

Early detection of AUTOIMMUNE TYPE 1 DIABETES (T1D)

Autoimmune T1D is a **progressive disease** that affects individuals of all ages¹

Progressive destruction of insulin-producing beta cells leads to **high blood sugar and complications such as DKA** at the time of T1D diagnosis, which can have lasting negative impacts (eg, increased morbidity/mortality)¹⁻⁴

Screening for specific autoantibodies can be used to identify individuals with autoimmune T1D prior to symptom onset and reduce the risk of DKA¹⁻³



Empower Individuals and Their Families With Information on Autoimmune T1D Screening

The following are questions you can discuss with individuals and family members when educating on screening:



What are the benefits of screening and early detection of autoimmune T1D?^{3,5-7}

- Ability to monitor disease progression to help reduce the risk of DKA
- Receive information to recognize symptoms of autoimmune T1D
- Develop a management plan and explore potential interventions



Who should be screened for autoimmune T1D?^{1,8,9}

ADA guidelines recommend screening:

- Presymptomatic individuals with family history of T1D or known elevated genetic risk, or phenotypic risk factors that overlap with those for T1D*

ISPAD guidelines state:

- General population screening can identify children and young adults with or at risk of T1D

*eg, younger age at diagnosis, unintentional weight loss, ketoacidosis, or short time to insulin treatment



How do you screen for early-stage autoimmune T1D?^{1,10-12}

- Screening looks for specific autoantibodies circulating in the blood
- This can be done via a blood test at a clinical laboratory, a testing kit ordered online and sent to a clinic, or participation in a research study



What autoantibodies does screening look for?¹

- The American Diabetes Association recommends screening by detection of the following four specific autoantibodies: insulin, GAD, IA-2, ZnT8



What do positive results of the specific autoantibody screening mean?^{1,3,8}

- **1 specific autoantibody** indicates heightened risk of developing clinical autoimmune T1D
- **≥2 specific autoantibodies** indicate early-stage autoimmune T1D
- Glycemic status should be evaluated periodically to determine progress and staging



What are the next steps for individuals who have screening positive for ≥1 specific autoantibody?^{1,3,5,7}

- Refer to a diabetologist/endocrinologist and collaborate on developing a monitoring plan and building a diabetes care team
- Educate individuals and caregivers on autoimmune T1D, symptoms of disease progression, and management options
- Acknowledge and empathize with psychosocial impacts associated with autoimmune T1D and provide support

Talk with individuals and their families about screening to detect autoimmune T1D before symptoms develop

ADA=American Diabetes Association; DKA=diabetic ketoacidosis; GAD=glutamic acid decarboxylase 65; IA-2=insulinoma-associated antigen 2; ISPAD=International Society for Pediatric and Adolescent Diabetes; T1D=type 1 diabetes; ZnT8=zinc transporter 8

References: **1.** American Diabetes Association. *Diabetes Care*. 2026;49(suppl 1):S27-S49 **2.** Type 1 Diabetes TrialNet. Accessed February 12, 2025. <https://www.trialnet.org/t1d-facts> **3.** Phillip M, et al. *Diabetes Care*. 2024;47(8):1-23. **4.** Duca LM, et al. *Diabetes Care*. 2017;40(9):1249-1255. **5.** Simmons KMW, et al. *Diabetes Technol Ther*. 2023;25(11):790-799. **6.** Hummel S, et al. *Diabetologia*. 2023;66(9):1633-1642. **7.** Breakthrough T1D. Accessed February 12, 2025. <https://www.breakthrough1d.org/early-detection/> **8.** Insel RA, et al. *Diabetes Care*. 2015;38(10):1964-1974. **9.** Haller MJ, et al. *Horm Res Paediatr*. 2024;97(6):529-545. **10.** Sims EK, et al. *Diabetes*. 2022;71(4):610-623. **11.** So M, et al. *Endocr Rev*. 2021;42(5):584-604. **12.** Ask the Experts. Accessed February 12, 2025. <https://www.asktheexperts.org/for-providers>

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