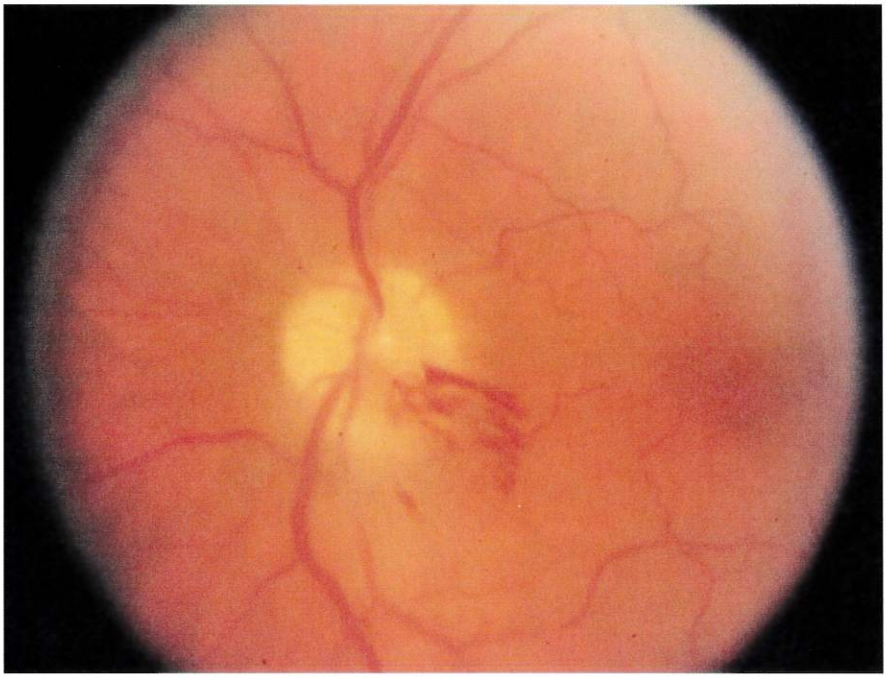


NAION. *The optic nerve head of a patient with new-onset NAION shows swelling and hemorrhaging over the lower aspect of the nerve head.*

Joseph F. Rizzo, MD, Harvard Medical School/Mass Eye & Ear

NEURO-OPHTHALMOLOGY

Guidance on GLP-1 RAs and NAION

THE ACADEMY AND THE NORTH American Neuro-Ophthalmology Society (NANOS) have released a consensus statement that addresses the growing body of research on glucagon-like peptide-1 receptor agonist (GLP-1 RA) medications and the possible risk of nonarteritic anterior ischemic optic neuropathy (NAION), a rare but sight-threatening condition.

The clinical guidance was published in *Ophthalmology*, with the authors concluding that although a possible, small increased risk of NAION exists, the overall risk remains low in patients taking GLP-1 RA drugs. The statement provided details on related research and stressed the importance of shared decision-making between patients and their ophthalmologists.[1]

"We want to allow clinicians to provide the best possible patient care based on the amount of evidence we have and our best interpretation of that evidence," said lead author Sarah W. DeParis, MD, Director of Quality and Clinical Standards and Chief Medical Officer at the Academy.

It is the third collaboration between the Academy and NANOS providing guidance on the topic. An initial statement followed the first published study to correlate GLP-1 RAs and NAION, in July 2024. The second statement, released in July 2025, was a response to the European Medicines Agency's recommendations.[2,3]

The backdrop. To provide perspective, the authors pointed to the sharp rise in GLP-1 RA use since the FDA approval of the GLP-1 RA semaglutide for the treatment of diabetes in 2017 and for overweight and obesity in 2019. They noted research indicating that 25% of people diagnosed with diabetes are being treated with a GLP-1 RA medication.

The new statement is "timely and important because patients are actively taking these medications. There are questions about the safety and efficacy [of these drugs] and what to do with this very rare condition," said coauthor Isdin Oke, MD, MPH, pediatric ophthalmologist at Boston Children's Hospital and Assistant Professor in both the Department of Ophthalmology and the Department of Population Medicine at Harvard Medical School, in Cambridge, Massachusetts.

NAION has an incidence ranging from 2.3 to 10.2 per 100,000 people; the mechanism behind the condition is unknown, and there is no effective treatment, said Oke.

It is typically painless and asymptomatic, but it can cause permanent vision loss in the eye, he said. Risk factors for NAION include certain medications and health conditions, such as cardiovascular disease, hypertension, and diabetes mellitus.

