On behalf of Vision Expo, we sincerely thank you for being with us this year.

Vision Expo Has Gone Green!

We have eliminated all paper session evaluation forms. Please be sure to complete your electronic session evaluations online when you login to request your CE Letter for each course you attended! Your feedback is important to us as our Education Planning Committee considers content and speakers for future meetings to provide you with the best education possible.



Optometric Management of Obesity



Ansel T. Johnson, OD

L

Financial Disclosures

- Consultant with LKC \$LKC
- Consultant with Adnexa Ocular Amniotic Membranes ADNEXA
- Consultant with Sight Science S SIGHT
- Member Board of Directors **IDOC**

Ansel T. Johnson, OD

- Adjunct Professor:
 - Midwestern Chicago College of Optometry (Externship site)
 - Kentucky College of Optometry UPIKE (Externship site)
 - New England College of Optometry (Externship site)
 - Southern College of Optometry (Externship site)
- Additional Clinical Externship Site
 - UAB College of Optometry
- Medical Director United Eye Care Providers
- Founder, CEO Healthy Living With A Vision Foundation
 - (A 501c3 Organization)

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Course Objectives

- · Knowledge of US Statistics and Trends of Obesity
- Knowledge of Definition of Obesity
- Knowledge of Systemic and Ocular Effects of Obesity
- Optometric guidelines for Care of Patients Living With Obesity
- Office Accommodations for Patients Obesity

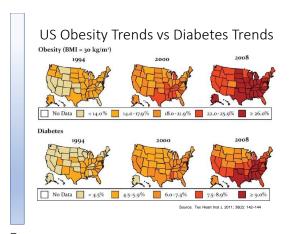
US Population Trends for Obesity

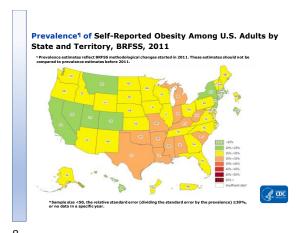
- The risk of diabetes is 93 times greater if the BMI is 35
- The national prevalence rates of diabetes have increased in parallel with the rates of obesity
- Excess weight affects two thirds of the U.S. adult population



Source: Tex Heart Inst J. 2011; 38(2): 142-144

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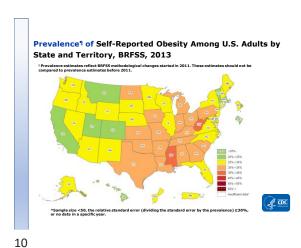


Prevalence¹ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2012

¹ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

**Sample size < 50, the relative standard error (dividing the standard error by the prevalence) ≥30%, or no data in a specific year.

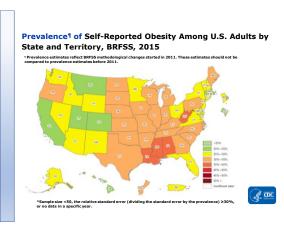
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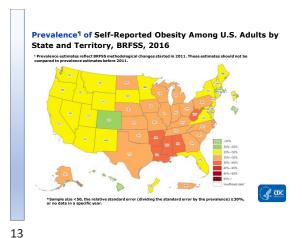
Prevalence® of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2014

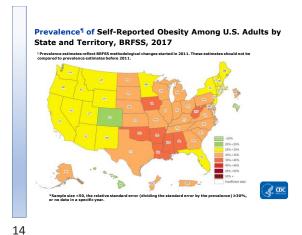
¹ Prevalence selfmate reflec BRSS anthological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

*Sample size <50, the relative standard error (dividing the standard error by the prevalence) 230%, or no data in a specific year.



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Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2018

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Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2019 **Æ** coc

Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2020 A COC

Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2020 Summary No state or territory had a prevalence of obesity less than 20%. 3 states (Colorado, Hawaii, Massachusetts) and the District of

- Columbia had a prevalence of obesity between 20% and <25%. 11 states had a prevalence of obesity between 25% and <30%.</p>
- 20 states, Guam, and Puerto Rico had a prevalence of obesity
- between 30% and <35%.
- 16 states (Alabama, Arkansas, Delaware, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Ohio, Oklahoma, South Carolina, Tennessee, Texas, and West Virginia) had a prevalence of obesity between 35% and <40%
- No state had a prevalence of obesity of 40% or greater.

