WEIGHT LOSS AND FATIGUE- TAKE 1

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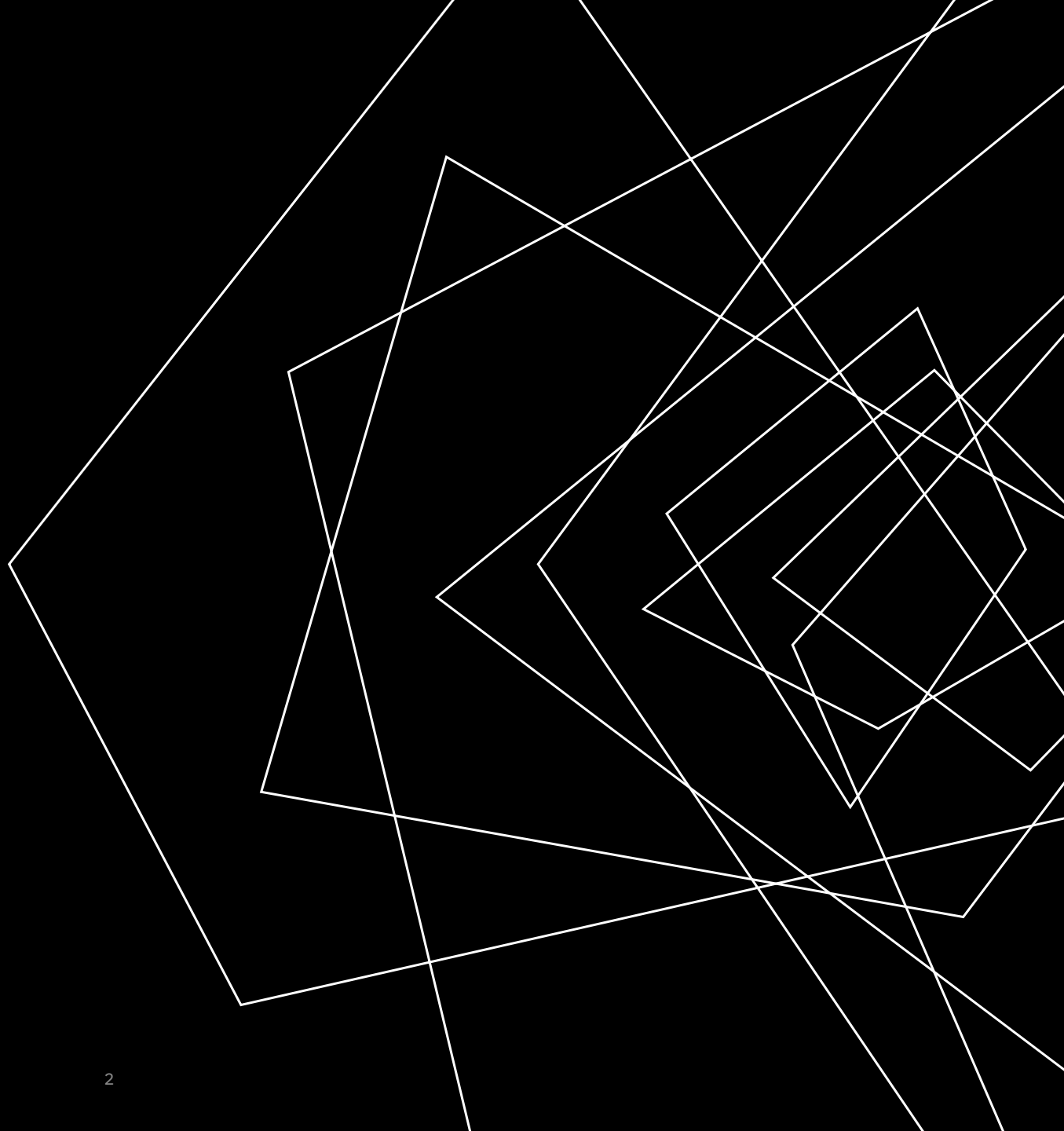
OBJECTIVES

Unintentional Weight Loss

- Define Unintentional Weight Loss
- Discuss the differential diagnosis and don’t miss diagnoses
- Review Diagnostic Evaluations
- Discuss Treatment Guidelines

Fatigue

- Define Fatigue and Distinguish from sleepiness!
- Discuss the differential diagnosis
- Review Diagnostic Evaluations
- Discuss Treatment Guidelines



UNINTENTIONAL WEIGHT LOSS (UWL)

* Greater than 5% of IDBW lost over 6-12 months

- INVOLUNTARY
- Not an expected treatment outcome of known illness
  - HF , HD fluid management
  - Hypothyroidism (metabolism)

UNINTENTIONAL WEIGHT LOSS (UWL)

Unintentional Weight Loss

- Greater than 5% of body Weight lost over 6-12 months
- Involuntary
- Not expected outcome

Frailty

- Exhaustion, Weakness,, Slowness
- Vulnerable to adverse health outcomes
- Advanced age

Sarcopenia vs Cachexia

- Sarcopenia is Geriatric syndrome characterized by loss of muscle mass strength and performance
- Cachexia is muscle mass loss with weight loss +- fat loss

Should we care?

