Synthetic Medical Records for Clinical Inference Testing

CASE 1: Metabolic Disease Inference Testing

Patient: Williams, Marcus
MRN: 8472-2025-445
DOB: 03/12/1978 (47 years old)
Date of Service: October 10, 2025

PAGE 1 - CONSULTATION NOTE

PROVIDER: Thompson, Lisa MD - General Surgery
LOCATION: Riverside Medical Center - Surgical Clinic
TIME: 14:30

CHIEF COMPLAINT:
Pt here for surgical weight loss eval

HPI:
47M presents today referred from Dr. Martinez in internal medicine. Pt states he's been heavy "my whole adult life" but really packed on the pounds after his divorce 10 years ago. Says he's tried everything - shakes, pills, gym memberships that he never uses. His doc has been on him about his sugar being high and now he's on pills for it. Also takes BP meds and something for his heart. Gets tired walking up stairs. Snores real bad - wife made him get a sleep test last year and now uses that mask at night.

Tried a medically supervised program through the hospital wellness center. Started Feb 2024, been going pretty regular. Sees the nutritionist every month, meets with the doc, does the classes. Lost about 15 lbs first few months but kinda plateaued. Been stuck around same weight for last 4 months even though he says he's trying.

PAST MEDICAL HISTORY:

- Heavy since 30s, getting worse over time
- Sugar problems - started about 5 years ago, on meds now
- High BP - been on pills for maybe 8 years?
- Heart stuff - had some chest pain last year, they did tests, put him on more pills
- Breathing problems at night - uses CPAP
- High cholesterol
- Fatty liver - doc mentioned this after ultrasound few months back

- Arthritis in knees - real bad, limiting his walking

MEDICATIONS:
Per patient and EMR review:

- Glipizide 10mg twice a day
- Metformin 1000mg morning and night
- Lisinopril 20mg daily
- HCTZ 12.5mg daily
- Atorvastatin 40mg at bedtime
- Baby aspirin
- Vitamin D

ALLERGIES: NKDA

SOCIAL HISTORY:
Works as dispatcher for trucking company. Sits most of the day. Divorced, lives with girlfriend. 2 adult kids not in area. Denies tobacco. Drinks beer on weekends, maybe 4-5 beers. No drugs.

FAMILY HISTORY:
Mom had "bad sugar" and died of heart attack at 63. Dad had stroke at 70, still alive but in nursing home. Brother is heavy like him, also has sugar problems.

PAGE 2 - CONSULTATION NOTE CONTINUED

REVIEW OF SYSTEMS:
CONSTITUTIONAL: Endorses fatigue, gets winded easy
EYES: Wears glasses, no changes
ENT: Snoring
CARDIOVASCULAR: Denies chest pain currently, had some last year
RESPIRATORY: SOB with exertion, uses CPAP
GI: Heartburn sometimes, takes Tums
GU: Gets up 2-3x at night to urinate
MUSCULOSKELETAL: Knee pain bilateral, limits mobility
NEURO: Denies headaches, sometimes feet feel tingly
PSYCH: Feels down sometimes about weight
ENDO: As per HPI

PHYSICAL EXAMINATION:

VITALS:

- Temp: 98.4°F
- BP: 142/88 (left arm, sitting)
- HR: 88 regular
- RR: 18
- O2 Sat: 94% on room air
- Wt: 287 lbs
- Ht: 69 inches (5'9")
- BMI: 42.4

GENERAL: Obese male, pleasant, NAD, breathing comfortably
HEENT: PERRL, EOMI, oropharynx clear, Mallampati class 3
NECK: Supple, no LAD, no JVD, thick neck circumference
CV: RRR, no m/r/g, distant heart sounds
PULM: CTAB, diminished at bases, no w/r/r
ABD: Obese, protuberant, soft, NT/ND, +BS, no HSM
EXT: Trace edema bilateral ankles, pulses 2+ throughout, skin intact
NEURO: A&Ox3, CN II-XII intact, strength 5/5 all extremities, sensation intact except decreased in feet

