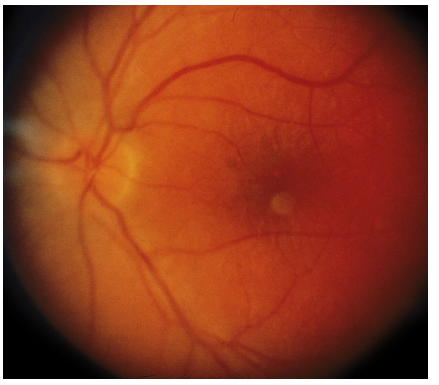
"These sites are providing unapproved, untested therapies that have resulted in blinding complications," said Ajay E. Kuriyan, MD, MS, at the University of Rochester's Flaum Eye Institute in Rochester, New York. "With digital marketing, the ability to perform direct-to-patient marketing has evolved and allows more widespread dissemination" of bogus treatments.

There is a bit of good news, however: The FDA has won its suit against a Florida-based stem cell company that provided blinding treatments (see "Legal update," below).

**Calling Dr. Google.** For this study, Dr. Kuriyan and his colleagues performed an internet search using marketing terms such as "cell treatment" and "cell therapy." During a two-week period in September 2017, they were able to identify 40 companies with 76 clinics in the United States that purported to treat ophthalmic conditions. Of the 40 companies, 35 offered treatment for AMD, followed by optic neuritis (n = 18), RP (n = 17), and diabetic retinopathy (n = 16).

The most frequently used cell type was autologous adipose-derived stem cells. Delivery methods included intravenous administration, injections, eyedrops, and "unspecified." Most of the clinics did not disclose the cost of treatment; of the four that did, the cost per single treatment ranged from $4,000 to $10,500.

**Risk of complications.** Previously, Dr. Kuriyan and his colleagues reported on three patients who suffered blinding complications after receiving adipose-derived stem cells for AMD at a single clinic.[2] Before the injection, the visual acuity of the patients' better-seeing eyes ranged from 20/30 to 20/50. One year later, the VA of these eyes ranged from 20/200 to no light perception. Complications included retinal and vitreous hemorrhages, retinal detachments with proliferative vitreoretinopathy, and zonular weakness.



***PATIENT DESPERATION.*** *Optic neuritis (shown here), AMD, diabetic retinopathy, and retinitis pigmentosa are targeted by "cell therapy" clinics.*

**Talk to your patients.** "Patients frequently ask about stem cell therapies for their condition," Dr. Kuriyan said. "It is important to educate them and let them know about the differences between legitimate stem cell studies and these 'stem cell' clinics."

**Legal update.** On June 3, a federal judge sided with the FDA in a lawsuit against U.S. Stem Cell Clinic, a Florida-based company whose treatments have blinded at least four patients. The judge affirmed that adipose-derived stromal vascular fraction cells can be considered a drug and thus are subject to FDA regulations.[3] *—Miriam Karmel*

1 Nirwan RS et al. *Ophthalmology.* Published online March 21, 2019.
2 Kuriyan AE et al. *N Eng J Med.* 2017;376(11):1047-1053.
3 www.fda.gov/news-events/press-announcements/federal-court-issues-decision-holding-us-stem-cell-clinics-and-owner-adulterated-and-misbranded-stem. Accessed June 18, 2019.
**Relevant financial disclosures**—Dr. Kuriyan: None.

**See the financial disclosure key,** page 8. **For full disclosures,** including category descriptions, view this News in Review at aao.org/eyenet.