- Common
- Mortality Increased
  - 24%
- Worse health outcomes- morbidity
- Fracture risk increased

SIMPLE UWL NUMBERS

Common Place

- 8% of all outpatients (wow)
- 15-20% of >65 yros if followed
- 50% of NH patients
- That's alarming considered change in mortality / morbidity

Change in mortality

- 18-24% increase risk of death
  - Follow up is varied so must be cautious (NHANES 12, ISRAEL 18)
  - Cause of death?
    - CV!
    - Not Cancer
    - Age, gender matched

SOME SIMPLE UWL THOUGHTS

Etiology- really simplified

- Decreased intake (A)
  - Material resources
  - Psychiatric
  - Difficulty swallowing
- Decreased absorption (B)
  - Malabsorptive syndromes
- Increased Metabolism (C)
  - Cancer
  - HF, COPD
  - Endocrinopathies (DM, Thyroid)
  - Infections
- Increased Loss (D)
  - Renal- nephropathy, DM etc..
  - GI (enteropathy, diarrheal states)

Cautionary Tale

People are very happy when the lose weight, they are often congratulated and celebrate success. It may happen in obese patients more frequently.

- Less reported
- Less identified as problematic
  - Ask your patient *“did you intend on losing the weight, what has changed in your diet, exercise for us to suspect VOLUNTARY weight loss”*

CASE 1 – INCREASED METABOLISM

70 year old male with obesity (BMI 32) bar owner, etoh use disorder, prior smoker 55 pyhx, HTN. Presents with weight loss 258 pounds now 220 pounds (approx. 15% done over 7 months). Very pleased with current change in weight. Energy same. No constitutional symptoms. No night sweats. Feels well overall. Recently quit tob x 1 month. Answer to question no change in diet and or exercise- although he has been thinking about it

*Exam reveals change in respiratory expansion, dullness to percussion right base, multiple palpable lymph nodes axilla abdominal aorta.

*CT C/A/P CT HEAD MRI HEAD reveals widely metastatic likely primary lung CA

*diagnosis Small Cell Lung CA metastatic to Brain, Liver, Bones and multifocal within lung

*hypercalcemia

*Expires 300 days after diagnosis

Causes of weight loss in older adults

Medications (eg, digoxin, theophylline, SSRIs, antibiotics)
Emotional (eg, depression, anxiety)
Alcoholism, older adult abuse
Late-life paranoia or bereavement
Swallowing problems
Oral factors (tooth loss, xerostomia)
Nosocomial infections (eg, tuberculosis, pneumonia)
Wandering and other dementia-related factors
Hyperthyroidism, hypercalcemia, hypoadrenalism
Enteral problems (eg, esophageal stricture, gluten enteropathy)
Eating problems
Low salt, low cholesterol, and other therapeutic diets
Social isolation, stones (chronic cholecystitis)

SSRIs: selective serotonin reuptake inhibitors.

