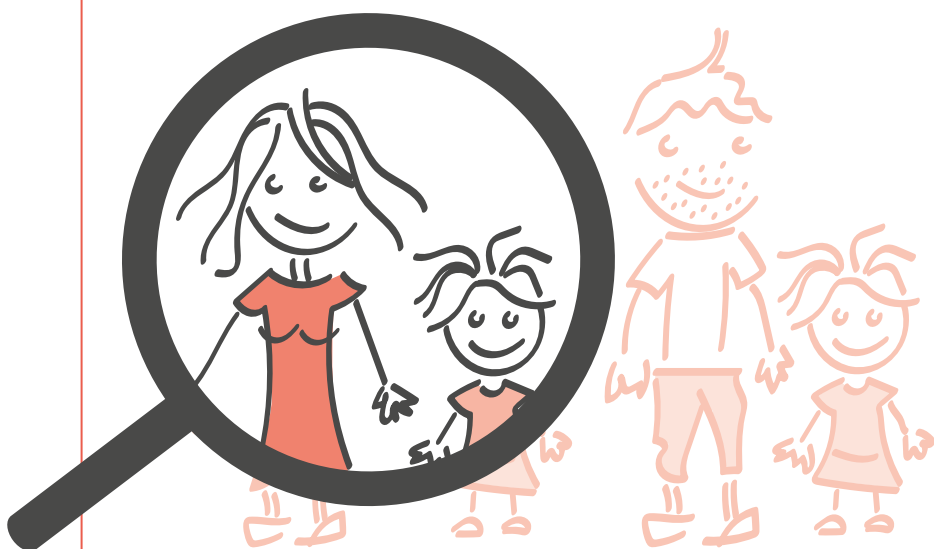


TYPE 1 DIABETES

FROM INVISIBLE TO UNMISTAKABLE



For more information,
please visit the website
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**T1D
SCHRITT
VORAUS**

WHAT IS TYPE 1 DIABETES?



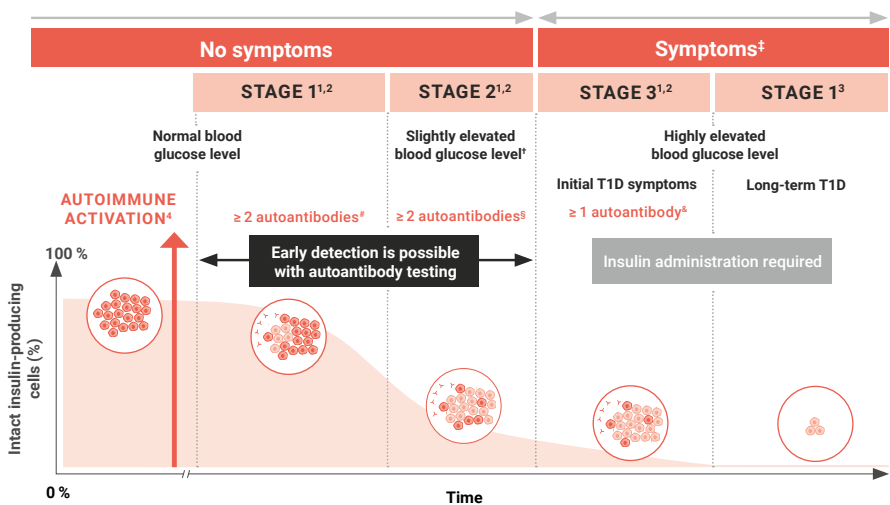
Type 1 diabetes is a **progressive disease** with a growing number of people being affected worldwide.¹



Type 1 diabetes is an **autoimmune disease** in which the immune system attacks and destroys the **body's own insulin-producing cells**, resulting in a decreased production of vital insulin.²

PATHOGENESIS OF TYPE 1 DIABETES:

From invisible to impossible to miss – an autoimmune process in phases¹



Note: the illustration is only an example for illustrative purposes.

Adapted from Breakthrough T1D.⁵

● Insulin-producing cell ● Destroyed insulin-producing cell ✗ Autoantibodies

The disease progresses in four stages – from asymptomatic stages 1 and 2 to stage 3, when the first symptoms appear, and finally to stage 4, when the disease is fully developed.^{1,2,3,5}

Stages 1 and 2 are characterised by the presence of **two or more islet autoantibodies** in the blood.^{1,2} From type 1 diabetes Stage 2 onwards, **rising blood glucose levels** are also observed.⁶

TYPE 1 DIABETES OFTEN COMES AS A SHOCK

Individuals diagnosed with type 1 diabetes are at risk of serious **complications**, including severe hypoglycemia⁷, long-term micro- and macrovascular damage^{8,9,10} and **diabetic ketoacidosis** – the latter occurring in approximately 20–30% of cases at diagnosis¹¹. The objective of early detection is to prevent diabetic ketoacidosis at the time of diagnosis.



WHAT IS DIABETIC KETOACIDOSIS?