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PAGE 3 - LAB RESULTS

LABORATORY DATA:
Results from 09/15/2025 (Dr. Martinez ordered):

METABOLIC PANEL:

- Glucose (fasting): 164 mg/dL [HIGH]
- BUN: 18 mg/dL
- Creatinine: 1.1 mg/dL
- eGFR: 76 mL/min/1.73m²
- Sodium: 139 mEq/L
- Potassium: 4.2 mEq/L
- Chloride: 102 mEq/L
- CO2: 26 mEq/L
- Calcium: 9.8 mg/dL

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LIVER FUNCTION:

- AST: 68 U/L [HIGH]
- ALT: 82 U/L [HIGH]
- Alkaline Phosphatase: 98 U/L
- Total Bilirubin: 0.9 mg/dL
- Albumin: 4.0 g/dL
- Total Protein: 7.2 g/dL

LIPID PANEL:

- Total Cholesterol: 246 mg/dL [HIGH]
- LDL: 162 mg/dL [HIGH]
- HDL: 36 mg/dL [LOW]
- Triglycerides: 240 mg/dL [HIGH]
- VLDL: 48 mg/dL

HEMOGLOBIN A1C: 8.4% [HIGH - indicates poor glucose control]

CBC:

- WBC: 7.8 K/uL
- RBC: 4.8 M/uL
- Hemoglobin: 14.2 g/dL
- Hematocrit: 42%
- Platelets: 245 K/uL

URINALYSIS (from 09/20/2025):

- Color: Yellow
- Protein: Trace
- Glucose: 2+ [ABNORMAL]
- Ketones: Negative
- Microalbumin/Creatinine Ratio: 45 mg/g [ELEVATED]

PAGE 4 - IMAGING & DIAGNOSTIC REPORTS

PAGE 7 — IMAGING & DIAGNOSTIC REPORTS

ABDOMINAL ULTRASOUND (08/22/2025)
Performed at Riverside Imaging

INDICATION: Elevated liver enzymes

FINDINGS:

- Liver: Increased echogenicity consistent with hepatic steatosis (fatty infiltration). No focal lesions. No biliary dilatation.
- Gallbladder: Normal, no stones
- Pancreas: Limited visualization due to body habitus
- Spleen: Normal size
- Kidneys: Normal size bilaterally, no hydronephrosis

IMPRESSION: Hepatic steatosis consistent with fatty liver

SLEEP STUDY REPORT (11/15/2024)
Sleep Disorders Center

STUDY TYPE: Overnight polysomnography

CLINICAL INDICATION: Loud snoring, witnessed apneas, daytime sleepiness

RESULTS:

- Total sleep time: 5.2 hours
- Sleep efficiency: 68%
- AHI (Apnea-Hypopnea Index): 32 events/hour [SEVERE]
- Lowest O2 saturation: 82%
- Average O2 saturation: 91%
- Significant desaturations noted during REM sleep
- Position-dependent, worse supine

IMPRESSION: Severe obstructive sleep apnea

RECOMMENDATIONS: CPAP therapy initiated, pressure settings titrated

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ECHOCARDIOGRAM (03/10/2025)

Cardiology Associates

INDICATION: Chest pain, evaluate cardiac function

FINDINGS:

- LV size: Normal
- LV wall thickness: Mildly increased (mild LVH)
- LV systolic function: Normal, EF estimated 55-60%
- RV: Normal size and function
- Valves: Trivial MR, otherwise normal
- No pericardial effusion

IMPRESSION: Mild left ventricular hypertrophy, preserved systolic function

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PAGE 5 - CARDIOLOGY CONSULTATION NOTE

DATE: March 12, 2025
PROVIDER: Patel, Rajesh MD - Cardiology

REASON FOR CONSULT: Atypical chest pain, abnormal stress test

HPI:
Patient referred for eval of chest discomfort. Describes pressure-like sensation in center of chest, occasional, sometimes with exertion but also at rest. Denies radiation. Associated with some SOB. No syncope.

