



There is a confirmed bidirectional link between periodontal disease and diabetes.

Periodontal disease is a chronic condition in the mouth resulting in the destruction of the gums and bone surrounding the teeth which may eventually lead to tooth loss.¹

Diabetes is a chronic condition in which blood sugar (glucose) levels are too high. This happens because the body either doesn't produce enough insulin or doesn't use insulin properly. Insulin is a hormone that helps glucose move from the blood into the body's cells.²

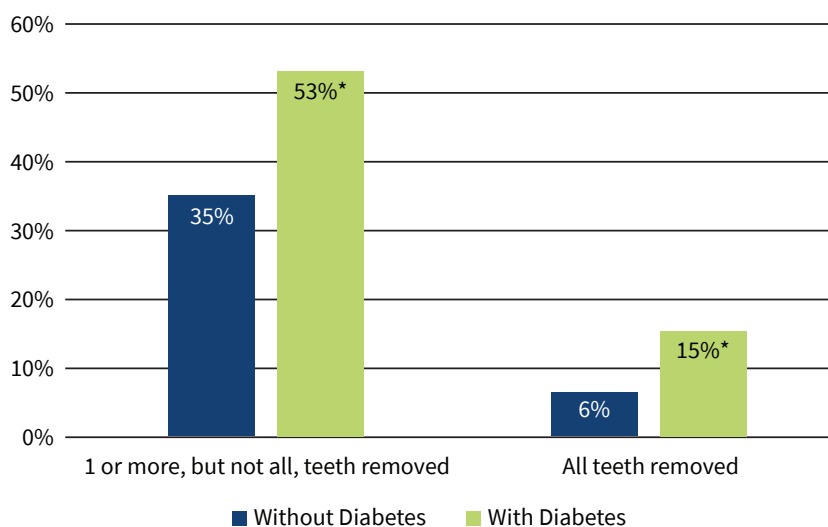
Diabetes has a negative effect on periodontal disease, increasing its prevalence, extent, and severity. In turn, periodontal disease negatively affects glucose control and the course of diabetes.³ The relationship can be positive as well. Controlling diabetes (i.e., improving glycemic control) is likely to reduce the risk and severity of periodontal disease. Evidence suggests that the resolution of inflammation caused by periodontal disease can improve metabolic control.⁴

Oral Health Status of Adults with Diabetes

Adults (age 18 and up) with diabetes experience worse oral health outcomes compared to adults who do not have diabetes. According to 2022 Ohio Behavioral Risk Factor Surveillance System (BRFSS) data, adults with diabetes report having more permanent teeth removed because of tooth decay or gum disease than adults without diabetes.

Adults with diabetes were nearly three times as likely to have all teeth removed compared to adults without diabetes.

Figure 1: Number of Teeth Removed in Adults with and without Diabetes, Ohio 2022



*Indicates statistical significance. This analysis was controlled for: time since last dental visit, age, race, insurance type, and smoking.

Data Source: Ohio BRFSS, 2022, Teeth extraction variable (RMVTETH4)

References

¹ American Dental Association. (2022, June). Periodontitis. <https://www.ada.org/resources/ada-library/oral-health-topics/periodontitis>.

² CDC. (2024, May). Diabetes Basics. <https://www.cdc.gov/diabetes/about/index.html>.

³ Paunica, I., Giurgiu, M., Dumitriu, A., Paunica, S., Stoian, A., Martu, M., Serafinceanu, C. (2023, Feb.). The Bidirectional Relationship between Periodontal Disease and Diabetes Mellitus – A Review. *Diagnostic* 2023, 13(4): 681. <https://www.mdpi.com/2075-4418/13/4/681>.

⁴ Preshaw, P. M., Alba, A. L., Herrera, D., Jepsen, S., Konstantinidis, A., Makrilakis, K., Taylor, R. (2011, Nov.). Periodontitis and diabetes: a two-way relationship. *Diabetologia* 2012, 55(1): 21-31. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3228943/>.

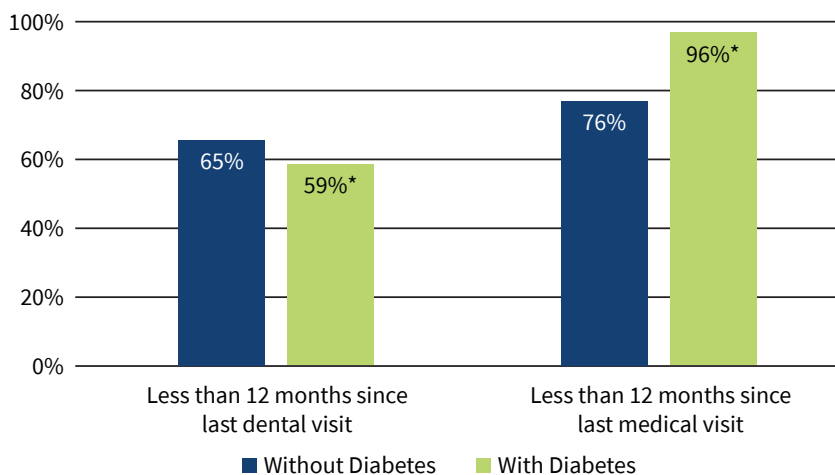


Time Since Last Medical and Dental Visits

Adults with diabetes (96%) are more likely to have had a medical visit within the past 12 months than adults without diabetes (76%). However, adults with diabetes (59%) were less likely to have a dental visit within the last 12 months than adults without diabetes (65%).

Regular dental visits can improve oral health and diabetes outcomes, yet only 59% of Ohio adults with diabetes visit the dentist each year.

Figure 2: Recent Medical and Dental Visits Among Adults with and without Diabetes, Ohio 2022



*Indicates statistical significance. This analysis was controlled for: race, insurance type, and smoking status.

Data Source: Ohio BRFSS, 2022, Teeth extraction variable (LASTDEN4)

Opportunities for Medical-Dental Integration

Medical-dental integration can improve health outcomes, reduce healthcare costs, and enhance communication between providers.

Medical and Dental Providers' Role:

- Provide patient education on the bidirectional link between diabetes and oral health and oral home care instructions.
- Utilize bidirectional referral mechanisms to communicate between medical and dental practices.
- Emphasize the importance of maintaining regular medical and dental appointments.

Toolkits for Successful Medical-Dental Integration:

- Dental providers can monitor blood glucose levels of at-risk patients during their dental appointments. They can also screen at-risk patients for diabetes and provide a referral to a medical provider. The Centers for Disease Control and Prevention has a [Prediabetes Risk Test](#) that can be used to identify patients for blood glucose testing.
- Medical providers should conduct oral health assessments of their patients. [Smiles for Life](#), a national oral health curriculum, has various trainings to educate medical providers on oral health conditions and teach them how to do an oral health assessment.