¹ Prevalence estimates reflect BRFSS methodologic compared to prevalence estimates before 2011.

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Being Overweight Defined

- Definition: Being overweight refers to having more body weight than what is considered healthy for one's height.
- Body Mass Index (BMI): Typically defined as having a BMI between 25 and 29.9.
- Adipose Tissue: Increased but not necessarily excessive levels of adipose (fat) tissue.
- Health Risks: Associated with some health risks, including a higher risk
 of developing conditions like hypertension and high cholesterol.
- Severity Levels: Can vary in severity and health impact based on factors like muscle mass and overall health.
- Prevalence: More common than obesity and affects a significant portion of the population.
- Management: Often manageable through lifestyle changes, including diet and exercise.

Obesity Defined

- Definition: Obesity is a complex disease involving having too much body fat. Obesity isn't just a cosmetic concern. It's a medical
- Causes or Contributing factors: results from inherited, physiological and environmental factors, combined with diet, physical activity and exercise choices.
- Health Risks: Associated with numerous health complications, including heart disease, diabetes, stroke, and certain types of
- Severity Levels: Often classified into different classes (e.g., Class I, II, III) based on BMI.
- **Epidemic:** Considered a global epidemic due to its prevalence and significant health impact.
- Management: Often requires medical intervention, such as dietary changes, exercise, medication, or surgery.

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Obesity Defined

- BMI Range: Obesity is generally defined as having a BMI of 30 or higher, while being overweight falls within the range of 25 to 29.9.
- Health Risks: Obesity is associated with a higher risk of severe health conditions compared to being overweight.
- · Management: Obesity often requires more intensive medical management, whereas being overweight can often be addressed with lifestyle changes alone.
- Epidemiology: Obesity is considered a global epidemic, while being overweight is a prevalent issue but not as severe in terms of health risks.

Obesity Categories

BODY MASS INDEX (kg/m²)

Medical Definition of Obesity

- · Obesity Defined other concepts
- · Another method of obesity assessment
- · Measuring waist circumference
- · Classes of weight categories and three classes of obesity
 - Underweight: Less than 18.5.
 - Optimum range: 18.5 to 24.9.

 - Overweight: 25 to 29.9.
 Class I obesity: BMI 30 to <35 kg/m².
 Class II obesity: BMI 35 to <40 kg/m².
 - Class III obesity: BMI 40+ kg/m²
 - Often associated with other chronic health conditions Formerly termed Morbid obesity with is an outdated label for class III obesity

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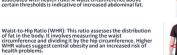
Limitations of BMI as a Measure

- · Bodybuilders and athletes,
- · Higher muscle density
- · Total body fat
- Possibility to have obesity at a "normal" weight.
- · Average body weight
- · Body fat percentage is high
- · Same health risks as somebody with a higher BMI.

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Other Methods of Measuring Obesity

 Waist Circumference: Measuring the circumference of the waist can help assess central obesity, which is particularly associated with health risks. A waist circumference above certain thresholds is indicative of increased abdominal fat.











Source: www.mayoclinic.org

Other Methods of Measuring Obesity

 Computed Tomography (CT) and Magnetic Resonance Imaging (MRI): These imaging techniques can provide preise measurements of body fat distribution and visceral fat (fat around internal organs). They are often used in research and clinical settings.



 These methods offer varying levels of accuracy and may be used in combination to provide a more comprehensive assessment of obesity and associated health risks. The choice of method often depends on the clinical context, resources available, and the specific information needed for a patient's care.