PAST CARDIAC HISTORY:
Risk factors include HTN, elevated lipids, positive family history, obesity, sedentary lifestyle, impaired glucose metabolism

CARDIAC EXAM:
Unremarkable as documented

DIAGNOSTIC TESTS REVIEWED:

Stress Test (03/05/2025):

- Bruce protocol, 4 minutes 20 seconds
- Stopped due to fatigue and dyspnea
- Peak HR 142 (82% predicted max)
- BP response: 142/88 to 168/92

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- ECG: No diagnostic ST changes
- Nuclear imaging: Small reversible defect inferior wall, likely artifact vs. mild ischemia

ASSESSMENT:
Atypical chest pain in patient with multiple cardiac risk factors. Stress test equivocal. Likely represents demand ischemia in setting of HTN and LVH. No acute intervention needed at this time.

PLAN:

- Continue current cardiac medications
- Aggressive risk factor modification including weight loss
- Consider repeat imaging if symptoms worsen
- Cleared for physical activity with gradual increase as tolerated

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PAGE 6 - ENDOCRINOLOGY CONSULTATION

DATE: September 28, 2025
PROVIDER: Kumar, Priya MD - Endocrinology

REASON FOR CONSULTATION: Uncontrolled hyperglycemia

HPI:
47yo man referred for management of elevated blood sugars. Initially diagnosed about 5 years ago. Was on just metformin initially but sugars kept creeping up. Added sulfonylurea 2 years ago. Most recent A1C 8.4% which is above target. Fasting sugars running 140-180s. Postprandial sugars in 200s. Tried to manage with diet and exercise but struggling with adherence. Weight has been stable to slightly increasing.

EXAMINATION:
Well-appearing obese gentleman
BP 138/86
CV: RRR
Lungs: Clear
Abd: Obese, soft
Extremities: Decreased sensation to monofilament testing bilateral feet, vibration sense diminished at great toes
Skin: Acanthosis nigricans noted posterior neck

LABS REVIEWED:

A1C 8.4% (goal <7%)
Fasting glucose 164

Lipids suboptimal as above
Renal function: Cr 1.1, eGFR 76, microalbuminuria present
Urine shows glucosuria

ASSESSMENT/PLAN:
Type 2 DM, inadequately controlled on current oral regimen. Evidence of early microvascular complications with peripheral neuropathy and microalbuminuria. Also has multiple macrovascular risk factors.

Discussed need for intensification of therapy. Options include adding another oral agent, GLP-1 agonist, or insulin. Given A1C >8%, would typically add basal insulin but patient reluctant.

Added Jardiance 10mg daily for additional glucose control and renal protection. Increased metformin to max dose. Continue current sulfonylurea for now.

Strongly encouraged weight loss - discussed that even 5-10% weight reduction would significantly improve glucose control. Referred to bariatric surgery program given BMI >40 with complications of hyperglycemia.

Will recheck A1C in 3 months. If still elevated, will need to start insulin.

PAGE 7 - NUTRITION COUNSELING DOCUMENTATION

RIVERSIDE MEDICAL CENTER WEIGHT MANAGEMENT PROGRAM
Program Coordinator: Stevens, Michelle RD

PATIENT: Williams, Marcus
PROGRAM START DATE: February 12, 2024
PROGRAM DURATION: 8 months (ongoing)

VISIT LOG:

2/12/2024 - Initial Visit:
Weight: 302 lbs, BMI 44.6
Goals discussed. 1800 calorie meal plan provided. Food diary instructions given.

3/11/2024 - Month 1:
Weight: 298 lbs (-4 lbs)
Good adherence to meal plan per diary review. Exercising 2x/week walking.

4/8/2024 - Month 2:
Weight: 294 lbs (-4 lbs)

Continued progress. Increased walking to 3x/week.

5/13/2024 - Month 3:

Weight: 289 lbs (-5 lbs)

Total loss 13 lbs. Patient pleased with progress.

6/10/2024 - Month 4:

Weight: 288 lbs (-1 lb)

Weight loss slowing. Reviewed portion sizes.