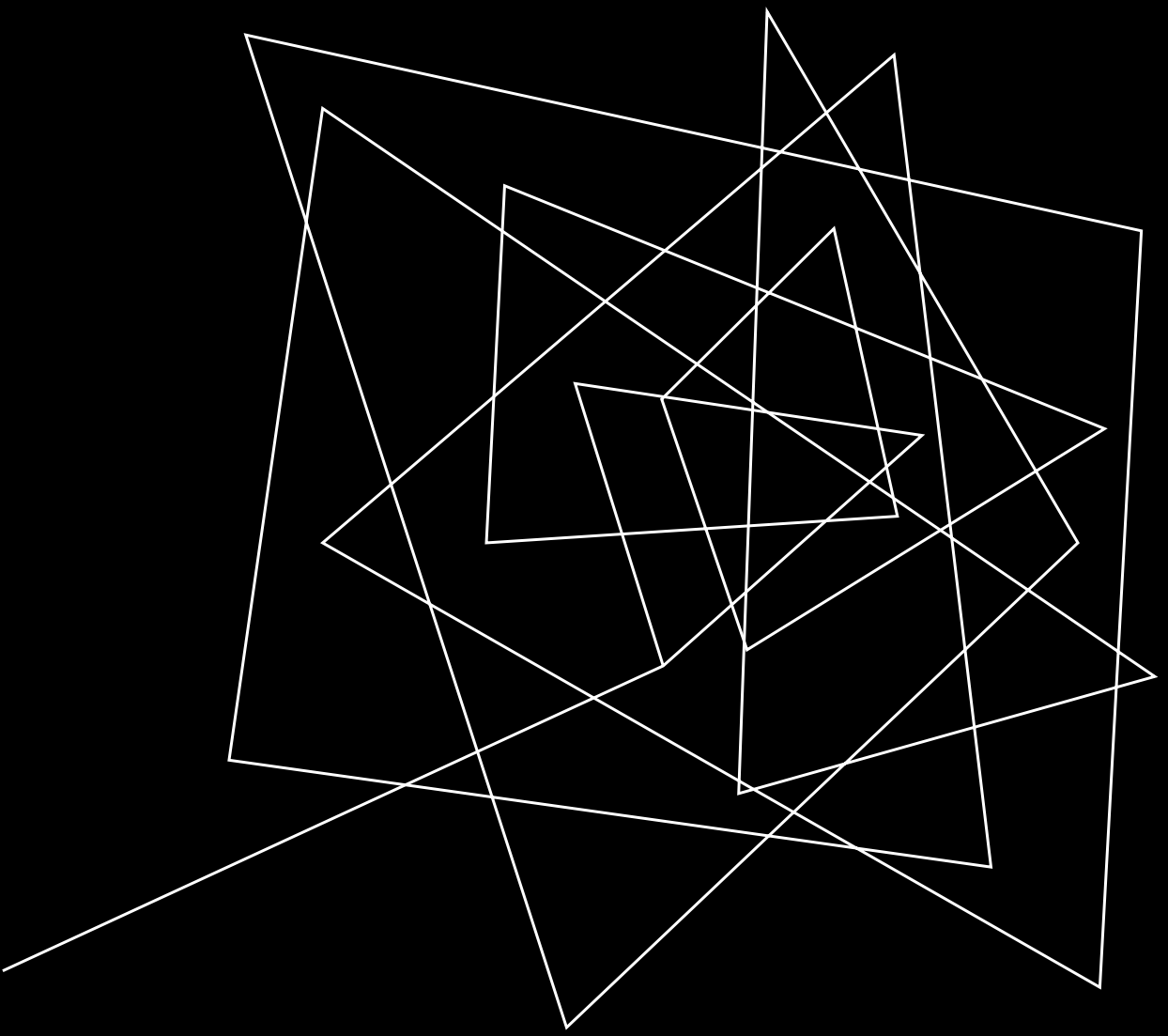
Causes of unintentional weight loss

Major causes of unintentional weight loss
Malignancy (eg, gastrointestinal, lung, lymphoma, renal, and prostate cancers)
Nonmalignant gastrointestinal diseases (eg, peptic ulcer disease, celiac disease, inflammatory bowel disease)
Psychiatric disorders (particularly depression), also eating disorders, food-related delusional manifestations of other psychiatric disorders
Endocrinopathies (eg, hyperthyroidism, diabetes, adrenal insufficiency)
Infectious diseases (eg, HIV, viral hepatitis, tuberculosis, chronic fungal or bacterial disease, chronic helminth infection)
Advanced chronic disease (eg, cardiac cachexia from heart failure, pulmonary cachexia, renal failure)
Neurologic diseases (eg, stroke, dementia, Parkinson disease, amyotrophic lateral sclerosis)
Medications/substances
Rheumatologic diseases (eg, severe rheumatoid arthritis, giant cell vasculitis)
Chronic vigorous exercise (eg, distance running, ballet dancing, gymnastics)
Medication/substances associated with weight loss
Alcohol
Cocaine
Amphetamines
Drug withdrawal syndromes (withdrawal after chronic high-dose psychotropic medications or cannabis)
Tobacco
Adverse effects of prescription drugs (eg, antiseizure medications, diabetes medications, thyroid medication)*
Herbal and other nonprescription drugs (5-hydroxytryptophan, aloe, caffeine, cascara, chitosan, chromium, dandelion, ephedra, garcinia, glucomannan, guarana, guar gum, herbal diuretics, nicotine, pyruvate, St. John's wort)

HIV: human immunodeficiency virus.

* Refer to the UpToDate topic on the approach to the patient with unintentional weight loss.

ETILOGY OF WEIGHT LOSS IN UWL



ETILOGY OF WEIGHT LOSS

*MALIGNANT 19-36%

*Unknown 6-28%

*Psychiatric 9-25%

*Non Malignant GI 9-19%

*Endocrine 4-11%

*Cardiopulmonary 9-10%

*ETOH 8%

*ID 4-8%

*Neuro 7%

*Rheumatologic 7%

*Renal 4%

*Inflammatory Disorders 4%

ETIOLOGIES CONTINUED W/ SOME THOUGHTS

Malignancy

- S/S of Cancer- pain, cough, hemoptysis, calcium etc..
- Provocative history : age, tob, male
- Anorexia / Weight loss up to 40% of CA patients at diagnosis
- Lung, GI

Non Malignant GI

- PUD, Celiac (absorption), IBD etc.
- Early satiety, dysphagia, diarrhea, constipation, fistula, arthritis, rash

ETIOLOGIES CONT.