Large, yet limited, datasets. A growing body of research links GLP-1 RAs, particularly semaglutide, to a possible increase in the risk of NAION, the authors wrote. They highlighted some key research, including a 2024 retrospective cohort study that analyzed data from approximately 17,000 patients who were seen at a tertiary referral neuro-ophthalmology clinic—the first study to suggest an association between semaglutide and NAION. The

new statement pointed to limitations in the study, including the fact that the clinic treats most NAION cases in the region, so it may not reflect cases in the population as a whole. Also, the control group took non-GLP–1 RA drugs for diabetes and obesity, so it's possible that GLP-1 RAs were poorer at preventing the rare eye disease compared with the other drugs.

The statement also noted that numerous other retrospective observational studies had investigated the issue. Many of these used electronic health record databases and administrative or insurance claim databases, including the Observational Health Data Sciences and Informatics network, TriNetX, Danish and Norwegian registries, and others.

As many of these databases rely on coding input, records may be incomplete, include errors, or have other inconsistencies that "are important limitations for these studies," the Academy statement said.

Oke said, "These are large datasets that weren't created for research purposes, but we can use them for that purpose to help us understand what is happening with this condition."

Limitations of randomized controlled trials. A meta-analysis of 78 randomized controlled trials for semaglutide found increased risk of ischemic optic neuropathy, the statement said. However, most of those trials did not systematically measure ocular adverse events, and only 5 of the studies reported NAION events, the statement authors wrote.

Another meta-analysis of 8 randomized controlled trials that did report on ischemic optic neuropathy outcomes showed no increase in the risk of NAION.

Other meta-analyses of observational studies and pharmacovigilance studies showed varying levels of risk, the authors noted.

The takeaway. "The existing literature indicates a possible small increased risk of NAION in patients taking semaglutide, but the risk remains low and is yet to be confirmed; causation has not been shown. Patients taking GLP-1 RAs who experience sudden vision loss should undergo immediate evaluation by an ophthalmologist," the statement authors concluded.

They advised that ophthalmologists be upfront about the small potential risk of NAION, while acknowledging that a causal association with GLP-1 RAs has not been established. With the current available evidence, they recommended "careful weighing of risks and benefits" and a "shared decision-making process" between clinicians and their patients.

Until more evidence is available, each case should consider individual health factors and other risk factors, said DeParis.

"GLP-1 RA medications do have many life-changing, even life-saving health benefits for many patients," she said. "We don't want patients to just automatically stop taking them without having an informed conversation with their care team."

"Are we increasing that risk [of NAION] further by using these medications? That's the big question," Oke said. "It's a challenging thing to do with very limited data."

Until more data are available, this guidance should be considered for all GLP-1 RAs, not just semaglutide, he said.

DeParis said GLP-1 RA use will likely continue to rise, providing an opportunity for continued surveillance and research for rare outcomes like NAION.

"We will continue monitoring the literature and any new evidence that's emerging as things evolve," she said.

—Mariel Mohns, MS

1 DeParis S et al. *Ophthalmology*. 2026; 133(8):1029-1035

2 AAO. aao.org/newsroom/news-releases/detail/weight-loss-drug-and-eye-health. Accessed Jul 21, 2026.

3 AAO. aao.org/newsroom/news-releases/detail/should-you-stop-taking-glp-1-drugs-like-ozempic. Accessed Jul 21, 2026.

Relevant financial disclosures: DeParis—American Academy of Ophthalmology: E. Oke—None.



UVEAL MELANOMA. *Choroidal melanoma with overlying orange pigment in a patient's right eye.*

Lauren A. Dalvin, MD, Mayo Clinic in Rochester, Minnesota

OCULAR ONCOLOGY

New European Uveal Melanoma Guidance

THE EUROPEAN SOCIETY FOR MEDI-cal Oncology (ESMO) and the European Reference Network for Rare Adult Solid Cancers (EURACAN) have released clinical practice guidelines for uveal melanoma.[1]

"These are the first European guidelines for uveal melanoma on behalf of the ESMO and EURACAN networks," said lead author Sophie Piperno-Neumann, MD, a medical oncologist at the Institut Curie in Paris, France, who leads the Institut's clinical research program in uveal melanoma.

Piperno-Neumann said the guidelines—which offer a comprehensive framework for diagnosis, staging, treatment, and follow-up for the disease—were developed by uveal melanoma experts throughout Europe and are based on scientific evidence and the authors' collective opinions.

She said, "The most important goal of the new guidelines is to improve the management of patients diagnosed with such a rare cancer at both early stage and advanced stage."

She also stressed that educating ophthalmologists, supporting multidisciplinary collaboration of all clinicians involved, and providing information and support to patients through patient

association groups are critical.

Guideline highlights. The guidelines cover several key points.

Diagnosis and staging. They reaffirm that diagnosis of uveal melanoma is primarily based on clinical findings. In most cases, characteristic findings on ophthalmoscopy, fundus photography, and conventional ocular ultrasound are sufficient to establish a uveal melanoma diagnosis, the authors wrote.