Source: www.mayoclinic.or

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Obesity Trends



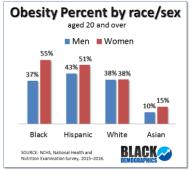
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Obesity Trends Global prevalence of overweight 60% 40% 40% 40% 30% 50% Males Females Both Source: https://www.ncloi.nin.nih.gov/pmc/arciese PMC9107388

Adult Obesity Facts

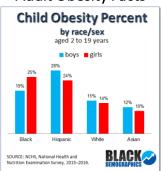


Source: blackdemographics.com

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Adult Obesity Facts



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Adult Obesity Facts

Obesity is a common, serious, and costly disease

- The US obesity prevalence was 41.9% in 2017 March 2020. (NHANES, 2021)
 From 1999 –2000 through 2017 –March 2020, US obesity
- prevalence increased from 30.5% to 41.9%. During the same time, the prevalence of severe obesity increased from **4.7% to 9.2%**. (NHANES, 2021)
- Obesity-related conditions include heart disease, stroke, type 2 diabetes and certain types of cancer. These are among the leading causes of preventable, premature death.
- The estimated annual <u>medical cost of obesity</u> in the United States was nearly **\$173** billion in 2019 dollars. Medical costs for adults who had obesity were \$1,861 higher than medical costs for people with healthy weight.

Source: CDC, Overweight & Obesity

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Adult Obesity Facts

Obesity affects some groups more than others

- Non-Hispanic Black adults (49.9%) had the highest age-adjusted prevalence of obesity, followed by Hispanic adults (45.6%), non-Hispanic White adults (41.4%) and non-Hispanic Asian adults (16.1%).
- The obesity prevalence was 39.8% among adults aged 20 to 39 years, 44.3% among adults aged 40 to 59 years, and 41.5% among adults aged 60 and older.
- The association between obesity and income or educational level is complex and differs by sex and race/ethnicity.
- Overall, men and women with college degrees had lower obesity prevalence compared with those with less education.

Source: CDC. Overweight & Obesity

Adult Obesity Facts

Why should we focus on Obesity?

- Dr. Brett Osborn, a Florida neurologist and longevity expert, calls obesity a "gateway disease" to type 2 diabetes, hear disease, cancer and even Alzheimer's - "the diseases that kill most Americans," he told Fox News Digital.
- "Unlike [with] the COVID-19 pandemic, during which people were acutely ill – it was obvious – obesity kills you insidiously," Osborn said.
- "Obesity is a primer for age-related disease and early death," he went on. "Being categorically obese is associated with a two- to 10-year reduction in life expectancy."
- "This would translate to hundreds of thousands of years of life lost — in a single year — given the CDC's reported increase in obesity incidence among Americans.

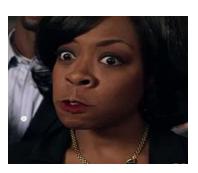
Adult Obesity Facts

Why should we focus on Obesity?

- Heart disease deaths linked to obesity have tripled in 20 years, study found: 'Increasing burden'
- "It is particularly worrying to see obesity rates rising fastest among children and adolescents."
- · Without significant action to change this trajectory, more than half the world's population will be overweight or obese by 2035, according to a new report.



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Causes of Obesity

- Fast and convenience foods
- Sugar is in everything.
- Marketing and advertising.
- Psychological factors
- Hormones
- Certain medications
 Screen culture
- Workforce changes
 Fatigue
- Neighborhood design
- Childcare trends
- Disability

Source: https://www.odc.gov/obesity/basics/causes.htm

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- It's Bigger Than Me created this symbol in partnership with Novo Nordisk for people living with obesity, health care providers and community partners to represent the Inclusive Obesity Care Initiative.
- This symbol was designed to give anyone a chance to share their support for people living with obesity to receive health care that is compassionate, attentive, and respectful.
- Sharing can help raise awareness and emphasize the importance of unbiased care for all people, regardless of their weight.



A Symbol for Inclusive Obesity Care

Source: https://www.itsbiggerthan.com/

Obesity is a complex disease but talking to your health care provider about it shouldn't be.

