

Journey to Success

Diabetes Eye Care In Pregnancy

April 13, 2024

Casper, WY

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Promoting
Diabetes
Eye Care
in Wyoming

Disclosures to Participants

Notice of Requirements for Successful Completion:

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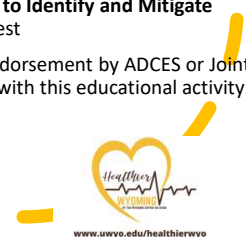
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Kenneth Morse

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Promoting Diabetes Eye Care in Wyoming

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There are no conflicts of interest for this presentation

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Presentation Goal:

At the end of this presentation all participants will have reviewed the key strategies in diabetes care as it relates to the prevention of complications in diabetes eye care.

Overall Objective:

To provide evidenced based current guidelines and resources available in Wyoming to support clinical practices and clinicians.

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Prevalence of Diabetes In Wyoming

Diabetes is an epidemic in the United States. According to the Centers for Disease Control and Prevention (CDC), over 34 million Americans have diabetes and face its devastating consequences.

What's true nationwide is also true in Wyoming.

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Wyoming's diabetes epidemic:

- **Approximately 38,000 people in Wyoming, or 8.3% of the adult population, have been diagnosed diabetes.**
- **An additional 12,000 people in Wyoming have diabetes but don't know it, greatly increasing their health risk.**
- **There are 148,000 people in Wyoming, 33.6% of the adult population, who have prediabetes with blood glucose levels that are higher than normal, that's a Fasting Blood Glucoses greater than 100mg/dl, but not yet high enough to be diagnosed as diabetes.**
- **Every year an estimated 2,000 people in Wyoming are diagnosed with diabetes.**

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Diabetes is expensive:

- **People with diabetes have medical expenses approximately 2.3 times higher than those who do not have diabetes.**
- **Total direct medical expenses for diagnosed diabetes in Wyoming were estimated at \$310 million in 2017.**
- **In addition, another \$110 million was spent on indirect costs from lost productivity due to diabetes.**

Diabetes Prevalence: 2016 state diagnosed diabetes prevalence, [cdc.gov/diabetes/data](https://www.cdc.gov/diabetes/data); 2017 state undiagnosed diabetes prevalence, Dall et al., "The Economic Burden of Elevated Blood Glucose Levels in 2017", *Diabetes Care*, September 2019, vol. 42.

Diabetes Incidence: 2016 state diabetes incidence rates, [cdc.gov/diabetes/data](https://www.cdc.gov/diabetes/data)

Cost: American Diabetes Association, "Economic Costs of Diabetes in the U.S. in 2017", *Diabetes Care*, May 2018.

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As Primary Care Optometrists: What is our goal for our patients with diabetes?

To have a comprehensive approach on preventing vision loss caused by diabetes.

Annual Comprehensive eye exams play a crucial role in the early detection, intervention, and prevention of eye disease and vision loss caused by diabetes. Early detection, timely treatment, and appropriate follow-up care can reduce a person's risk for severe vision loss from diabetic eye disease by 95 percent^{1,2}.

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Types of Diabetic Eye Disease

The CDC states that Diabetes is the leading cause of new cases of blindness in the 18-64 age group

- Diabetic Retinopathy (DR)
- Non-proliferative diabetic retinopathy (NPDR)
- Proliferative diabetic retinopathy (PDR)
- Diabetic Macular Edema (DME)
- Must be treated.
- Cataracts
- Glaucoma



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Complications

- **All stages of Non- Proliferative Retinopathy can be asymptomatic**
- **Proliferative Retinopathy means advanced Retinal capillary damage**
 - **Neovascularization, Hemorrhage, and Tractional Retinal Detachment**
- **Macular Edema can occur in any stage of retinopathy**

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Non-retinal Ocular Changes in Diabetes

- **Vision and Prescription Changes**
- **Dry Eye Symptoms**
- **Cataracts**
- **Optic Neuropathy**
- **Cranial Nerve Palsies**
- **Decreased Corneal Sensitivity**
- **Vitreous Degeneration**

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Risk Factors for Diabetic Eye Disease