Psychiatric

- Depression
- Eating disorders
- Psychosis
- Dementia
- BAD/Mania

Endocrinopathies

- Hyperthyroid- hyper defecation, heat intolerance agitated
- DM- hyperglycemia/polyuria
- Adrenal Insufficiency- fatigue, syncope, mostly relates to dehydration
- Pheochromocytoma- paroxysm bp/symptom
- Hypercalcemia

ETIOLOGIES CONT.

ID

- HIV – hx
- TB – travel exposure
- HEP C – nausea weight loss
- PARASITES –HELMINTHS - travel

Chronic diseases

- HF – 50% of class iii/iv hf lose muscle mass
- COPD
- ILD
- RENAL diseases
- Liver diseases
- NOTE that renal , liver and HF may be masked with fluid retention – we are all fixated on the dry weight!

ETIOLOGIES CONT.

NEURO

- ALS
- PARKINSONS
- DEMENTIA
- STROKE

MISC- RHEUM, SOCIAL ATHELETES

- Systemic Inflammatory disease/arthritis's
- Athletes – personal example
- Material resources

MEDICATIONS/Substance use disorders

- ETOH
- COCAINE
- AMPHETAMINES
- MARIJUANA- anorexia
- TOBACCO
- ANOREXIA
  - Antibiotics, dig, antipsychotics...
- DRY MOUTH
  - Anticholinergics,clonidine,loops, antihistamines
- N/V
  - Antibiotics, dig, bisphosphonates
- ALTERED TASTE SMELL
  - Allopurinol, ace, ccb, levodopa, bb, Aldactone

APPROACH TO UWL

History

- Document weight loss – patient lie
- Time Course
  - Pattern – yo-yo
  - progressive
- Changes in activity, calories
- r/o intentional weight loss and eating disorders
- Malnutrition screening

Historical Factors

- PMHX
- Meds
- Sub Use Disorders
- Functional – teeth
- Cognitive function
- Social pressures- food insecurity

APPROACH TO UWL

ROS

- Should be as routine, but in this patient as detailed as possible
- PSYCH PHQ2or9
- Sexual History
- Travel
- Exposures

ROS to look out for

- Fever, fatigue, Weight loss
- Night sweats
- Cough hemoptysis
- Blood in stools
- Lumps or bumps
- SOB
- Edema, girth
- Cachexia
- Malabsorption
- Diarrhea

EXAMINATION

Examination

Vitals

Affect

HEENT – lymph nodes, thyroid, OP, do the dentures fit

Cardiac – rubs, tachycardia, HF

Resp – effusions, change in breath sounds

Abdomen – palpable masses, organs? Small liver, ascites

Neuro: tremors, s/s CVA ALS Parkinson's

Lymph nodes:

Rectal

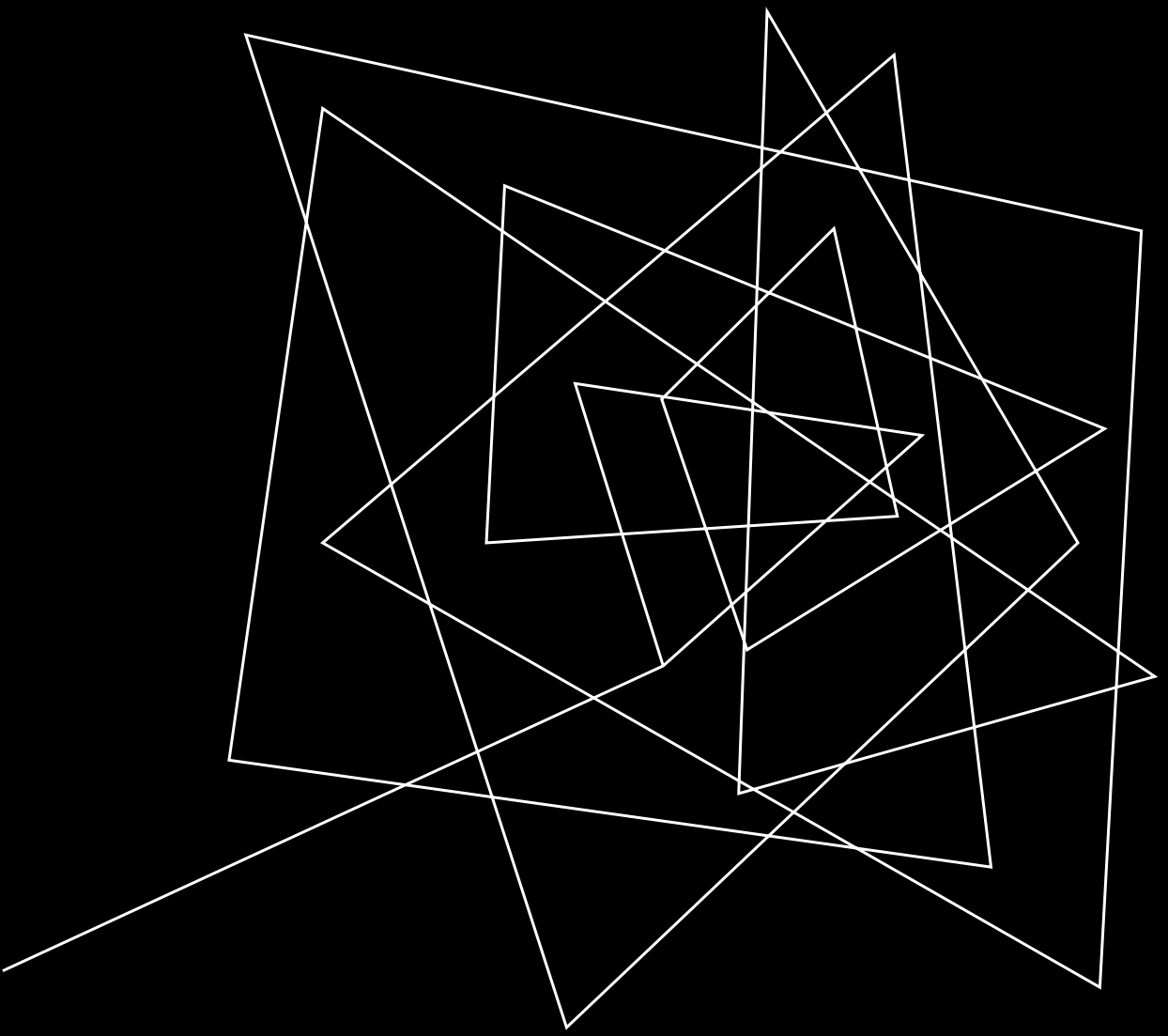
Prostate, testicular, Gyn, Breast skin survey

