

Counseling Patients on Modifiable Risk Factors in the Optometric Office

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Case 1

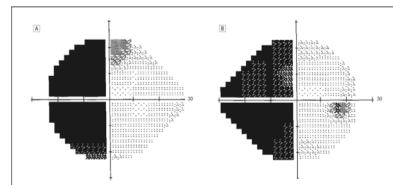
- 49 year old female
- Referred by primary physician for diabetes
- PMHx: Diabetes, hypertension, 2 strokes, high cholesterol
- Medications: Atorvastatin 10 mg (Lipitor), Lisinopril 20 mg, Metformin 500 mg BID, Plavix 75 mg, women's multivitamin gummies 200 mcg, Xarelto 20 mg

Case 1

- Social: Non-smoker, **drinks 3 glasses wine per night**
- BP **145/90 RAS**
- Height 5'6" (167.64 cm) Weight 215 lb. (97.5 kg) BMI 34.7
- FBS **273**, A1C unknown
- Other: Does not like taking medications, **poor compliance with follow-up visits.**

Case 1

- BCVA 20/25 OD, OS
- IOP 13, 15 mm Hg OD, OS
- Visual field:



Diagnoses

- Essential (primary) hypertension
- Left homonymous hemianopsia secondary to stroke
- Type 2 diabetes mellitus with ophthalmic complications
- Moderate to severe non-proliferative diabetic retinopathy (NPDR) OU
- Hyperlipidemia, unspecified
- Obese due to excess calories with BMI 34.7

What is the ocular management for this patient?

What are the medication considerations?

What are the nutritional and lifestyle considerations?

BMI

BMI	Classification
< 18.5	underweight
18.5–24.9	normal weight
25.0–29.9	overweight
30.0–34.9	class I obesity
35.0–39.9	class II obesity
≥ 40.0	class III obesity

Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

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heart.org/bplevels

Obesity and Diabetes

BLOOD GLUCOSE CHART			
Mg/DL	Fasting	After Eating	2-3 hours After Eating
Normal	80-100	170-200	120-140
Impaired Glucose	101-125	190-230	140-160
Diabetic	126+	220-300	200 plus

Case 2: You're Normal?

35 year old female
 Routine examination
 CC: blurry vision at distance, hasn't worn specs for 1 year
 PMHx: HIV (unknown CD4 and viral load), ovarian cysts
 Meds: Prezcoibx, Descovy
 FHx: Diabetes (mother)

Case 2

○ Social Hx: former smoker, alcohol occasionally, caffeine once daily
 ○ BP: 130/89
 ○ Height 5'5" (165 cm)
 ○ Weight 252 lbs (115 kg)
 ○ BMI 41.9

Case 2

- BCVA 20/20 OD, OS (6/6 OD, OS)
- IOP 15 OD, 16 OS
- Anterior segment normal
- Posterior segment normal – no retinopathy

Diagnoses

- HIV without retinopathy
- Class 3 severe obesity without serious co-morbidity with body mass of 40-44.9 in adult
- BP: 130/89?
- Family history diabetes (mother)
- See you in a year??

metabolic syndrome*

Risk Factor	Defining Level
Abdominal obesity (waist circumference)	
Men	>102 cm (>40 in)
Women	>88 cm (>35 in)
Triglycerides [†]	≥150 mg/dL
HDL cholesterol [‡]	
Men	<40 mg/dL
Women	<50 mg/dL
Blood pressure	≥130/≥85 mm Hg
Fasting glucose	≥100 mg/dL*

Stage 1

HDL = high-density lipoprotein.

*Diagnosis is established when ≥3 of these risk factors are present.²

[†]1 mg/dL = 0.01129 mmol/L.

[‡]1 mg/dL = 0.02586 mmol/L.

§Updated fasting glucose guidelines.^{4,5} 1 mg/dL = 0.0555 mmol/L.

Adapted with permission from JAMA.^{4,5}



NORMAL BLOOD PRESSURE

*Recommendations: Healthy lifestyle choices and yearly checks.

ELEVATED BLOOD PRESSURE

*Recommendations: Healthy lifestyle changes, reassessed in 3-6 months.

HIGH BLOOD PRESSURE / STAGE 1

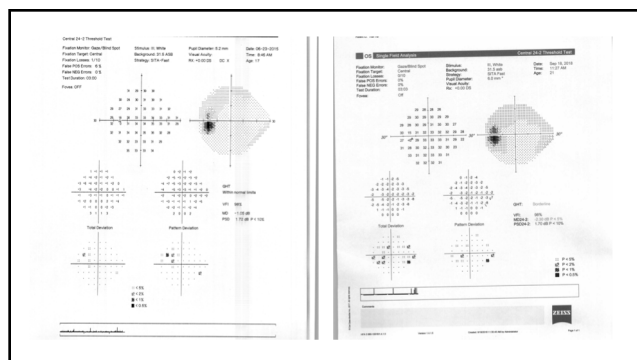
*Recommendations: 10-year heart disease and stroke risk assessment. If less than 10% risk, lifestyle changes, reassessed in 3-6 months. If higher, lifestyle changes and medication with monthly follow-ups until BP controlled.