7/15/2024 - Month 5:

Weight: 287 lbs (-1 lb)

Plateau discussed. Patient reports some struggles with adherence. Work stress affecting eating habits.

8/12/2024 - Month 6:

Weight: 287 lbs (no change)

Continued plateau. Reinforced dietary principles. Discussed challenges.

9/16/2024 - Month 7:

Weight: 289 lbs (+2 lbs)

Some regain. Patient frustrated. Discussed options including medication and surgical consultation.

10/7/2024 - Month 8:

Weight: 287 lbs (-2 lbs)

Back to previous weight. Total loss from start: 15 lbs. Patient expressing interest in surgical options given plateau.

SUMMARY:

Patient has participated in comprehensive medically supervised weight management program for 8 months with monthly visits. Initially achieved 4.3% weight loss but has plateaued for past 4 months despite continued engagement. Program includes nutritional counseling, meal planning, food diary review, behavioral modification, and exercise recommendations. Patient demonstrates good understanding of principles but struggling to achieve additional weight loss.

PAGE 8 - PHYSICIAN WEIGHT MANAGEMENT NOTES

RIVERSIDE MEDICAL CENTER - PRIMARY CARE

PROVIDER: Martinez, Carlos MD

MONTHLY WEIGHT MANAGEMENT VISITS:

February 15, 2024:

Enrolled patient in hospital weight management program. Discussed goals, realistic expectations. Medically

cleared to participate. Will follow monthly.

March 18, 2024:
Wt 298. Doing well with program. Encouraged to continue.

April 15, 2024:
Wt 294. Good progress. BP today 138/84. Continue current meds.

May 20, 2024:
Wt 289. Down total of 13 lbs. Labs drawn - sugar still high, A1C pending.

June 17, 2024:
Wt 288. Weight loss slowing but still engaged. A1C 8.2%. Need better glucose control.

July 22, 2024:
Wt 287. Plateaued. Discussed challenges. Continues to struggle with late-night snacking.

August 19, 2024:
Wt 287. No change x2 months. Patient frustrated. Discussed that sometimes body resets. Encouraged to keep trying.

September 23, 2024:
Wt 289. Up slightly. Discussed options moving forward including bariatric surgery referral given multiple comorbidities and plateau in weight loss despite ongoing efforts. Patient interested. Provided referral to general surgery.

ASSESSMENT:
Patient has completed >6 months medically supervised weight management program with physician oversight, nutritional counseling, and behavioral modification. Initially responded but has plateaued. Given BMI >40, uncontrolled hyperglycemia, HTN, cardiac issues, sleep apnea, and fatty liver, patient is candidate for surgical weight loss evaluation.

PAGE 9 - PSYCHOLOGY EVALUATION

DATE: October 5, 2025
PROVIDER: Roberts, Jennifer PhD - Clinical Psychology
EVALUATION TYPE: Pre-bariatric surgery psychological assessment

REASON FOR REFERRAL:
Psychological clearance for bariatric surgery

CLINICAL INTERVIEW:

Patient presents as cooperative and engaged. Reports weight struggles most of adult life. Has tried multiple diets without sustained success. Understands bariatric surgery is a tool, not a cure, and requires lifelong behavioral changes. Able to articulate understanding of dietary restrictions post-surgery, need for vitamin supplementation, and follow-up requirements.

PSYCHIATRIC HISTORY:
Denies history of major psychiatric illness. Reports feeling "down" at times about his weight and health but denies meeting criteria for major depression. No history of anxiety disorder. Denies any history of eating disorder, binge eating, purging, or night eating syndrome. No history of substance abuse beyond social alcohol use.

CURRENT MENTAL STATUS:
Alert and oriented x3. Appropriate affect. Linear thought process. No evidence of psychosis. Denies suicidal or homicidal ideation. Insight and judgment appear adequate.

PSYCHOSOCIAL FACTORS:
Lives with supportive partner. Employed. Has adult children. Describes adequate social support network. Realistic expectations about surgery outcomes and timeline.