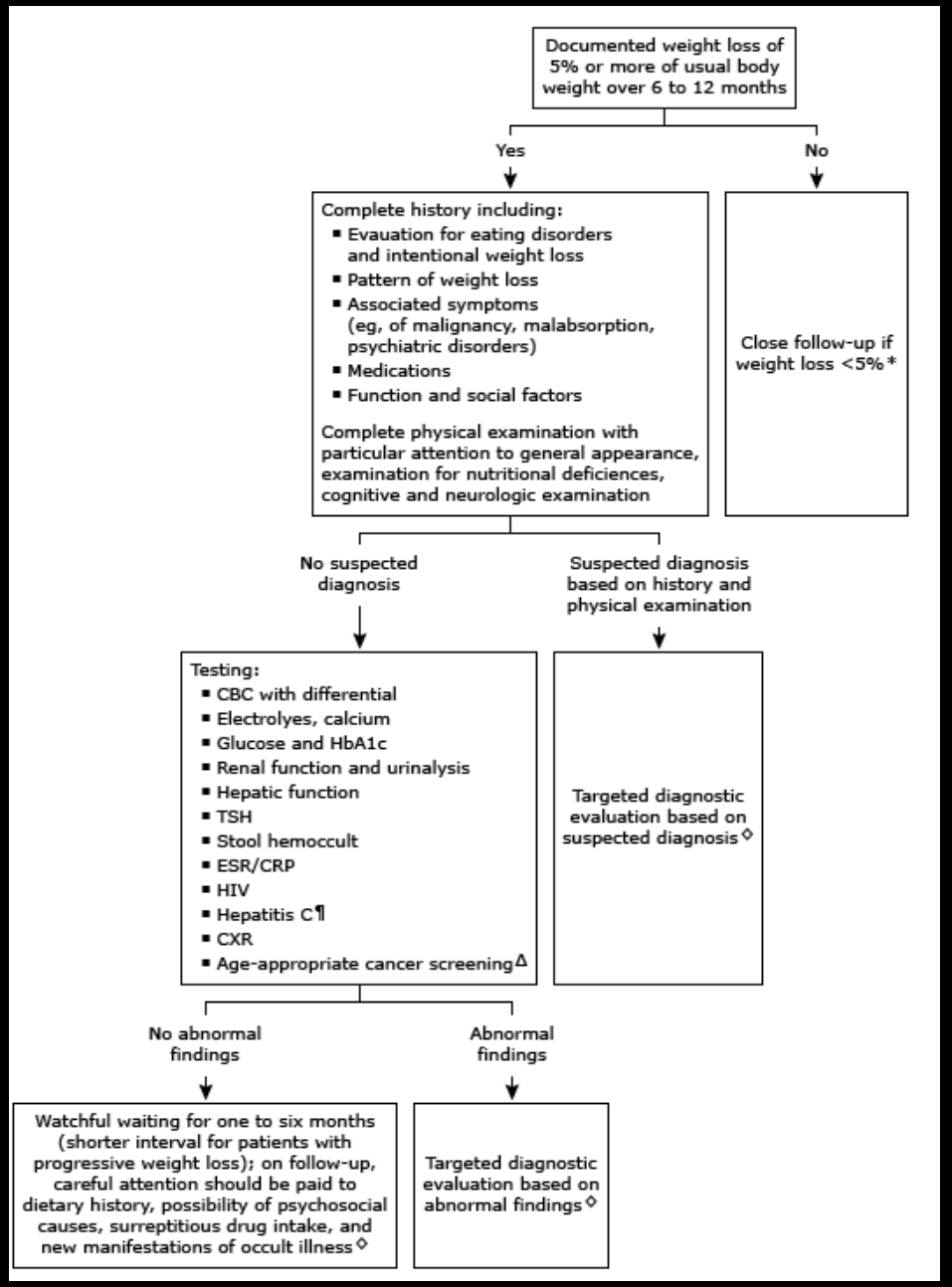
UWL WORK UP

TESTS

- CBC – anemia, MPS, MDS, Infection
- Electrolyte Renal indices Ca Mag
- Glucose A1C
- Hepatic function
- TSH

- Hemoccult
- ESR CRP –older adults
- LDH – heme malignancy
- HIV
- HEP C
- CXR
- AGE APPROPRIATE CA SCREENS ONLY
  - CT LUNG
  - SCOPES
  - PSA
  - PAP
  - MAMMOGRAM




Documented weight loss of 5% or more of usual body weight over 6 to 12 months
Yes
No
Complete history including:
Evauation for eating disorders and intentional weight loss
Pattern of weight loss
Associated symptoms (eg, of malignancy, malabsorption, psychiatric disorders)
Medications
Function and social factors
Complete physical examination with particular attention to general appearance, examination for nutritional deficiences, cognitive and neurologic examination
Close follow-up if weight loss <5%*
No suspected diagnosis
Suspected diagnosis based on history and physical examination
Testing:
CBC with differential
Electrolyes, calcium
Glucose and HbA1c
Renal function and urinalysis
Hepatic function
TSH
Stool hemoccult
ESR/CRP
HIV
Hepatitis C¶
CXR
Age-appropriate cancer screening△
Targeted diagnostic evaluation based on suspected diagnosis◇
No abnormal findings
Abnormal findings
Watchful waiting for one to six months (shorter interval for patients with progressive weight loss); on follow-up, careful attention should be paid to dietary history, possibility of psychosocial causes, surreptitious drug intake, and new manifestations of occult illness◇
Targeted diagnostic evaluation based on abnormal findings◇

CASE 2 THE CASE THAT KEEPS COMING BACK

- 72 year old male , born in Poland, service USARMY WW2 D-Day through West Germany. Presents with weight loss 260# now 220# at a 7 month interval
- Pmhx: HTN
- Meds: CCB ASA
- No tob No Etoh Married Monogamous, No substance Use, retired
- ROS unremarkable, no change in exercise habits denies dietary changes, dentures no longer fit well working with dental at Hines (miracle)