BMI Chart

WEIGHT lbs	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215
Height	46.5	47.7	50.0	52.3	54.5	56.8	59.1	61.4	63.6	65.9	68.2	70.5	72.7	75.0	77.3	79.5	81.8	84.1	86.4	88.6	90.9	93.2	95.5	97.7
6'0"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight
6'1"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight
6'2"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight
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7'0"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight
7'1"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight
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7'6"	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight	Underweight

Case 3: Swollen Nerves

- 21 year old female
- CC: blurry vision since she broke specs
- LEE: 3 years ago
- PMHx: unremarkable
- FHx: Diabetes (mother and grandmother)
- Meds: None (no birth control)

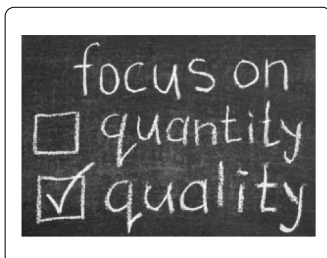


24 Hour Food Recall

- "I don't need a dietitian"
- 8:00 AM: salted peanuts (2 oz.) and water
- 12:30 PM: banana bread (2 slices) and water
- 4:00 PM: crackers from vending machine
- 8:30 PM: salt fish (cod) with 'jerk' seasoning and dumplings

24-Hour Recall

- Calories: 1,215
- Carbohydrate: 47%
- Fat: 41%
- Protein: 12%
- Fiber: 10 gm
- Sodium: 1,600 mg
- Vitamin A and C: 2%



Idiopathic Intracranial Hypertension (IIH)

- Elevated intracranial pressure of unknown cause predominantly in young women of childbearing age.
- Daily headache, pulse synchronous tinnitus, transient visual obscurations and papilledema with associated visual loss.
- Idiopathic Intracranial Hypertension Treatment Trial (IIHTT), multicenter, double-blind, randomized, placebo-controlled study
- Weight-reduction and low sodium diet plus acetazolamide VS.
- Diet plus placebo in subjects with mild visual loss.
- Statistically significant improvements in visual field function, quality of life measures, papilledema grade and CSF pressure in the acetazolamide group.

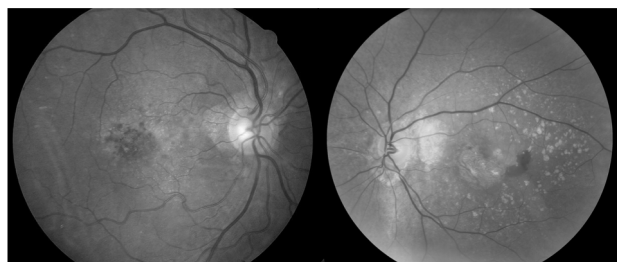
IIH

- Clinical improvement reported with about 6% weight loss.
- Acetazolamide-plus-diet patients lost twice as much weight as placebo-plus-diet patients but the acetazolamide effect on PMD was independent of the weight loss.
- Treatment failure was much less common in the acetazolamide-plus-diet group compared to the placebo-plus-diet group and risk factors for treatment failure were presence of high grade papilledema and lower ETDRS visual acuity measures at baseline.

Wall M. Update on idiopathic intracranial hypertension. *Neurologic clinics*. 2017;35(1):45-57. doi:10.1016/j.ncl.2016.08.004.

Case 4

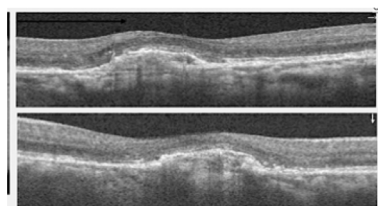
- 75 year old white female
- CC: Decreased distance and near vision in both eyes for several years.
- PMX: Hypertension, high cholesterol, arthritis, anemia
- **Medications: aspirin 81 mg, atorvastatin 20 mg QD (Lipitor), Lisinopril 20 mg QD**
- Social: Past smoker 1 pack a day (quit 5 years ago), alcohol approx. 3 drinks/week.
- BP: 110/70
- Height: 5'3" (161.5 cm) Weight: 85 lb.(38.5 kg) BMI: 15
- Other: poor appetite, paucity of vegetable intake



Fundus: Hard macular drusen OD with RPE changes, soft drusen OS with RPE changes and fluid, vessel attenuation OU.

Case 4

- BCVA 20/50 OD, 20/100 OS
- IOP: 12, 14 mm Hg OD, OS
- OCT OS



Diagnoses

H35.31 Intermediate dry macular degeneration OD

H35.3221 Advanced wet macular degeneration OS

D50.9 Iron deficiency anemia, unspecified

I10 Essential (primary) hypertension

E78.5 Hyperlipidemia, unspecified

R63.6 Underweight

What is the ocular management for this patient?

