

# The importance of early detection and treatment of diabetic foot: Preventing complications and improving quality of life.

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## Introduction

Diabetes, also known as diabetes mellitus, is a chronic health condition that affects how your body converts food into energy. When you have diabetes, your body either doesn't produce enough insulin or can't use the insulin it produces effectively. Insulin is a hormone produced by the pancreas that helps regulate blood sugar levels. There are three main types of diabetes: type 1, type 2, and gestational diabetes. Type 1 diabetes is an autoimmune disease that usually develops in childhood or adolescence and occurs when the body's immune system attacks and destroys the cells in the pancreas that produce insulin. Type 2 diabetes is more common and occurs when the body becomes resistant to insulin or doesn't produce enough of it [1]. Gestational diabetes occurs during pregnancy and usually goes away after delivery, but women who have had it are at higher risk for developing type 2 diabetes later in life.

Diabetes can cause a range of complications if left uncontrolled, including nerve damage, kidney damage, vision problems, cardiovascular disease, and more. Treatment for diabetes typically involves lifestyle changes such as eating a healthy diet, getting regular exercise, and monitoring blood sugar levels, as well as medication such as insulin or oral medications.

## Insulin and diabetes management

Insulin is a hormone produced by the pancreas that helps regulate blood sugar levels [2]. In people with diabetes, the body either does not produce enough insulin or does not use it effectively, resulting in high blood sugar levels. Insulin therapy is a critical component of diabetes management, helping to lower blood sugar levels and prevent complications such as diabetic foot. There are several types of insulin, including rapid-acting, short-acting, intermediate-acting, and long-acting. The type and dose of insulin needed depend on factors such as age, weight, activity level, and the severity of the diabetes. Insulin therapy is a cornerstone of diabetes management, particularly for people with type 1 diabetes, which is characterized by a complete lack of insulin production. It may also be necessary for some people with type 2 diabetes, particularly if other medications or lifestyle changes are not enough to control blood glucose levels. Regular monitoring of blood glucose levels is essential for effective diabetes management, as it

allows individuals to adjust their insulin dosage and other medications as needed [3]. It is also important to work closely with a healthcare team, including a diabetes educator, to develop a personalized treatment plan that takes into account individual needs and preferences.

## Insulin and diabetic foot prevention

Proper insulin therapy is crucial for preventing diabetic foot. When blood sugar levels are well-controlled, the risk of nerve and blood vessel damage is reduced, which can help prevent complications [4]. In addition to insulin therapy, there are several other strategies that can help prevent diabetic foot, including: Regular foot exams: People with diabetes should have their feet examined regularly by a healthcare provider to detect any signs of nerve or blood vessel damage.

**Proper foot care:** Daily foot care can help prevent injuries and infections. This includes washing and drying the feet, keeping the toenails trimmed, and wearing properly fitting shoes and socks. **Blood sugar monitoring:** Regular blood sugar monitoring can help identify any changes in blood sugar levels that may require adjustments to insulin therapy. **Smoking cessation:** Smoking can damage blood vessels and increase the risk of diabetic foot. Quitting smoking can help reduce this risk [5].

## Conclusion

Diabetic foot is a serious complication of diabetes that can lead to amputation if left untreated. Proper insulin therapy, along with regular foot exams, proper foot care, blood sugar monitoring, and smoking cessation, can help prevent diabetic foot and other diabetes-related complications. If you have diabetes, it is important to work with your healthcare provider to develop an individualized treatment plan that includes insulin therapy and other strategies to manage your condition and prevent complications.

## References

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