- Exam Vitals mildly tachycardic, otherwise unremarkable, cachexia with severe fat loss, minimal edema
- Basic Labs unremarkable aside from BUN of 4
- EKG CXR, advanced labs LFT CRP, ESR, A1C HIV, Hep C, TSH all normal

CASE 2 THE CASE THAT KEEPS COMING BACK

- Further questioned about nutrition given ill fitting dentures –why? Mild edema, cachexia and BUN that is very low
- Admits son is Substance use disorder, forcing them to pay under threat of violence
- Only has enough money for 1 can of soup shared with wife daily and some saltines
- Very stoic eastern European man – very embarrassed
- Refit dentures, VA assistance for living, EA, Meals on Wheels weight restored

- Example of decreased intake so my category A

CASE 2 THE CASE THAT KEEPS COMING BACK

- 75 year old male , born in Poland, service USARMY WW2 D-Day through West Germany. Presents with weight loss 240# now 190# at a 8 month interval
- Pmhx: HTN , dentures, Lipids
- Meds: CCB ASA Statin
- No tob No Etoh Married Monogamous, No substance Use, retired
- ROS: shortness of breath with activity, no chest pain but feels palpitations frequently, feels near syncope, PND, lower extremity edema, abdominal distention (I am “fatter” but weigh less), always exhausted, reliably states is eating, unable to exercise
- Exam Vitals tachycardic 140-150, non palpable lad, thyroid, distended neck veins, b/l dullness at bases, crackles, tachy IRIR, palpable liver edge, abdominal distention, moderate leg and scrotal edema, pitting edema in lower back cachexia with severe fat loss
- Basic Labs remarkable for elevations in creatinine 1->1.9, hyponatremia
- EKG AF w RVR CXR effusions, cardiomegaly, advanced labs LFT mild transaminitis, bnp 1000 CRP, ESR, HIV, Hep C, TSH A1c all normal
- Echo: EF 35% LAE nl RA, RV RVSP

CASE 2 THE CASE THAT KEEPS COMING BACK

- AF with RVR and associated tachy induced cardiomyopathy (after extensive work up)
- CV, GDMT, Ultimately ablation and pm placement
- HF resolved, weight restored to about 200
- Example of increased metabolism so my category C