Biopsy is not typically required but, if clinical diagnosis is unclear, it may be used, the authors wrote. They noted that fine-needle aspiration biopsy carries potential risks, including hemorrhage and tumor seeding, underscoring the need for careful patient selection and communication about the risks with patients.

The guidelines include an algorithm for uveal melanoma staging and risk assessment, noting that molecular prognostication is an important means to assess the risk of metastasis. Chromosomal alterations such as monosomy 3 and chromosome 8q gain, together with mutations in genes including *BAP1, SF3B1,* and *EIF1AX,* provide important prognostic information that may help identify patients at increased risk for metastatic disease, according to the authors.

Treatment. Plaque brachytherapy and proton beam radiotherapy remain the preferred options for many patients with localized uveal melanoma, while enucleation is reserved for select cases involving large tumors or those leading to blindness, the authors wrote.

The guidelines also recommend HLA-A*02:01 testing in patients with metastatic disease, which identifies individuals who are eligible for tebentafusp. The FDA and the European Medicines Agency have both approved tebentafusp for first-line systemic therapy in patients with metastatic uveal melanoma who test positive for HLA-A*02:01.

Liver metastases. For patients with liver metastases, the guidelines advise considering liver-directed therapies within a multidisciplinary setting at centers with expertise in uveal melanoma. According to the guidelines, a care team should include (at minimum) ophthalmologists, pathologists, interventional radiologists, liver surgeons, and medical oncologists.

Follow-up. The guidelines call for a risk-adapted surveillance strategy based on clinical stage, molecular features, and genetics (where molecular genetic testing is available) rather than uniform follow-up schedules for all patients.

Because the liver is the most common site of metastatic spread, hepatic imaging remains the cornerstone of surveillance.

"Liver MRI should be proposed to all high-risk patients," Piperno-Neumann said.

Frequency of screening is determined by an individual's metastatic risk, with a recommendation of a liver ultrasound every 6 to 12 months for 5 years in low-risk patients and a liver MRI every 4 to 6 months for 10 years in high-risk patients.

Patient education. Additionally, the guidelines emphasize the importance of patient education to help empower individuals to seek information and improve communication with providers.

"Communication and diffusion of guidelines should help patients reach centers of expertise for diagnostic, treatment, and follow-up strategies, and access to innovation," Piperno-Neumann said.

US perspective. In the United States, ophthalmologists rely on the National Comprehensive Cancer Network (NCCN) guidelines to direct care of patients with uveal melanoma.[2]

"The NCCN emphasizes a multidisciplinary approach that includes recommendations for surgical options, radiation therapy, and systemic treatments; and provides detailed protocols for follow-up care," said Zelia M. Correa, MD, PhD, Director of Ocular Oncology at Bascom Palmer Eye Institute in Miami. "Also, the NCCN is updated annually, making it a living document."

Correa said that the new ESMO and EURACAN guidelines reflect a major advance but noted that "there is no mention of the US consensus for surveillance testing."

She noted that the new guidelines' recommendation for patients to seek care at specialized, multidisciplinary ocular oncology centers is similar to the US guidance.

The future of uveal melanoma. Piperno-Neumann hopes the ESMO-EURACAN guidelines inspire "international collaboration for research in order to improve knowledge of uveal melanoma and discover pathways and targets to be tested in clinical trials."

—Ashley Welch

1 Piperno-Neumann S et al. *ESMO Open.* 2026;11(4):106888.

2 NCCN. https://www.nccn.org/guidelines/guidelines-detail?category=1&id=1488. Accessed Jul 20, 2026.

Relevant financial disclosures: **Correa**—Castle Biosciences: C. **Piperno-Neumann**—Ideaya Biosciences: C; Immunocore: C; Novartis: C; Pierre Fabre: C; Replimune: C.

MORE AT AAO 2026. Uveal melanomas will be among the conditions discussed during the 75-minute session **Pathways to Success in Ocular Oncology: Novel Targeted Therapies Every Ophthalmologist Should Know About** (event code Sym12). The event is cosponsored by the Association for Research in Vision and Ophthalmology. **When:** Saturday, Oct 10, 11:30 am-12:15 pm. **Where:** La Nouvelle Orleans C. **Access:** AAO 2026 Registration.

RETINA

Clarkson Award Recognizes DR Screening Initiative

EVERY YEAR, THE AMERICAN BOARD of Ophthalmology (ABO) and the Academy recognize a quality improvement project designed and successfully implemented by an ophthalmologist. The 2026 Clarkson Quality Improvement Award winner is Jeffrey D. Henderer, MD, the Dr. Edward Hagop Bedrossian Chair and Professor of Ophthalmology at the Lewis Katz School of Medicine at Temple University in Philadelphia.

Henderer spearheaded an initiative to improve screening for diabetic retinopathy (DR).

