

1 in 3 Teens Have Prediabetes, CDC Data Shows

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STORY AT-A-GLANCE

- › About 1 in 3 American teens — more than 8 million adolescents — already live with prediabetes, putting them at high risk for diabetes, heart disease, and stroke later in life
- › Prediabetes is often silent, with many teens showing no symptoms, which means serious damage begins long before the condition is diagnosed
- › Risk is higher in teens who are overweight, eat ultraprocessed foods, or are inactive, but lifestyle changes are associated with a lower chance of developing diabetes
- › When prediabetes progresses, it damages blood vessels, disrupts energy production inside cells, and strains your pancreas until it no longer keeps blood sugar in check
- › Parents play a key role in improving a teen's blood sugar control by encouraging healthier food choices, daily movement, regular sunlight, and monitoring blood sugar markers before Type 2 diabetes takes hold

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Prediabetes is a silent condition that develops when your blood sugar runs higher than normal but not yet high enough to qualify as diabetes. In teens, it often goes unnoticed because there are no clear warning signs. Some young people might feel more tired than usual, get thirsty often, use the bathroom more, or even notice changes in their vision, but many feel nothing at all.

That hidden nature is what makes it dangerous — by the time it progresses into Type 2 diabetes, the damage to your body has already begun. This stage of poor blood sugar control also raises your odds of heart disease, stroke, and other chronic problems that shorten a young person's healthy years of life.

Experts describe it as a warning light, signaling that the body's energy system is under strain. The fact that this is happening more frequently in teenagers reflects a larger metabolic crisis that now touches both adolescents and adults. Recognizing that these changes are showing up so early in life is what makes the data so important.

The U.S. Centers for Disease Control and Prevention (CDC) has revealed just how many teens are already living with prediabetes and how quickly the problem is growing. That evidence gives us a clearer picture of what's happening inside adolescent bodies, and why urgent changes are needed to protect their future health.

CDC Data Reveals a New Reality for Teen Prediabetes

Using data from the National Health and Nutrition Examination Survey (NHANES), researchers analyzed the health status of adolescents ages 12 to 17.¹ They defined prediabetes as fasting glucose between 100 and 125 milligrams per deciliter or an A1c — a blood test that shows your average blood sugar over the past three months — between 5.7% and 6.4%. Their goal was to estimate how many teens in the U.S. are living with this condition.

- **The study revealed just how widespread prediabetes in teens has become** — In 2023, 32.7% of adolescents — roughly 8.4 million young people — were living with prediabetes. That means about 1 in 3 U.S. teenagers is already showing early signs of metabolic dysfunction. These figures are based on a nationally representative sample, which makes them a reliable reflection of the population at large.

One limitation worth noting: The CDC released this estimate as a short online summary rather than a peer-reviewed paper, and did not publish the underlying data. Outside researchers have said they cannot evaluate it without that data. The

figure is the best national estimate currently available, and it should be read as an estimate rather than a settled count.

- **This health crisis is not limited to one group** — Risk factors like being overweight, having a parent or sibling with Type 2 diabetes, and being physically inactive were strongly tied to prediabetes.² In other words, if you have a family history or live a sedentary lifestyle, your chances of developing prediabetes as a teen are higher.
- **The rate of prediabetes is climbing compared to earlier years** — When researchers adjusted older data with their updated methods, they found that from 2005 to 2016, the prediabetes prevalence for adolescents would have been 28%. Today, that number has jumped to nearly 33%. Two cautions on reading that as a trend: The comparison spans 2005 to 2016 against 2023. Diabetes researchers who reviewed the figures have said the difference between 28% and 33% is not statistically significant, and that the CDC changed its calculation method without publishing a detailed explanation. So, the direction is worth watching, but the true size of the change is not yet established.
- **Teens with prediabetes are already on the path to serious disease** — The CDC called prediabetes a “warning sign” because it signals a much higher chance of progressing to Type 2 diabetes, heart disease, and stroke. For parents and young people, that means ignoring these early signals can set the stage for lifelong health struggles.