COGNITIVE ASSESSMENT:
Appears to have adequate cognitive capacity to understand risks, benefits, and requirements of bariatric surgery. Demonstrates understanding during education.

EATING BEHAVIORS:
Food diary review shows three meals plus snacks. Portions large but not consistent with binge eating. Some emotional eating acknowledged, particularly with stress. No purging behaviors. Patient has worked with dietitian on developing healthier coping strategies.

ASSESSMENT:
Patient demonstrates appropriate psychological readiness for bariatric surgery. No active psychiatric contraindications identified. Realistic expectations. Adequate social support. Good understanding of post-operative requirements.

RECOMMENDATIONS:
Cleared for bariatric surgery from psychological standpoint. Recommend continued follow-up post-operatively to address any challenges with adherence or emotional adjustment.

PAGE 10 - SURGICAL ASSESSMENT AND PLAN

DATE: October 10, 2025

PROVIDER: Thompson, Lisa MD - General Surgery

ASSESSMENT:
47-year-old male with class 3 obesity (BMI 42.4) presenting for bariatric surgery evaluation.

RELEVANT MEDICAL COMORBIDITIES:

1. Poorly controlled hyperglycemia - on two oral agents with A1C 8.4%, fasting glucoses 140-180s, has evidence of end-organ effects including neuropathy and kidney involvement with microalbuminuria
2. Cardiovascular disease - HTN on two medications with BP still elevated, abnormal lipids, mild LVH on echo, family history of early cardiac death, equivocal stress test suggesting possible ischemia
3. Severe sleep-disordered breathing - polysomnography showing AHI 32 with significant desaturations, on CPAP therapy
4. Hepatic steatosis - ultrasound confirmed fatty infiltration with elevated liver enzymes
5. Degenerative joint disease limiting mobility

SURGICAL HISTORY: None

WEIGHT LOSS HISTORY:
Patient has completed 8 months of comprehensive medically supervised weight management program through our hospital system. Program included:

- Monthly physician visits with Dr. Martinez
- Monthly nutritional counseling with registered dietitian
- Meal planning and food diary monitoring
- Behavioral modification strategies
- Exercise recommendations and monitoring
- Initial weight loss of 15 lbs but plateau for past 4 months despite continued adherence

CLEARANCES:

- Cardiology: Cleared for surgery (Dr. Patel 3/12/25)
- Psychology: Cleared for surgery (Dr. Roberts 10/5/25)
- Nutrition: Completed education and assessment

DISCUSSION:
Extensive discussion with patient regarding bariatric surgery options including risks, benefits, alternatives. Discussed laparoscopic sleeve gastrectomy vs Roux-en-Y gastric bypass. Given his significant metabolic derangements particularly the uncontrolled hyperglycemia with complications, would favor RYGB for superior

metabolic outcomes.

Risks discussed including but not limited to: bleeding, infection, leak, stricture, obstruction, nutritional deficiencies requiring lifelong supplementation, need for adherence to dietary restrictions, potential for inadequate weight loss or weight regain, need for possible revision surgery, DVT/PE, cardiac events, death. Patient verbalizes understanding.

Discussed that surgery is a tool requiring lifelong commitment to dietary modifications, vitamin supplementation, exercise, and follow-up. Patient appears to understand and is motivated.

PLAN:

1. Recommend laparoscopic Roux-en-Y gastric bypass
2. Will submit for insurance authorization
3. Patient to complete pre-operative education classes
4. Optimize medical management pre-operatively
5. Schedule surgery pending authorization

MEDICAL NECESSITY DOCUMENTATION:
Patient meets criteria with BMI >40 with multiple severe comorbidities including uncontrolled hyperglycemia with microvascular complications, cardiovascular disease with LVH and abnormal lipids, severe sleep apnea, and fatty liver disease. Has completed >6 months physician-supervised weight management program with documented monthly visits, nutritional counseling, and behavioral modification without sustained weight loss. Psychological evaluation completed and cleared. This patient is an appropriate candidate for bariatric surgery.

ELECTRONIC SIGNATURE: Lisa Thompson, MD
Date/Time: 10/10/2025 15:45