Filling a need. Henderer, a glaucoma specialist, said he never thought screen-

ing for diabetic eye disease would become an area of focus for him. But when he learned that many people with diabetes are never screened for DR, he felt driven to find a solution to the problem, he said.

DR screening compliance generally falls between 50% and 70%, said Henderer. According to a 2024 study in the *American Journal of Ophthalmology*, the "global DR screening adherence rate was 66.9% in high-income countries and 39.3% in low-and-middle-income countries."[1] The authors of the meta-analysis noted that geography, family income, and insurance coverage, among other factors, play a role in DR screening compliance.

"We know how to prevent diabetic retinopathy from the primary care perspective—by maintaining healthy blood sugar levels and scheduling regular eye exams," Henderer said. "The fact that people aren't getting eye exams just seems a complete travesty."

How the project began. "My previous work with glaucoma screening revealed that patients did value their interactions with the primary care provider [PCP] and almost always visited their PCP annually," said Henderer.

He said this observation suggested that the most effective location to place a diabetic eye disease screening program would be in the PCP office. So, in 2016, he and colleagues decided to test their idea and set up a single nonmydriatic fundus camera in an internal medicine practice within Temple University Physicians, which is Temple's primary care network. Photos were taken by an internal medicine medical assistant and were combined with an HbA1c blood draw and monofilament testing for neuropathy to ensure that all the diabetic care measures were being assessed, he said.

The photos were then uploaded to a cloud-based electronic health record system and reviewed by Temple optometrists who identified those patients with DR and other ocular diseases. The screening was billed using CPT code 92228.

"We sent the results of the screening exam to the PCP, who then was supposed to contact the patient to let them know the outcome, and to help them schedule a follow-up exam with an ophthalmologist, if needed. When we evaluated the outcomes of this project, they were mixed," Henderer said. "Things weren't going according to plan."

There were several issues. "The first was that humans were doing the photo interpretation, and little time was allotted to them to do it, which led to delays and inconsistency in interpretation," he said. Second, the PCP office was being asked to help arrange the follow-up appointment with an ophthalmologist.

"This sounds good on paper, but it simply did not appear to work in real life. We reviewed our initial results and found very few patients ever scheduled a follow-up appointment, and only 10% of patients actually completed a follow-up eye exam," Henderer said.

Making an improvement. He and his colleagues adjusted their process to see if they could improve follow-up appointment rates by hiring a screening care coordinator, who contacted patients who had failed the DR screening. This increased appointment scheduling rates to 70% of patients, he said.

"Asking patients to schedule their own appointments—or putting all of the onus on primary care offices—doesn't work," he said. "The bandwidth just isn't there to pull that off. We had to assume that [responsibility] ourselves if we were going to move the needle, and we were able to improve the scheduling rate quite dramatically."

Expanding an idea. When COVID arrived, it gave the researchers "the chance to shut things down and redesign our efforts," said Henderer.

The researchers decided to incorporate an artificial intelligence–based DR screening system into the process to help reduce delays in interpretation and inconsistent interpretations (human error) of images.

Using the autonomous AI system to rapidly evaluate the images also allowed the PCP to give the patients their DR screening results immediately, which helped patients with DR understand their results and why they needed to follow up with an ophthalmologist, said Henderer.

Big impact. Yi Zhang, MD, PhD, Associate Professor of Ophthalmology at the Lewis Katz School of Medicine at Temple, and Henderer's vice chair of research for the project, said the success of the project is a reflection on Henderer's "vision and leadership."

"It is a perfect example of how AI technology can change the landscape of patient care in ophthalmology, and in medicine overall," said Zhang.

Looking ahead. Henderer said the response to the project from Temple colleagues in primary care has been "a sigh of relief," with many saying this type of screening approach is long overdue.

Henderer said that he and colleagues believe their initiative can help patients get the care they need, and save costs.

"Instead of a dilated eye exam with an ophthalmologist, patients with diabetes can have a photo taken in 5 minutes at their PCP's office," he said.

He hopes their program can be replicated in other academic health systems. His team has partnered with the Academy for a pilot project in Delaware, with hopes of expanding to other states.

Henderer said that as the number of older adults in the United States continues to increase, "I think we're going to have to be more efficient in the way we deliver care and come up with different ways to make sure that we are delivering care to the people who need it."

—Brian Mastroianni

1 Rahmati M et al. *Am J Ophthalmol.* 2024; 268:94-107.

Related financial disclosures: Henderer: Eyenuk—C. **Zhang**: None.

See disclosure key, page 14. For full disclosures, see this article at aao.org/eyenet.

Apply for the Clarkson Award

Academy members can apply for the Clarkson Award at https://bit.ly/3RKkZee. Projects are evaluated for innovation, interventions, and overall impact. Applications are accepted between Feb 1 and May 1.