Diabetic ketoacidosis is a severe metabolic disorder. It occurs as a serious complication of diabetes, particularly in type 1. It develops when the body **has no or significantly too little insulin available** to utilise glucose in the blood.¹²

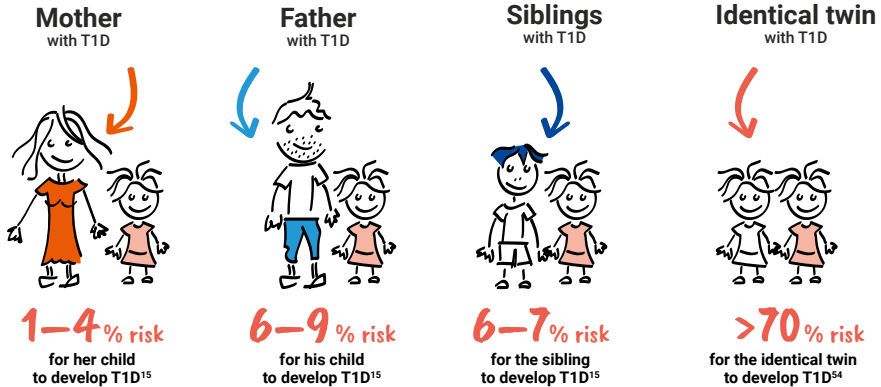


When diabetic ketoacidosis occurs, **treatment in an intensive care unit** at a hospital is usually necessary.¹²



In children, diabetic ketoacidosis can result in **memory problems and mental impairment**¹³ and blood glucose levels may be more difficult to control for a prolonged period afterwards.¹⁴

TYPE 1 DIABETES CAN AFFECT ANYONE



In the general population, the risk of developing type 1 diabetes (T1D) is 0.4 %. People who have a close family member with type 1 diabetes run a higher risk of developing it themselves.¹⁵



Type 1 diabetes is the most common chronic metabolic disorder in children and adolescents.¹⁶



In Germany, approximately **1 in 425 children and adolescents** is affected by type 1 diabetes.¹⁷



Up to 90 % of those affected have **no close relatives with type 1 diabetes**.¹ In other words, type 1 diabetes can affect anyone.



The onset of **type 1 diabetes is prompted by various factors** – genetics is just one of them.¹



Approx. 62 % of people with **type 1 diabetes** are diagnosed **after the age of 20**.¹⁶

THE BENEFITS OF EARLY DETECTION



In the early stages of type 1 diabetes, no symptoms are yet apparent, but the **autoimmune disease can already be diagnosed at these stages.**^{1,2}



Roughly 1 out of 350 children has early-stage type 1 diabetes without knowing it.¹⁸



The objective of early detection is to **prevent diabetic ketoacidosis at the time of diagnosis**, while also **determining the best time to start insulin therapy.**⁶



Early detection enables families to gradually adjust to the diagnosis and **facilitates a smoother transition to insulin therapy.**^{19, 20}



T1D: type 1 diabetes.

Autoantibodies against beta cell autoantigens (insulin, glutamate decarboxylase [GAD65], insulinoma-associated antigen 2 [IA-2] or zinc transporter 8 [ZnT8]) detected in patient serum.⁴ † Fasting plasma glucose 100–125 mg/dl (5.6–6.9 mmol/l) or 2-hour plasma glucose during an oral glucose tolerance test (oGTT) 140–199 mg/dl (7.8–11.0 mmol/l) or HbA_{1c} 5.7%–6.4% (39–47 mmol/mol) or ≥ 10% increase in HbA_{1c}.² ‡ Common symptoms of T1D include excessive thirst, frequent urination, extreme fatigue, blurred vision, and weight loss.^{1,2} § Some individuals with previously confirmed multiple autoantibodies may revert to a single or negative autoantibody status.²² & Some patients may lack autoantibodies in T1D stage 3.²

1. Insel RA et al. *Diabetes Care* 2015; 38: 1964–74. 2. American Diabetes Association Professional Practice Committee. *Diabetes Care* 2026;49(Supplement_1):S27–S49. <https://breakthrough1d.org.au/what-is-t1d/stages/>. Last accessed on 15.09.2025. 3. Haller MJ et al. *Horm Res Paediatr* 2024; 97: 529–45. 4. van Belle TL et al. *Physiol Rev* 2011; 91: 79–118. 5. Breakthrough T1D. The stages of type 1 diabetes. Available at: <https://breakthrough1d.org.au/what-is-t1d/stages/>. Last accessed on 15.09.2025. 6. Besser REJ et al. *Pediatr Diabetes* 2022; 23: 1175–87. 7. Gubitosi-Klug RA et al. *Diabetes Care* 2017; 40: 1010–6. 8. Aiello LP et al. *Diabetes Care* 2014; 37: 17–23. 9. Braffett BH et al. *Diabetes Care* 2025; 48: 1089–1100. 10. Hardigan T et al. *Clinical Science (London)* 2016; 130: 1807–22. 11. Auzanneau M et al. *Diabetes Care* 2022; 45(8): 1807–1813. 12. Dhatriya, K.K., Glaser, N.S., Codner, E. et al. *Diabetic ketoacidosis*. *Nat Rev Dis Primers* 6, 40 (2020). 13. Jaser SS & Jordan LC. *Curr Diab Rep* 2021; 21: 12. 14. Duca LM et al. *Diabetes Care* 2017; 40: 1249–55. 15. Redondo MJ et al. *Pediatr Diabetes* 2018; 19: 346–53. 16. Gregory GA et al. *Lancet Diabetes Endocrinol* 2022; 10: 741–760. 17. Buchmann M et al. *J Health Monit* 2023; 8: 59–81. 18. Hummel S et al. *Diabetologia* 2023; 66: 1633–42. 19. Besser REJ et al. *Arch Dis Child* 2022; 107: 790–5. 20. Smith LB et al. *Pediatr Diabetes* 2018; 19: 1025–33. 21. diabinfo: Was ist Diabetes Typ 1? Available at: <https://www.diabinfo.de/leben/typ-1-diabetes/grundlagen/krankheitsbild-und-symptome.html>. Last accessed on 15.09.2025. 22. Phillip M et al. *Diabetes Care* 2024; 47: 1276–98.