CASE 2 THE CASE THAT KEEPS COMING BACK

- 80 year old male , born in Poland, service USARMY WW2 D-Day through West Germany. Presents with weight loss 210# now 165# at a 8 month interval
- Pmhx: HTN , AF s/p ablation, PM placement Tachy related HF now resolved no longer on GDMT, dentures, Lipids
- Meds: BB ACE LASIX ASA Statin
- No tob No Etoh Married Monogamous, No substance Use, retired
- ROS: shortness of breath with activity, no chest pain, night sweats, involuntary weight loss, moderate dysphagia to solids, pale, exhausted mild light headedness, constipation, weakness, fatigue, no falls.
- Exam Vitals unremarkable, non palpable thyroid, mild distended neck veins, dullness at right bases, no crackles, regular, bulky palpable nodes in abdomen, abdominal distention, moderate leg swelling cachexia with severe fat loss
- Basic Labs remarkable for elevations in creatinine 2.5, BUN 13, hgb 7 plt 90
- EKG paced, CXR right effusion advanced labs LFT moderate transaminitis, bnp 100 CRP 12, ESR 90, HIV, Hep C, TSH A1C all normal
- Echo: EF 50%

CASE 2 THE CASE THAT KEEPS COMING BACK

- CT with large hyperechoic mass right kidney, extension into the R Renal Artery, multiple mesenteric, abdominal ln, liver mets, innumerable lung mets effusion, boney mets/marrow invasion
- RCC
- Hospice care

CASE 3

- 55 year old male presents with weight loss 275 now 240 over past 6 months
- Pmhx: HTN , obesity, prediabetes
- Meds: HCTZ
- +tob No Etoh, multiple partners, No substance Use, retired post man, 8 years USMC
- ROS: agitated, feels unsettled, prostate issues (urinating all night), hungry all the time, occasionally nauseated, feels intermittently confused over the last 5-6 days, excessive thirst
- Exam Vitals tachycardic 110, non palpable lad, thyroid, flat neck veins, CTAB tachy, palpable liver edge, minimal abdominal distention, no edema, affect slowed
- Basic Labs remarkable for elevations in creatinine 1->2, bicarb 17 gluc 490, GAP 17 potassium 5.5 CBC normal
- EKG tachy CXR normal labs LFT mild transaminitis, A1c 15
- CRP, ESR, HIV, Hep C, TSH all normal

- New onset DM with polyuria , polydipsia now presenting with DKA

TREATMENTS

- Focus on Cause treatment as opposed to weight loss treatment if cause is known

- If no cause focus on follow up – 3% may be undiagnosed at over 1 year
- If no cause investigate social psychological factors
- Stimulants?
  - Mirtazapine
    - Consider concurrent depression/weight loss
  - Dronabinol
    - + AIDS
    - CNS s/e
  - Megace- bad for chf, fluids, dvt adrenal function

- Caloric Supplements
  - Not noted to have sig gains 2.2% improvement in weights, small improvement in mortality
  - Geriatric society avoid not improved QOL
- Feeding Tube –Have a good reason to even have the conversation
- Increase food intake
  - Dietician
  - Dietary restrictions
  - Environmental social support
  - Mechanical issues
  - Smaller meals more frequent
  - Decrease pill burden

FATIGUE DEFINITIONS

Fatigue

- Subjective lack of physical mental energy
  - Inability to initiate activity
  - Reduced ability to maintain activity (fatiguability)
  - Poor Concentration (mental fatigue
  - Can be
    - ACUTE <1 MO
    - SUBACUTE 1-6 MO
    - CHRONIC >6 MO

Daytime Somnolence

- Uncontrolled need to sleep
- Sleep occurs unintentionally

SHOULD WE CARE?

Short answer- yes

- Poor qol
- Very common
- Potentially high cost
- 7, 000, 000 visits per year!
  - 1/3 of all primary care patients have this as an important problem
- Missed work

ACUTE FATIGUE

- <1 month in duration
- Nearly ALWAYS attributable to a medical condition
  - ETOH
  - Thyroid
  - Influenza
  - Medications
  - Pyscho-social stressor

SUB ACUTE AND CHRONIC FATIGUE

- Cardiopulmonary:
  - COPD
    - Cough, dyspnea, hyperinflation, CXR PFT
  - HF
    - DPE Edema, S3, JVD, CXR echo
  - OSA
    - Snoring, somnolence, obese, htn sleep study
- Hematologic
  - ANEMIA
    - Dizzy/weak/tachy/pallor cbc
  - MALIGNANCY
    - Variable
- Endocrine/metabolic
  - Hypothyroid
  - Hyperthyroid
  - Adrenal Insufficiency
    - Weight loss, salt craving
  - DM
    - Confusion, poly u/d
  - Hyponatremia
    - Malaise cognition
  - Hypercalcemia
    - Polyuria dipsia
  - Hepatic
    - Distention/jaundice
  - Renal
    - n/v/edema/htn