Queen Latifah
ACTRESS, MUSICIAN & EXECUTIVE PRODUCER

**TOTAL COMPANY OF THE PRODUCE OF THE

Source: https://www.itsbiggerthan.com/

40

More than 40% of adults in the United States—

obesity.
Through science and understanding, obesity is a manageable health condition.

that's two out of every five—are living with

- In one survey, 66% of participants who reported a history of weight stigma experienced it from doctors.*
 - *This survey focuses on the health care experiences of adults in six countries, including the United States.

Source: https://www.itsbiggerthan.com/

What are our greatest fears with Diabetes?



Source: https://www.itsbiggerthan.com/

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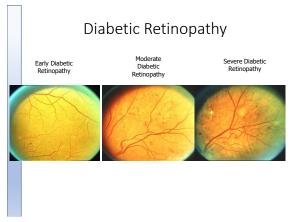
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Complications of BMI and Glaucoma

Moderate body mass index, having breakfast, avoiding late dinner, limiting alcohol intake to <2.5 units/day, and regular exercise were associated with a reduced risk of developing glaucoma in the Japanese population. These findings may be useful for promoting glaucoma prophylaxis.

Systemic Conditions Associated with Obesity

- Coronary and congestive heart disease
- Pre-Diabetes
- · Type 2 diabetes mellitus
- Hypertension • Stroke

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- Dyslipidemia
- Osteoarthritis
- Back pain
- Kidney Disease
- Sleep apnea
- Certain types of cancers.
 obesity is responsible for approximately 40% of endometrial cancers
 25% of renal cancers
- 25% of renal cancers
 10% each of colonic and breast cancers

- Other obesity-associated co-morbidities
- Memory and cognition, including a heightened risk of Alzheimer's disease and dementia
- Female infertility and pregnancy complications, polycystic ovary syndrome
- · fatty liver disease
- · Hypercoagulability disorders
- Depression secondary to social stigmatization and discrimination

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Case #1 – Obesity

51 year old African American Occupation - Truck Driver

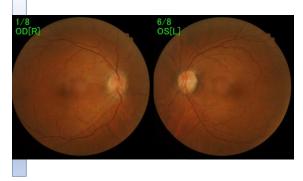
Scheduled for bariatric surgery (gastric sleeve)

Gout Hypertension Family Hx - Diabetes / Hypertension Sleep apnea (CPAP)

Systemic Meds: Allopurinol, amlodipine, lisinopril/triamterene

Height 6' 1" Weight 412 lbs BMI 54.4 In office BP 154/76 pulse 86

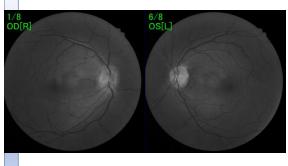
Case #1 - Obesity



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Case #1 – Obesity



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Ocular Signs and Conditions Related to Obesity

- Dry eye
- Cataracts
- Glaucoma
- Age Related Maculopathy
- Diabetic Retinopathy
- Retinal vein occlusion
- Oculomotor nerve palsy. Recurrent lower eyelid entropion
- Papilledema / Pseudotumor
- Floppy eyelid syndrome
- Benign intracranial hypertension (pseudotumor cerebri).

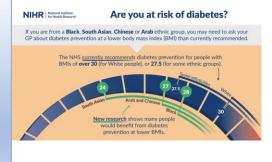
Source: CDC,

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Limitations of BMI as a Measure

- Ethnic differences in BMI
- People of Asian descent are more likely to have health risks at a lower BMI
- Black people are more likely to have health risks at a higher BMI.

