

Simplify Grading and Risk Assessment in Diabetic Retinopathy



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What can be done to make it easier for optometrists to grade diabetic retinopathy (DR) and assess risk?

Dr. Johnson: A Diabetic Retinopathy Taskforce was formed last year, and we are currently finalizing a consensus document that will spell this out. The approach includes five pillars. In short, optometrists need to 1) detect, 2) grade, 3) assess risk, 4) manage and 5) support.

Dr. Chous: As members of that task force, I think I speak for the three of us when I say that, even from our very first meeting, we knew that grading and risk assessment are pain points in optometry. It tends to be highly subjective, can take a lot of time and skill, and therefore needed to be a central focus of our initiative.

What tools do you use to grade DR?

Dr. Johnson: An objective test, such as ERG, is needed. In my practice, we use the RETeval® device. This handheld technology is fast, reliable and easy to perform. It also generates an extremely user-friendly report that's excellent for charting purposes.

Dr. Rodman: I rely on the RETeval device as well. It streamlines care and gives me peace of mind. It's easy enough for my technicians to use, coding is straightforward, and the reimbursement is fair.

Moving on to risk assessment, can you give us a preview of where the taskforce landed on this as well?

Dr. Chous: This can be challenging because you want to know where the patient stands in that moment, but generating an answer about risk at a single moment in time isn't easy because different tests can tell different stories. You have to put the puzzle together to create a portrait of risk.

Dr. Johnson: This is probably the most important reason to look at both structural and objective functional measures because the two may not align and, if one of them raises alarm, we need to keep digging. Having baseline functional and structural assessments can be tremendously valuable.

What test do you use to get a baseline and to monitor for risk over time?

Dr. Chous: Dilated retinal exams are important, preferably with fundus photography and red-free filtration to detect subtle structural abnormalities, and OCT/OCTA imaging is helpful for future comparison. In terms of the functional risk assessment, initial ffERG is recommended for patients with any DR at baseline to establish a comparator if future DR worsening is detected subsequently.

Dr. Rodman: With an objective ERG test, functional signs of loss can predict progression.^{1,2} Specifically, a RETeval DR Score of 23.4 or higher indicates an 11-fold risk of requiring medical intervention within 3 years.²

Dr. Johnson: This score also can guide the follow-up schedule or referral decision. (See *Monitoring and Referral Guidelines*.)

¹Al-Otaibi H, Al-Otaibi MD, Khandekar R, et al. *Transl Vis Sci Technol.* 2017;6(3):3. doi:10.1167/tvst.6.3.3

²Brigell MG, Chiang B, Maa AY, Davis CQ. *Transl Vis Sci Technol.* 2020;9(9):40. doi:10.1167/tvst.9.9.40

Monitoring and Referral Guidelines

- Patients with any DR who demonstrate a RETeval score >23.5 should be referred to a retina specialist, particularly if NPDR severity is moderate or worse
- Patients with RETeval score >23.5 with what appears, clinically, to be mild NPDR, should be monitored closely or considered for referral to a retinal specialist to confirm appropriate staging of DR severity
- Patients with a RETeval score >26 should be referred to a retina specialist
- Patients with a RETeval score <23.5 with mild or moderate NPDR should have repeat examination, including repeat measure of ffERG and RETeval score
- Patients with mild or worse NPDR with RETeval score >21 should be considered for repeat ffERG/clinical exam within 6-12 months to assess for worsening severity of structural or functional abnormalities

With regard to grading, can you give us a preview of where the taskforce landed?

Dr. Chous: We all unanimously agreed that we need to grade diabetic retinopathy at the time of diagnosis and at each subsequent visit. Furthermore, we should chart structural retinal damage and quantify retinal cell function.

Dr. Rodman: Most of us already conduct grading at some level and note it in the chart. But the quantification of retinal cell function is where we see the most significant opportunity loss. Although both structure and function are useful, functional changes generally appear well before structural ones. In studies comparing the ability of ERG and structural imaging to evaluate sight-threatening DR, ERG outperformed traditional imaging at predicting which patients would likely need subsequent medical intervention.^{1,2}

Dr. Johnson: Importantly, visual acuity alone is not sufficient to assess function.

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