

Sleep apnea linked to blinding eye disease in people with diabetes

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Illustration of obstruction of ventilation. Credit: Habib M'henni / public domain

New research from Taiwan shows that severe sleep apnea is a risk factor

for developing diabetic macular edema, a complication of diabetes that can cause vision loss or blindness. Diabetic macular edema was also more difficult to treat in patients with severe sleep apnea. While earlier research showed a weak connection between the two conditions, evidence is mounting that sleep apnea exacerbates underlying eye disease. The researchers present their study today at AAO 2019, the 123rd Annual Meeting of the American Academy of Ophthalmology.

When people with diabetes have poor control over their [blood sugar levels](#), the tiny blood vessels at the back of the eye can become damaged. This condition is called diabetic retinopathy and it's a leading cause of blindness in the United States.

Sometimes, tiny bulges protrude from the blood vessels, leaking fluid and blood into the retina. This fluid can cause swelling or edema in an area of the retina that allows us to see clearly.

Sleep apnea is a sleep disorder in which breathing repeatedly stops and starts, disrupting sleep and causing blood oxygen levels to drop. This drop in oxygen appears to unleash a host of changes in the body that may play a role in injuring blood vessels. People with sleep apnea are at risk of developing hypertension, heart attacks, stroke and type 2 diabetes.

But what about the eyes? Researchers believe that sleep apnea may contribute to the development and worsening of diabetic retinopathy by increasing insulin resistance, elevating inflammation and raising blood pressure, all of which can damage the [blood vessels](#) at the back of the eye.

To learn more, lead researcher Juifan Chiang, MD, and colleagues looked at data from all patients diagnosed with [diabetic retinopathy](#) over an 8-year period at Chang Gung Memorial Hospital in Taiwan. They found that the rate of severe sleep apnea was significantly higher in

patients with [diabetic macular edema](#) compared with those without diabetic macular edema (80.6 percent vs. 45.5 percent). They also found that the worse their sleep apnea was, the worse their macular edema. Severe sleep apnea was also more prevalent in patients who needed more treatment to control their macular edema. These patients required three or more treatments of medical or laser therapy.

"Based on these results, we hope that more [medical professionals](#) will approach [sleep apnea](#) as a risk factor for diabetic macular edema," Dr. Chiang said. "This could allow for earlier medical intervention so patients can keep more of their vision and preserve their overall health as much as possible."

Provided by American Academy of Ophthalmology

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