Ethnic Differences for Diabetes Risk and BMI



Source: National Institute for Health Research, https://evidence.nihr.ac.uk/

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Ethnic Differences for Diabetes Risk and BMI

- Diabetes prevention is needed at or above a BMI of:
 - 24 in South Asian populations
 - 27 in Arab and Chinese populations
 - 28 in Black populations.
- Among Black populations, diabetes prevention is needed at BMI levels considered overweight (not obese)

Obesity EFFECTS ON THE BODY

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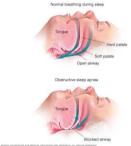


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Obesity & Sleep Apnea

Sleep Apnea Results in 40% Greater Risk of Glaucoma

The condition also affected nonglaucomatous eyes in terms of visual field defects, IOP and RNFL thickness.



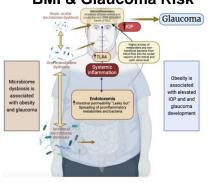
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BMI & Glaucoma Risk

Factors associated with a reduced risk of developing glaucoma in the Japanese population.

- Moderate body mass index
- Having breakfast
- Avoiding late dinner
- Limiting alcohol intake to <2.5 units/day
- Regular exercise

BMI & Glaucoma Risk



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Patient 7: NB

- A 56 y/o AA male presents to clinic for a medical f/u involving primary angle glaucoma OU.
- Ht: 70in, Wt: 410lbs, BMI: 58.8
- · Medical history: Obesity
- Medications: Latanoprost 0.005% QD OU and unspecified diet pill
- Ocular history: Progressive spectacles
- Allergies: n/a

Exam Findings:

Entering BCVAs- OD:20/20 OS:20/20

IOPs- OD: 7mmHg, OS: 8mmHg

Anterior segment findings: Trace NS and cortical cataracts OU

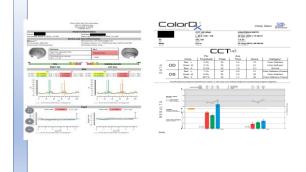
Posterior segment findings: OU- Glaucomatous cupping, nerve fiber layer defect, and enlarged C/D ratio. Irregular foveal avascular zone with mild capillary dropout.

Diagnosis: Primary Open Angle Glaucoma OU, Retinal nerve fiber bundle defects

Plan/Follow up: Return in 4 months for DFE, IOP check, automated perimetry, and OCT.

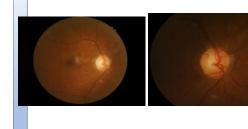
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Additional testing:



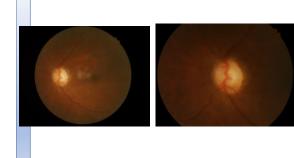
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Fundus photos



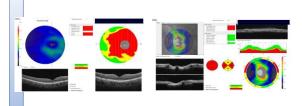
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Fundus photos

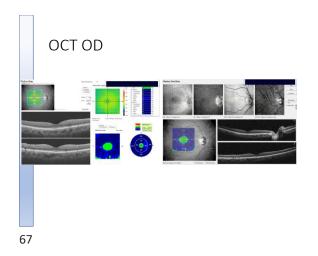


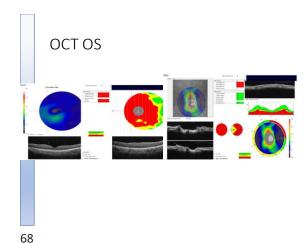
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OCT OD



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OCT OS

Definitions & Statistics

Pre-Diabetes

• HbA1c of 5.7 to 6.4

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May also exhibit impaired glucose tolerance (IGT) or impaired fasting glucose (IFG).

Diabetes Categories

Pre Diabetes symptoms

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 Acanthosis nigricans is a skin condition characterized by areas of dark, velvety discoloration in body folds and creases. The affected skin can become thickened









Type 2 Diabetes

- Multifactorial condition that effects how the body handles glucose.
- About 90% of those living with Diabetes are Type 2
- In most cases can be prevented

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Clinical Care Where Optometry Makes a Difference

Major Eye Disease Issues

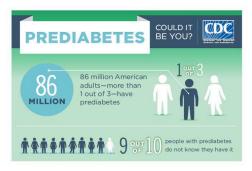
Obesity and Hypertension





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Pre-Diabetes Statistics



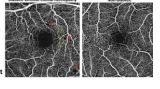
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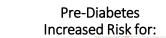
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Retinal Signs Wider Retinal Vein Caliber

