

# The stress hormone: How cortisol affects diabetes outcomes and its managing and monitoring

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## Description

Cortisol, often referred to as the “stress hormone,” plays a vital role in the body’s response to stress and regulation of various metabolic processes. For individuals with diabetes, understanding cortisol’s effects is important, as it can significantly influence blood sugar levels and overall diabetes management.

### ■ Functions of cortisol

Cortisol is produced by the adrenal glands and is involved in numerous bodily functions, including:

**Regulating metabolism:** It helps control how the body uses fats, proteins, and carbohydrates.

**Inflammation control:** Cortisol has anti-inflammatory effects, aiding in the body’s response to injury and infection.

**Blood sugar regulation:** It stimulates gluconeogenesis, the process by which the liver produces glucose, thus raising blood sugar levels during stress.

### ■ The link between cortisol and diabetes

**Stress and blood sugar levels:** When faced with physical or emotional stress, cortisol levels increase, leading to elevated blood sugar levels. This can be particularly concerning for individuals with diabetes, as they may already struggle with glucose control.

**Insulin resistance:** Chronic high cortisol levels can contribute to insulin resistance, making it more challenging for the body to use insulin

effectively. This can exacerbate blood sugar management issues, especially in type 2 diabetes.

**Adrenal function and diabetes:** Conditions such as Cushing’s syndrome, characterized by excessive cortisol production, can lead to diabetes or worsen existing diabetes due to its effects on insulin and glucose metabolism.

### ■ Managing cortisol levels

To optimize diabetes management, it is essential to find ways to balance cortisol levels. Here are some strategies.

**Stress management:** Since cortisol levels rise in response to stress, incorporating stress-reducing techniques can be beneficial. Options include:

**Mindfulness and meditation:** Practicing mindfulness helps reduce stress and can lower cortisol levels.

**Regular exercise:** Physical activity is a powerful stress reliever that can help balance cortisol and improve insulin sensitivity.

**Adequate sleep:** Poor sleep quality and insufficient rest can lead to increased cortisol production. Prioritizing good sleep hygiene can help regulate cortisol levels.

**Healthy diet:** A balanced diet rich in whole foods can help maintain stable blood sugar levels and manage stress. Foods high in omega-3 fatty acids, antioxidants, and whole grains are particularly beneficial.

**Hydration:** Staying hydrated is essential for overall health and can help modulate cortisol

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levels. Aim for adequate water intake throughout the day.

**Support systems:** Engaging in social support, whether through friends, family, or support groups, can reduce stress and help manage cortisol levels effectively.

#### ■ **Monitoring cortisol**

For individuals with diabetes, monitoring cortisol levels can provide insights into how stress affects blood sugar control. While there are tests available, such as saliva or blood tests, it's essential

to work with a healthcare provider to determine if cortisol monitoring is necessary. Cortisol plays a multifaceted role in diabetes management, influencing blood sugar levels and insulin sensitivity. By adopting stress management techniques, maintaining a healthy lifestyle, and monitoring cortisol levels, individuals with diabetes can improve their overall health and enhance their ability to manage the condition. Understanding the relationship between cortisol and diabetes is essential for effective management and achieving better health outcomes.