SUB ACUTE AND CHRONIC FATIGUE

- ID
  - Mono
  - Viral hep
  - HIV
  - TB
  - SAB
- Rheum
  - PMR
  - Fibromyalgia
- Psychological
  - Depression
  - Anxiety
  - Somatization disorder
- Meds
- Substance Use disorder

APPROACH TO FATIGUE

- Onset duration
- Time course (wax wane trigger)
- QOL
- Sleep history / hygiene
- PHQ2/9
- GAD7
- Chronic pain
- MH
- STOP BANG

Sleep Hygiene questions

- What time to bed
- What time to sleep
- How long
- TV?
- Pain
- Potty breaks
- Rested
- Naps later
- Drugs etoh
- Exercise when

STOP-BANG Sleep Apnea Questionnaire

Chung F et al Anesthesiology 2008 and BJA 2012

STOP		
Do you **SNORE** loudly (louder than talking or loud enough to be heard through closed doors)?	Yes	No
Do you often feel **TIRED**, fatigued, or sleepy during daytime?	Yes	No
Has anyone **OBSERVED** you stop breathing during your sleep?	Yes	No
Do you have or are you being treated for high blood **PRESSURE**?	Yes	No

BANG		
BMI more than 35kg/m2?	Yes	No
AGE over 50 years old?	Yes	No
NECK circumference > 16 inches (40cm)?	Yes	No
GENDER: Male?	Yes	No

TOTAL SCORE		

High risk of OSA: Yes 5 - 8

Intermediate risk of OSA: Yes 3 - 4

Low risk of OSA: Yes 0 - 2

EXAMINATION SHOULD DRIVE ANY TESTING

- General
- Thyroid
- Lad hepatosplenomegaly
- Liver assessment
- Cardiopulmonary
- Neuromuscular

FATIGUE TESTING

- CBC
- CMP
- TSH
- Pregnancy
- Age appropriate CA
- Sleep Study if + S/B

- CK- muscle weakness pain
- ESR CRP- need a reason
- HIV HEP C- age related testing

What about the fancy tests??

- Etiology only apparent 5% of time on testing
- Like weight loss history should guide advanced testing
- b vitamins, echo, ct, EBV CMV Lyme ANA TIGA

2015 IOM diagnostic criteria for ME/CFS

Diagnosis requires that the patient have the following three symptoms*:
1. A substantial reduction or impairment in the ability to engage in pre-illness levels of occupational, educational, social, or personal activities that persists for more than six months and is accompanied by fatigue, which is often profound, is of new or definite onset (not lifelong), is not the result of ongoing excessive exertion, and is not substantially alleviated by rest. 2. Post-exertional malaise - Worsening of a patient's symptoms and function after exposure to physical or cognitive stressors that were normally tolerated before disease onset. 3. Unrefreshing sleep.
At least one of the two following manifestations is also required*:
1. Cognitive impairment - Problems with thinking or executive function exacerbated by exertion, effort, or stress or time pressure. 2. Orthostatic intolerance - Worsening of symptoms upon assuming and maintaining upright posture. Symptoms are improved, although not necessarily abolished, by lying back down or elevating the feet.

ME/CFS: myalgic encephalomyelitis/chronic fatigue syndrome.

* Frequency and severity of symptoms should be assessed. The diagnosis of ME/CFS should be questioned if patients do not have these symptoms at least half of the time with moderate, substantial, or severe intensity.

From: Institute of Medicine of the National Academies. Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an illness. Report Brief, February 2015. Reprinted with permission from the National Academies Press,

TREATMENT OF CHRONIC FATIGUE

- Disease specific treatment
  - Thyroid hormone replacement
  - Iron
  - OSA
  - SSRI, Therapy
  - Sleep hygiene
  - HF
- If no cause
  - Goals
  - Sleep
  - Exercise
  - CBT
  - Consider ssri

CASE 4

- 55 year old female presents with weight gain fatigue and mild leg swelling for a year
- Pmhx: HTN
- Meds: HCTZ
- +tob No Etoh, multiple partners, No substance Use, lawyer
- ROS: agitated, feels unsettled, laboured, constipated, coarse hair leg swelling
- Exam normal examination aside from tense LE edema pretibial only
- Basic Labs remarkable , TSH 70
- New onset Hypothyroidism likely Hashimoto's, A-tpo markedly elevated presenting with myxedema

CASE 3

- 36 year old male with weight loss, depression , hypersomnia, poor appetite, anhedonia. Fleeting thoughts of suicide. Worse over the last 6 months. “Everything is lost”
- Pmhx: no medical history
- Meds: no meds
- +tob + Etoh, multiple partners, No substance Use, recently lost job
- ROS: as above
- Exam unremarkable
- Basic Labs unremarkable tsh normal
- PHQ positive
- Referred to MH for CBT and medications