- Hypertension
- Diabetes Duration
 - Estimated 20% of newly diagnosed type 2 diabetes already have some form of eye disease¹
- Diabetes Management
 - Rapid decrease in BS can lead to diabetic retinopathy^{3,4}
- Tobacco Use
- Dyslipidemia
- Kidney Disease
- Pregnancy
- Ethnicity
 - Hispanic or Latino, Black or African American, American Indian, Alaska Native, or Asian



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Diabetes Eye Care in Pregnancy

- Rapid progression of diabetic retinopathy can be associated with pregnancy^{6,7}
 - Gestational versus pre-existing Type 1 or Type 2 diabetes
- Woman who develop gestational diabetes do not appear to have an increased risk of developing diabetic retinopathy during pregnancy^{1,5}
- Woman with pre-existing Type 1 or Type 2 diabetes who are planning pregnancy or who are pregnant should be counseled on the risk of development and/or progression of diabetic retinopathy^{1,5,6,7}
 - Eye examinations should occur before pregnancy or in the first trimester and then monitored every trimester and for one year postpartum as indicated by the degree of retinopathy^{1,5}



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Ocular Side Effects in Pregnancy

Physiological:

- **Water Retention produces corneal thickness and curvature changes which = Temporary vision changes.**
- **Caution with Rx changes, Contacts,**
- **No Ref. Surgery**

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Pregnancy Complications Specific

Pre-eclampsia/Eclampsia can produce:

- **Hypertensive Retinopathy**
- **Visual Disturbances:
Non-specific alterations in vision**

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Modifications of Pre-Existing Disease

- **Pregnancy itself is thought to be an independent risk factor for the worsening of Diabetic Retinopathy**
- **Obesity, Increased BMI, Hypertension, Duration of Disease, Blood Glucose control**

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So how can we do better at providing care for our patients with Diabetes?

Utilize the resources that are available to our patients that will help them prevent disease or better control their diabetes.



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Diabetes Self-Management Education Programs designed for People Living with Diabetes



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Nationally Accredited Diabetes Self-Management Education Referral



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ORDER FORM Diabetes Self-Management Education & Support/Training & Medical Nutrition Therapy Services

MEDICARE COVERAGE: Diabetes self-management education and support/training (DSMES/T) and medical nutrition therapy (MNT) are separate and complementary services to improve diabetes self-care. Individuals may be eligible for both services in the same year. Services & Indicators (MNT) consistent with DSMES/T program activities.

DSMES/T: 10 hours initial DSMES/T in 12-month period from the date of first session with written referral from the treating qualified provider, plus 27 hours follow-up per calendar year.

MNT: 3 total MNT in the first calendar year, plus 2 hours follow-up MNT annually. Additional MNT hours available for change in medical condition, treatment and/or diagnosis with a written referral from the treating physician.

Medicare coverage of DSMES/T and MNT requires the treating qualified provider to provide documentation of a diagnosis of diabetes based on one of the following:

- Fasting blood glucose greater than or equal to 125 mg/dL on two different occasions
- 2 hour post-glucose challenge greater than or equal to 200 mg/dL on 2 different occasions
- HbA1c glucose test over 500 mg/dL for a patient with symptoms of uncontrolled diabetes

Other papers may have other coverage requirements. (Source: Volume 38, 4936, November 1, 2005, page 62331) (Index of Findings)

PATIENT INFORMATION

Last Name: _____ First Name: _____ Middle: _____
 Date of Birth: ____/____/____ Sex: Male Female
 Address: _____ City: _____ State: _____ Zip Code: _____
 Home Phone: _____ Cell Phone: _____ Total Address: _____

INSURANCE

Please print exact line for support alignment criteria for patient eligibility. (Checkboxes mandatory)

Type 1 Type 2 Gestational Pre-diabetic

Diabetes Self-Management Education & Support/Training (DSMES/T)

Check type of training needed (preparation of food requested)

- Initial DSMES/T or ____ hours
- Follow-up DSMES/T: _____
- Areas that I need it's for other things please check specific needs that apply:
 - Writing Physical
 - Reading Social interaction during
 - Language Activities
 - Cognitive Other (specify): _____

At DSMES/T would also like:

