

# Diabetic Retinopathy in Children

## Recommendations for Eye Screening

The American Diabetes Association (ADA) recommends that children diagnosed with type 1 diabetes should have an initial dilated and comprehensive eye examination once they have had diabetes for 3–5 years, provided they are aged  $\geq 11$  years or puberty has started, whichever is earlier. This recommendation is based on the understanding that diabetic retinopathy most commonly occurs after the onset of puberty and after 5–10 years of diabetes duration, with a low risk of vision-threatening retinal lesions prior to 12 years of age.[1] Following the initial examination, the ADA recommends repeat dilated and comprehensive eye examinations every 2 years. However, less frequent examinations, such as every 4 years, may be acceptable based on the advice of an eye care professional and if the child has a history of A1C  $< 8\%$  ( $< 64$  mmol/mol).[1] Programs utilizing retinal photography with remote reading or validated assessment tools can be appropriate for improving access to diabetic retinopathy screening, provided they include pathways for timely referral for comprehensive eye examinations when indicated.[1] American Diabetes Association Children and Adolescents: Standards of Care in Diabetes-2025 Published January 2025

Additionally, the American Academy of Ophthalmology (AAO) recommends that children with type 1 diabetes should have their first eye examination 5 years after the onset of diabetes, and annually thereafter.[2] This recommendation is based on the observation that significant retinopathy is rare before puberty and typically becomes apparent 6 to 7 years after the onset of diabetes. For children with type 2 diabetes, the AAO advises an initial eye examination at the time of diagnosis, followed by annual examinations.[2] This is due to the higher prevalence and earlier onset of diabetic retinopathy in type 2 diabetes compared to type 1 diabetes, as noted in recent studies.[3] Furthermore, the American Diabetes Association (ADA) emphasizes the importance of patient education regarding the impact of early glucose control on visual outcomes, which should begin at the onset of diabetes.[4] This education is crucial for establishing appropriate follow-up patterns and engaging both the pediatric patient and their family in diabetes management. In summary, the consensus from both the ADA and AAO is that children with type 1 diabetes should have their first eye examination 3-5 years after diagnosis if they are aged  $\geq 11$  years or have reached puberty, and children with type 2 diabetes should have an eye examination at diagnosis and annually thereafter. These guidelines aim to ensure early detection and management of diabetic retinopathy, thereby preventing vision loss in pediatric patients with diabetes.

1. 14. Children and Adolescents: Standards of Care in Diabetes-2025. Diabetes Care. 2025;48(Supplement\_1):S283-S305. doi:10.2337/dc25-S014. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10725814>
2. Diabetic Retinopathy Preferred Practice Pattern®. Flaxel CJ, Adelman RA, Bailey ST, et al. Ophthalmology. 2020;127(1):P66-P145. doi:10.1016/j.ophtha.2019.09.025.
3. Pediatric Diabetic Retinopathy: Updates in Prevalence, Risk Factors, Screening, and

Management. Lin T, Gubitosi-Klug RA, Channa R, Wolf RM. Current Diabetes Reports. 2021;21(12):56. doi:10.1007/s11892-021-01436-x.

4. Retinopathy in Diabetes. Fong DS, Aiello L, Gardner TW, et al. Diabetes Care. 2004;27 Suppl 1:S84-7. doi:10.2337/diacare.27.2007.s84.

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