What medication considerations should be addressed?

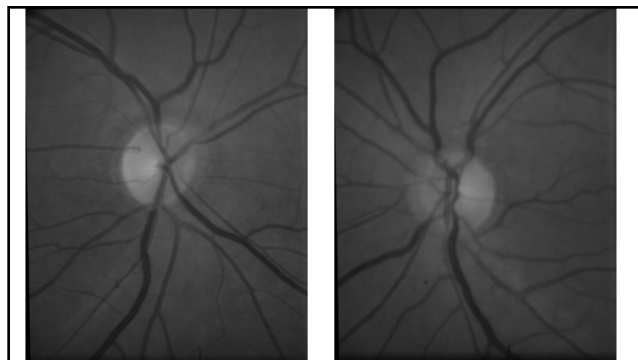
What are the dietary recommendations for this patient?

Case 5

- 46 year old white female
- CC: Unusual sensation of "pulling" in her eyes. Feels she has trouble seeing on the right side more than left. Physically she feels "bad" with weakness.
- PMX: Depression, anxiety, osteoporosis
- Medications: Calcium 500 + vitamin D 500 mg, cipro 500 mg BID, amitriptyline
- BP: 100/58 RAS, pulse 60
- Height: 5'6" Weight: 162 lb. (73.48 kg) BMI: 26.15
- Additional history: poor appetite, lack of concentration

Case 5

- Visual acuity: 20/20 OD, OS
- Pupils: +1 APD OD
- EOM: AD-duction deficit OS, AB-duction nystagmus and overshoot OD
- IOP: 15 mm Hg OD, 16 mm Hg OS
- Fundus: Diffuse optic nerve pallor OD, pink OS, vessels and peripheral fundus normal OU.
- OCT: Abnormal OD (reduced NFL and GCC), normal OS

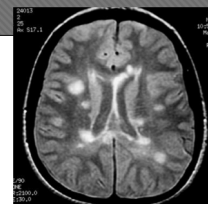


Diagnoses

- H51.22 Left intranuclear ophthalmoplegia
- H47.2 Optic nerve pallor/atrophy OD
- R63.0 Loss of appetite

MRI brain to R/O multiple sclerosis

From date initially seen to diagnosis and treatment: 2 years
Patient feels she has progressed significantly.



Currently

- No change in ocular findings.
- C/O nausea and occasionally vomiting.
- Feels her symptoms are worse with the summer heat.
 - Wearing cool pack around her neck
- 24-hour food recall performed.
- BP=95/60
- Pulse 57
- BMI same (26)

Diagnoses

- G35 Multiple sclerosis
- H51.22 Left intranuclear ophthalmoplegia
- HN55.09 Nystagmus OU
- H47.2 Optic nerve pallor/atrophy OD
- R63.0 Loss of appetite
- Any others?

What is the ocular management for this patient?

What medication considerations should be addressed?

What are the dietary recommendations for this patient?

24 Hour Recall

- 15 grain bread – 2 slices
- Peanut butter – 1 TBS (Peter Pan)
- Smoothie (8 oz.) – mango, apple, lime, grapefruit, peaches, nectarine, ginger, ice
- Water 16 oz.
- Beef jerky – 4 pieces
- Water 4 oz.
- 15 grain bread – 2 slices
- Tuna ½ can
- Mayonnaise – 2 TBS
- Onion and celery – 1 TSP
- Macaroni and cheese (boxed Publix) – 1 cup
- Water – 8 oz.



Case 6

- 61 year old male
- CC: Blurry vision OU
- PMHx
 - Open heart surgery: 5 heart attacks'
 - Stage 2 renal failure
 - Hypertension
 - HIV (viral load "undetectable")
 - Fatty tumor abdomen
- Social: Former smoker
- Allergy: PCN

Case 6

- Height: 5'9" (175 cm)
- Weight: 260 lbs. (118 kg)
- BMI: 38.4
- BP: 130/90



Medication

- Alprazolam
- Gabapentin
- Tylenol 3
- Intence
- Isentress
- Isosorbide monohydrate ER
- Nifedical XL
- Pantoprazole
- Quinapril
- Simvastatin
- Taprol
- Truvada

Case 6

- BCVA 20/20 OD, OS
- Pupils: Normal
- CF: Full
- EOM's: Normal
- Adnexa: Prolapsed orbital fat OU
- SLE: Blepharitis, SPK OU, trace lens changes
- IOP: 17, 16 mm Hg OD, OS
- Fundus: Attenuated arterioles, C/D 0.25 OD, OS, NO hemorrhages or CWS

Diagnoses

- Stage 1 hypertensive retinopathy
- Diabetes without retinopathy
- HIV without retinopathy
- Blepharitis
- Are we done?
- Obesity
- E66.01 Class 2 severe obesity due to excess calories with serious co-morbidity and body mass index (BMI) of 38.0-38.9

Recommendations

- "I've tried everything!"
- Counseling
- TLC Diet * (CVD and cholesterol)
- DASH Diet