- Linked to metabolic syndrome (Blue Mountains Study)
- Evidence is associated with various microvascular complications of diabetes including diabetic retinopathy and diabetic nephropathy
- Conclusion: literature is showing isolated signs of retinopathy in those withou diabetes in those under 65 years and with a family history of diabetes are at a higher future diabetes risk





Type 2 Diabetes





Heart Disease

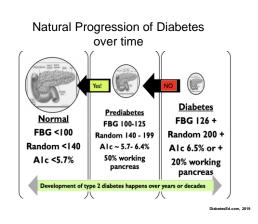
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- HbA1c of 5.7 to 6.4
- Prediabetes reflects failing islet beta-cell compensation or an underlying state of insulin resistance, often caused by excess body weight or obesity.
- Prediabetes is defined as an abnormal blood glucose level, an elevated A1c level, or an abnormal glucose tolerance test.



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Patient Centered Care

- · Referral sources for patients living with obesity
- PCP, Family Practitioner
- Dieticians
- · Mental health
- Podiatry

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- · Always patient centered
- · Patient centered care defined

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CONSENSUS-BASED ACTION **STATEMENT**

CONSENSUS-BASED ACTION STATEMENT:

The initial ocular examination of a person with diabetes should include all aspects of a comprehensive eye and vision examination, with ancillary testing, as indicated to and thoroughly evaluate ocular complications of diabetes.



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CONSENSUS-BASED ACTION **STATEMENT**

EVIDENCE-BASED ACTION STATEMENT:

The patient's primary care physician should be informed of eye examination results following each examination, even when retinopathy is minimal or not present.

- · Evidence Statements: Written communication between the eve care provider and a patient's primary care physician has been found to be associated with improved adherence to recommendations for follow-up diabetic eye examinations.274 (Evidence Grade: B)
- · Potential Benefits: Coordination of care Potential Risks/Harms: None
- · Benefit and Harm Assessment: Benefits significantly outweigh harms





Communication Tools

Instead of this...

- Vulnerable groups
- Marginalized groups
- Hard-to-reach communities
- Underserved communities
- Underprivileged communities
- Disadvantaged groups
- High-risk groups
- At-risk groups High-burden groups

The needy



Try this...

•Groups that have been economically/socially marginalized

•Groups that have been marginalized •Communities that are underserved by/with limited access to [specific sérvice/resourcel

•Under-resourced communities with reference to specific recourses, ie clean water, convenient grocery stores
•People who are not equitably served by programs, initiatives, infrastructure, or

systems.
•Groups experiencing disadvantage because of various reasons

•Groups placed at increased risk/put at increased risk of various outcomes ·Groups with higher risk of various

outcomes
•People living with increased risk of various outcomes because of various

Source: CDC. Gateway to Health Co

Avoid dehumanizing language. Use person-first language instead

Instead of this...

- Diabetics
- Diabetes patients
- •The diabetes population
- •The obese or the morbidly obese
- •The homeless Disabled person
- Handicapped
- Victims of abuse

·Cases (when referring to people affected by a disease or condition) or subjects (when referring to people participating in a study)

•Individuals

•Referring to people only as acronyms (for example, MSM for 'men who have sex with men')

Try this...

•People/persons with [disease] •Patients with [disease] (if referring to

people who are receiving healthcare)
•People experiencing [health outcome or life circumstance] •People with obesity; people with severe

obesity
•Patients or persons with COVID-19

•Reported cases of [disease/condition] (when referring to case reports, not

people)
•Study participants
•People who are experiencing homelessness

People who are experiencing [condition or disability type]
Person with mobility disability

Person with vision impairments
 People who are incarcerated

•Survivors [of abuse, cancer, violence]

Source: CDC. Gatewa

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Avoid saying target, tackle, combat, or other terms with violent connotation when referring to people, groups, or communities.