- Monitoring glucose Case writing, problem solving
- Psychological support Financial issues and other issues
- Low blood management Complications
- Medication Personal safety and home safety
- Diabetes as illness Coping/relaxation
- Exercise Psychological, psychiatric, behavioral
- Travel activity Disease Easing

Medical Nutrition Therapy (MNT)

Check the type of MNT requested:

- Initial MNT 3 hours Additional MNT hours for change in:
- Annual follow-up MNT 3 hours medical condition treatment diagnosis

Signature and MNT #: _____ Date: ____/____/____
 Group/practice name, address and phone: _____

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Diabetes Prevention Programs designed for People at Risk for Diabetes



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Prediabetes Risk Test

NATIONAL DIABETES PREVENTION PROGRAM

1. How old are you? *Write your score in the boxes below.*

18-44 years (3 points)
45-64 years (2 points)
65-74 years (1 point)
75 years or older (0 points)

2. Are you a man or a woman?

Man (2 points) Woman (0 points)

3. If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (2 points) No (0 points)

4. Do you have a mother, father, sister, or brother with diabetes?

Yes (2 points) No (0 points)

5. Have you ever been diagnosed with high blood pressure?

Yes (2 points) No (0 points)

6. Are you physically active?

Yes (2 points) No (0 points)

7. What is your weight category?

Overweight (1 point) Obese (3 points)

Height	Weight (lb.)	1 Point	2 Points	3 Points
4'10"	157-162	142-156	157+	
4'11"	154-167	140-151	156+	
5'0"	150-163	132-152	154+	
5'1"	152-177	136-156	151+	
5'2"	149-162	134-157	150+	
5'3"	141-168	130-154	147+	
5'4"	144-171	128-151	142+	
5'5"	133-179	120-158	140+	
5'6"	133-181	124-156	137+	
5'7"	129-188	121-154	135+	
5'8"	134-199	121-161	132+	
5'9"	149-203	120-168	129+	
5'10"	174-208	120-177	126+	
5'11"	179-213	118-180	124+	
6'0"	183-220	121-180	124+	
6'1"	187-226	127-181	121+	
6'2"	194-233	123-182	117+	
6'3"	209-239	120-188	114+	
6'4"	223-243	124-197	110+	

Total score:

If you scored 3 or higher:

You are at increased risk for having prediabetes and are at high risk for type 2 diabetes. Please see your doctor or dietitian if you have been diagnosed with prediabetes or you have diabetes. Prediabetes or diabetes and other health conditions are higher than normal but not high enough yet to be diagnosed as type 2 diabetes. **Talk to your doctor to see if additional testing is needed.**

If you are African American, Hispanic/Latino American, American Indian/Alaska Native, Native Hawaiian, or Pacific Islander, you are at higher risk for prediabetes and type 2 diabetes. Even if you are under 40 years old, you are at increased risk for type 2 diabetes or a body weight above 25 pounds over the weight at the 5'10" height. Talk to your doctor to see if you should have your blood sugar tested.

You can reduce your risk for type 2 diabetes.

Find out how you can reverse prediabetes and prevent or delay type 2 diabetes through a CDC-recognized lifestyle change program at www.cdc.gov/diabetes/prevention/healthyprogram.

American Diabetes Association | CDC

Are you At Risk?



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Healthy U Programs designed for People living with Chronic Health Conditions



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HEALTHY U
All evidence-based health self-management program for people with chronic health conditions.

Create a healthier & happier workforce with Healthy U!

According to the CDC:
Maintaining a healthier workforce can lower direct costs such as insurance premiums and worker's compensation claims.

A healthier workforce can positively impact indirect costs such as absenteeism and worker productivity.

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Healthy U Self – Management Program for people with chronic health conditions



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Program Options

- In Person - Health U
 - 6 weeks
- Healthy U - for Diabetes
 - 6 weeks



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- 6. Choo PP, Din NM, Azmi N, Bastion MC. Review of the management of sight-threatening diabetic retinopathy during pregnancy. *World J Diabetes.* 2021 Sept15;12(9):1386-1400



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Additional References

- <https://www.uwyo.edu/healthierwyo>
- <https://www.diabetes.org/diabetes/eye-health/resources>
- <https://www.cdc.gov/prediabetes/takethetest/about-the-test.html>
- <https://www.cdc.gov/diabetes/data>