About 2.5% of teens had both abnormal fasting glucose and abnormal A1c readings, a stronger indicator of metabolic dysfunction. For these adolescents, the risk of rapid progression to Type 2 diabetes is especially high. Dr. Christopher Holliday of the CDC told ABC News, “Type 2 diabetes poses a significant threat to young people's health,” emphasizing the importance of early intervention.³

Lifestyle Choices Today Shape Whether Prediabetes Becomes Diabetes Tomorrow

Being overweight, eating ultraprocessed foods, and not staying active increases prediabetes risk. This gives you practical leverage: By encouraging your teen to move more, eat whole foods, and avoid processed junk, you improve their odds of avoiding diabetes. Holliday stated, “Simple life changes — like healthy eating and staying active — can make a big difference in preventing or delaying Type 2 diabetes.”⁴

- **Biological mechanisms explain why prediabetes leads to disease** — Elevated glucose levels damage the lining of blood vessels, increase oxidative stress, and strain your pancreas as it struggles to produce more insulin. Over time, this wears down your body's ability to manage blood sugar, eventually leading to full Type 2 diabetes. Once that threshold is crossed, your risk of nerve damage, kidney disease, heart disease, and vision loss becomes much greater.
- **Prediabetes disrupts your body's energy system through mitochondrial dysfunction** — Your mitochondria are the tiny power plants inside your cells that convert glucose into usable energy.

In prediabetes, insulin resistance prevents glucose from entering cells efficiently, and when mitochondria are already damaged, this process breaks down even further. Instead of fueling your cells, sugar piles up in your bloodstream, leaving your body both overloaded and starved at the same time.

This mismatch drains your teen's energy, reduces motivation, and traps them in a cycle of fatigue and poor metabolic health that grows worse without intervention. When mitochondria falter, especially in tissues like your pancreas, liver, and fat cells, the risk of progressing from prediabetes to diabetes rises, because insulin-producing cells work less effectively.

- **The scale of the problem is reshaping the health landscape** — The CDC reported that adult diabetes diagnoses, which had been declining for more than a decade, are no longer falling. In 2023, about 1.5 million adults were newly diagnosed with

diabetes.⁵ This parallel trend suggests that teens with prediabetes today are tomorrow's diabetes patients, adding further strain to families, communities, and health care systems.

- **The research underscores the urgency for early action** — For your teen, this means understanding that their daily choices — what they eat, how much they move, and how they manage stress — have a direct impact on whether they prevent or improve or slide into diabetes. Framing the challenge as a winnable game is key: track progress, set goals, and celebrate small victories, because each step away from ultraprocessed foods and inactivity is a step toward restoring energy and health.

Simple Steps to Help Your Teen Improve Their Blood Sugar

Hearing that 1 in 3 teens has prediabetes is alarming for any parent. Prediabetes means your child's cells aren't making energy the way they should, and that drives blood sugar higher than normal.

The good news is that you can help them turn this around before it develops into something more serious. These steps are practical changes you can start making at home that support your teen's health in ways they'll actually notice — more energy, sharper focus, and better mood.

- **Clear vegetable oils and processed snacks from their diet** — The first step is to look at the foods most teens eat: fries, chips, packaged snacks, and restaurant meals. Almost all of them contain vegetable oils like canola, soybean, and sunflower oil. These oils are rich in linoleic acid (LA) that in excess is thought to impair mitochondrial function, which may contribute to blood sugar problems.

Replace them with foods prepared at home using butter, ghee, or tallow. For snacks, encourage whole-food options like fruit or grass fed cheese. Think of this as resetting your teen's “energy software” so their body runs on full power again.

- **Reintroduce carbohydrates in a smart way** — Teens need carbs for energy, especially for growing bodies, busy school days, and sports. The problem is not carbs — it's the wrong kind of carbs. If your teen has gut issues, start with gentle foods like white rice and whole fruit.

As their digestion improves, expand to root vegetables, beans, and whole grains. Carbs fuel the brain and muscles, so the right amount helps them concentrate in class, perform better in sports, and stay in a good mood instead of crashing.

- **Reduce exposure to everyday toxins** — Your child is exposed daily to plastics, personal care products, and nonstop Wi-Fi. These stressors are among the exposures the bioenergetic framework identifies as working against cellular energy production. Small changes add up: Switch to glass or stainless steel water bottles, avoid microwaving food in plastic, and encourage them to keep their phone out of their pocket and away from their bed at night.

If your teen likes challenges, frame this as a “low-plastic” or “phone-free sleep” experiment — they'll be more likely to stick with it if it feels like a goal instead of a rule.

- **Build in regular sunlight for natural energy** — Sunlight charges more than vitamin D. It triggers melatonin inside mitochondria, which protects energy production. Encourage sun exposure daily — walking the dog, biking to a friend's house, or sitting outside after school.

