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## PATIENT RESOURCES

# Time-In-Range and Diabetes

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Time in Range, or TIR, is the amount of time those with diabetes spend with their blood glucose levels in a recommended target range and is represented as a percentage. Finding this “happy medium” can be difficult.

So, more and more people with **diabetes** use continuous glucose monitors (CGM) to help achieve TIR. **CGMs** generate a great deal of data showing where you current glucose levels are, where they’ve been, and what direction they are going.

The hours per day spent “in range” and “out of range” can vary, but here are a few things to keep in mind:

- Glucose goals can vary for each person, but a typical target glucose range is from 70 to 180 mg/dL.
- For most people with type 1 or type 2 diabetes, a TIR above 70% is recommended. That's about 17 hours of a 24-hour day.
- You should aim to spend less than 4% (58 minutes) below 70 mg/dL, less than 1% (14 minutes) below 54 mg/dL, less than 25% (6 hours) above 180 mg/dL, and less than
- 5% (1 hour, 12 minutes) above 250 mg/dL.
- TIR targets can be lower for older or high-risk individuals and for those younger than age 25.

### ▶ **A1C and CGM Systems**

Measuring A1C levels has been a common way to track success managing diabetes. But TIR can help you do it even better. A1C is an average over weeks or months. So, while your A1C may look good, you can experience fast and frequent blood glucose changes that the A1C doesn't reflect. There can be parts of the day when you are spending time with blood glucose levels dangerously low (hypoglycemia) or high (hyperglycemia).

Today's CGM systems allow you to track your blood glucose moment by moment and in real time. This helps you find times, such as before or after eating, or before or after physical activity, when your blood glucose is out of range. Identifying these times allows you to take steps, such as adjusting medication, to smooth out the highs and lows. Staying in range helps

maintain your energy level, mood, and overall quality of life.

CGM can provide a daily glucose profile that displays a graph of the glucose readings from midnight to midnight. So, it's easy to spot which hours of each day you are in range, above range, and below range. This information can help you adjust what you eat and drink, get the right amount of exercise, and modify your insulin dosing.

### ► **Diabetes Complications**

TIR below the recommended level can mean poor blood glucose control and lead to diabetes complications. They can include:

- › Eye problems and blindness
- › Heart disease
- › Stroke
- › Nervous system problems
- › Loss of a limb
- › Kidney disease
- › Impotence

Diabetes affects nearly every part of the body. It can lead to other serious diseases and can be life-threatening. You need to work with a healthcare provider to work toward achieving your best TIR.

**[Read more about Diabetes Complications>>>](#)**

## ► Questions for Your Healthcare Provider

- › Can you help me learn more about my TIR targets?
- › Can my diabetes medicines cause hypoglycemia?
- › Does CGM fit into my diabetes management plan?
- › What adjustments would I need to make in my diabetes management plan to use CGM?
- › When hypoglycemia happens, what should I do to bring my blood glucose level back to normal?
- › How can I get an emergency glucagon kit? What is important to tell my friends and relatives about hypoglycemia?
- › Should I see a diabetes educator?
- › Should I see an endocrinologist?

**HAPPY MEDIUM ACTION PLAN**  
KEEPING YOU IN THE KNOW ABOUT TIME-IN-RANGE

**WHAT IS TIME-IN-RANGE?**  
Time-in-Range (TIR) is the amount of time those with diabetes spend with their blood glucose levels in a recommended target range and is represented as a percentage. Finding this happy medium can be difficult. So, more and more people with diabetes use continuous glucose monitoring (CGM) to help achieve more TIR. CGM generates a great deal of data showing where your current glucose levels are, where they've been, and what direction they are going. The hours per day spent "in-range" and "out-of-range" can vary but here are a few things to keep in mind.

**GOALS CAN VARY IN EACH PERSON, BUT A TYPICAL TARGET GLUCOSE RANGE IS 70 TO 180 MG/DL.**



**FOR MOST PEOPLE WITH TYPE 1 OR TYPE 2 DIABETES, A TIR ABOVE 70% IS RECOMMENDED. THAT'S A JUST UNDER 17 HOURS OF A 24-HOUR DAY.**

**YOU SHOULD AIM TO SPEND:**

- at least 70% (17 hours) in range 70-180 mg/dL
- less than 25% (6 hours) above 180 mg/dL, with less than 5% (1 hour) above 200 mg/dL
- less than 4% (65 minutes) below 70 mg/dL, with less than 1% (14 minutes) below 54 mg/dL

**TIR TARGETS CAN BE LOWER FOR OLDER OR HIGH RISK INDIVIDUALS AND FOR THOSE UNDER AGE 25.**

**TALK WITH YOUR HEALTHCARE PROVIDER ABOUT THE TIR THAT'S BEST FOR YOU.**



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