Instead of this...

- •Target communities for interventions
- Target population
- •Tackle issues within the community
- Aimed at communities
- •Combat or fight against [disease]
- War against [disease]

Try this...

- •Engage/prioritize/collabor ate with/serve [population of focus]
- Population of focus
- Consider the needs of/Tailor to the needs of [population of focus]
- Communities/populations of focus
- Intended audience
- •Eliminate/eradicate [issue/disease]
- Prevent/control spread of

[disease] Source: CDC. Gateway to Health Communication

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Avoid unintentional blaming.

Instead of this...

•People who refuse [vaccination/specific behavior]

·Workers who do not use

•People who do not seek healthcare

Try this...

- •People who are unvaccinated
- •People who have yet to receive/do

[vaccination/specific behavior]

•People with limited access to [specific service/resource]

•Workers under-resourced with [specific service/resource]

Source: CDC, Gateway to Health Communication

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Cultural competencies for optometric care

The Power of Empathy

- It's different from having sympathy for someone, which means to look at their suffering from the outside and feel sorry or sad for them.
- Empathy is feeling someone else's pain or seeing through their eyes.
- It's a precursor to compassion, which is empathy in action—a commitment to doing something that relieves someone else's suffering.



Obersity and Eye Diseases

Weight Loss After Bariatric Surgery Impact the Ocular Parameters?

- Bariatric surgery positively impacts retinochoroidal microcirculation. The arterial perfusion and vascular density improve, venules constrict, and the arteriole-tovenule ratio increases.
- Weight loss positively correlates with intraocular pressure decrease
- The impact of postoperative weight loss on the choroidal thickness (CT) and the retinal nerve fiber layer (RNFL) is still unclear.

Source: Obes Surg 2023 Jun;33(6):1916-1927. doi: 10.1007/s11695-023-06607-1. Epub 2023 Apr 27

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Cultural competencies for optometric care

The Power of Listening



- Elle Kaplan defined effective listening as "giving your complete, intentional focus to what someone says, rather than what their words literally mean."

- words literally mean."

 Effective listening requires active listening, which the University of the People defines as "a soft skill that directs the focus from what's in your head to the words coming from the outside.

 By being able to focus on what another person is saying, you can understand needs and information more accurately.

 Impactful active listening is all about understanding the context in which those words are shared, along with other verbal and nonverbal cues, such as voice inflection, tone, facial expressions and body language.

Patient 1: NJ

33 y/o AA female presents to clinic on 8/10/2022 with chief complaint of redness OD. Associated symptoms included dryness and itchiness. Tried using Lumify with no improvement. Pt additionally noted headaches began occurring 2 weeks prior to today's visit.

Ht: 64in, Wt: 260lbs, BMI: 44.6

BP 109/82

Medical history: asthma

Medications: Phentermine 37.5mg (weight loss),

Spironolactone 50mg

Ocular history: current single vision spectacles

Allergies: n/a

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Exam findings:

Entering BCVAs- OD:20/25 OS:20/150.

IOPs- OD: 11mmHg, OS:8mmHg

Anterior segment findings: sub conjunctival hemorrhage OD Posterior segment findings: blurred disc margins OU, obscuration of blood vessels, bilateral swollen discs, tortuous and dilated bilateral retinal veins. Chorioretinal macular scarring OS

Diagnosis: bilateral papilledema and chorioretinal macular scar OS.

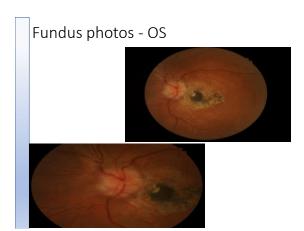
Plan: Referred to hospital for immediate neuro workup. Follow up: called patient multiple times, but never heard back from her.