If your family has eaten a lot of vegetable oils in the past, give it at least six months of reducing them before getting longer midday sun exposure, because those oils increase the risk of sunburn. Over time, daily sunlight helps improve sleep, mood, and energy regulation in teens.

- **Use the HOMA-IR test as a tracking tool** — One of the most motivating ways to help your teen is to make progress visible. Recognizing insulin resistance early is essential, as it's a warning sign for your metabolic health — one that often precedes Type 2 diabetes.

The HOMA-IR (Homeostatic Model Assessment of Insulin Resistance) test is a valuable diagnostic tool that helps assess insulin resistance through a simple blood test, so you can spot issues early and make necessary lifestyle changes.

Created in 1985, it calculates the relationship between your fasting glucose and insulin levels to evaluate how effectively your body uses insulin. Unlike other more complex tests, HOMA-IR requires just one fasting blood sample, making it both practical and accessible. The HOMA-IR formula is as follows:

HOMA-IR = (Fasting Glucose x Fasting Insulin) / 405, where

- Fasting glucose is measured in mg/dL
- Fasting insulin is measured in μ U/mL (microinternational units per milliliter)
- 405 is a constant that normalizes the values

If you're using mmol/L for glucose instead of mg/dL, the formula changes slightly:

HOMA-IR = (Fasting Glucose x Fasting Insulin) / 22.5, where

- Fasting glucose is measured in mmol/L
- Fasting insulin is measured in μ U/mL
- 22.5 is the normalizing factor for this unit of measurement

In adults, a HOMA-IR below 1.0 is considered healthy, and the higher the value the greater the insulin resistance. However, that adult figure does NOT transfer to adolescents. Insulin sensitivity changes markedly through puberty – insulin resistance rises at its onset and normalizes again towards the end of pubertal development – so a healthy teenager will ordinarily score well above the adult range.

A clamp-validated study in adolescents put the threshold for insulin resistance at above 3.22 during puberty and above 2.91 after it.⁶ Judged against the adult figure of 1.0, most perfectly healthy teenagers would appear insulin resistant. Interpret a teenager's result

with their pediatrician, against pediatric reference ranges and their stage of development, rather than against an adult number.

Talk to your healthcare provider about whether this testing is appropriate for your teen. Fasting blood work in a minor should be ordered and interpreted by their pediatrician.

FAQs About Prediabetes in Teens

Q: What does it mean if my teen has prediabetes?

A: Prediabetes means your teen's blood sugar is higher than normal but not high enough for Type 2 diabetes. It's a warning sign that their body is struggling to manage sugar, and without changes, it often leads to diabetes, heart disease, or stroke.

Q: How common is prediabetes in teenagers?

A: According to the CDC, about 1 in 3 U.S. teens — around 8.4 million adolescents — now live with prediabetes. The estimate has not been peer reviewed and the apparent rise since the 2005 to 2016 period is not statistically significant, so treat the figure as the best available estimate rather than a settled number.

Q: What are the biggest risk factors for teen prediabetes?

A: Being overweight, eating a diet high in ultraprocessed foods, not getting enough physical activity, and having a family history of diabetes all increase the chances of developing prediabetes.

Q: What happens inside my body during prediabetes?

A: In prediabetes, insulin resistance prevents glucose from moving into cells efficiently. This overloads your bloodstream with sugar, damages blood vessels, and wears out your pancreas. Over time, your body loses its ability to control blood sugar, which leads to diabetes and other health issues.

Q: What can parents do to help their teen improve their blood sugar?

A: Parents can support their teen by clearing vegetable oils and processed snacks from the diet, offering healthy carb sources like fruit, reducing toxin exposure, encouraging daily sunlight, and tracking progress with tools like the HOMA-IR test, interpreted with their pediatrician against pediatric reference ranges. Small, consistent changes restore energy, improve mood, and lower the risk of diabetes.

This article is for informational purposes only and does not constitute medical advice. Consult a qualified healthcare provider before making changes to your health regimen. Decisions about testing, interpreting results or changing the diet of a child or adolescent should involve their pediatrician.

Sources and References

- ¹ U.S. CDC, Spotlight on Diabetes Data, Prediabetes in US Adolescents [Archived]
- ^{2, 3, 4, 5} ABC News July 8, 2025
- ⁶ Arch Endocrinol Metab. 2023;67(1):119-125