Fundus photos - OD

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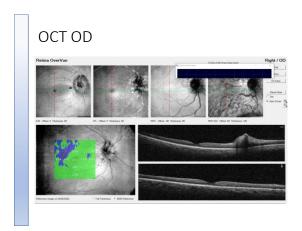


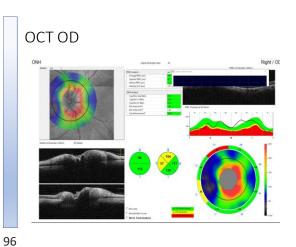
OCT OD

3D Disc

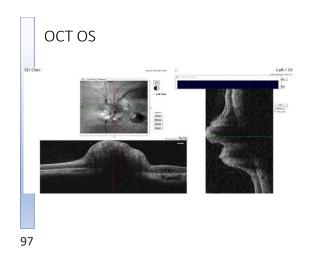
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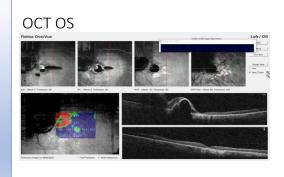
93





95





OCT OS

Patient 5: KS

- 34 y/o AA female presents with blurry vision OU along with scattered black spots in periphery. Denies they are floaters.
- Ht:72in, Wt:290lbs, BMI:39.3
- · Medical history: Gestational hypertension
- Medications: n/a
- Ocular history: Air optix night and day and single vision spectacles
- Allergies: n/a

100

98

Exam findings:

99

Entering BCVAs- OD:20/20 OS:20/20 IOPs- OD: 17mmHg, OS:14mmHg Anterior segment findings: n/a Posterior segment findings:

OD: attenuated arteries, A/V nicking, and tortuous retinal arteriolar narrowing. Blot retinal hemorrhages in periphery.

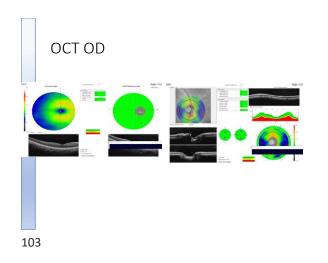
OS: attenuated arteries, A/V nicking, and tortuous retinal arteriolar narrowing. Macula- sup nasal sebretinal heme and inferior flamed shaped heme ½ DD. Subretinal fluid located 3DD sup nasal to flame heme

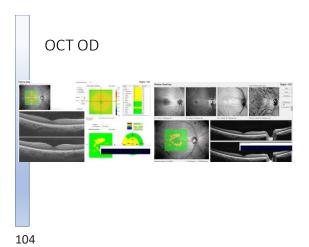
Diagnosis: Retinal hemorrhage OS. Elevated blood pressure without diagnosis of hypertension

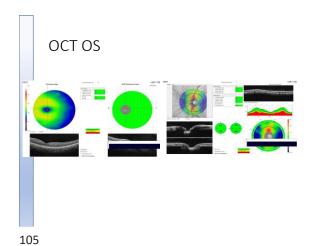
Plan: Refer to retina specialist w/in next 2 weeks and letter sent to PCP

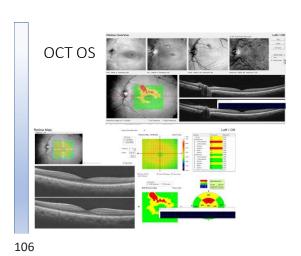


102 101















Virtual Reality Visual Field Testing

109

111

113



Office Infrastructure & Instrumentation

110



Quality Slit lamp with a wide base

Source: Marco Instruments

112

0



Office Infrastructure & Instrumentation

Virtual Reality Ancillary Testing



Extra Wide Wheel Chair

114





Change is the essential process of all existence.

-Spock

Questions?

Ansel T. Johnson, OD eyedrj@visionsalon.com

Vision Expo Has Gone Green!

We have eliminated all paper session evaluation forms. Please be sure to complete your electronic session evaluations online when you login to request your CE Letter for each course you attended! Your feedback is important to us as our Education Planning Committee considers content and speakers for future meetings to provide you with the best education possible.

On behalf of Vision Expo, we sincerely thank you for being with us this year.



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