

EATING DISORDERS

Fashion Models

August 2006:

22 year old

Luisel Ramos-

Uruguay

Died: heart

failure after

fashion show



Result of: **Anorexia Nervosa**

"self-imposed starvation"

Her diet: lettuce leaves + diet coke

5' 9"

Weight 98 pounds

BMI 14.5

October 2006

21 year old

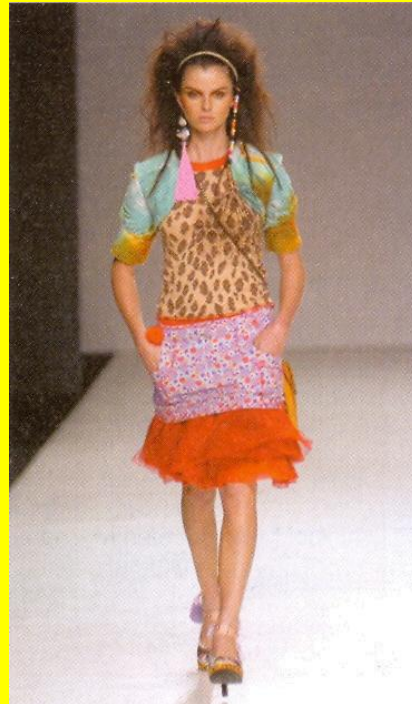
Ana Carolina Reston

Brazilian model

Died:

Anorexia

Nervosa



February 2007

Eliana Ramos

18 year old

sister of Luisel

Model:

died of

heart attack

Related to:

“malnutrition”



Body image: way you perceive of your body

Continuum

Food
is not
an issue

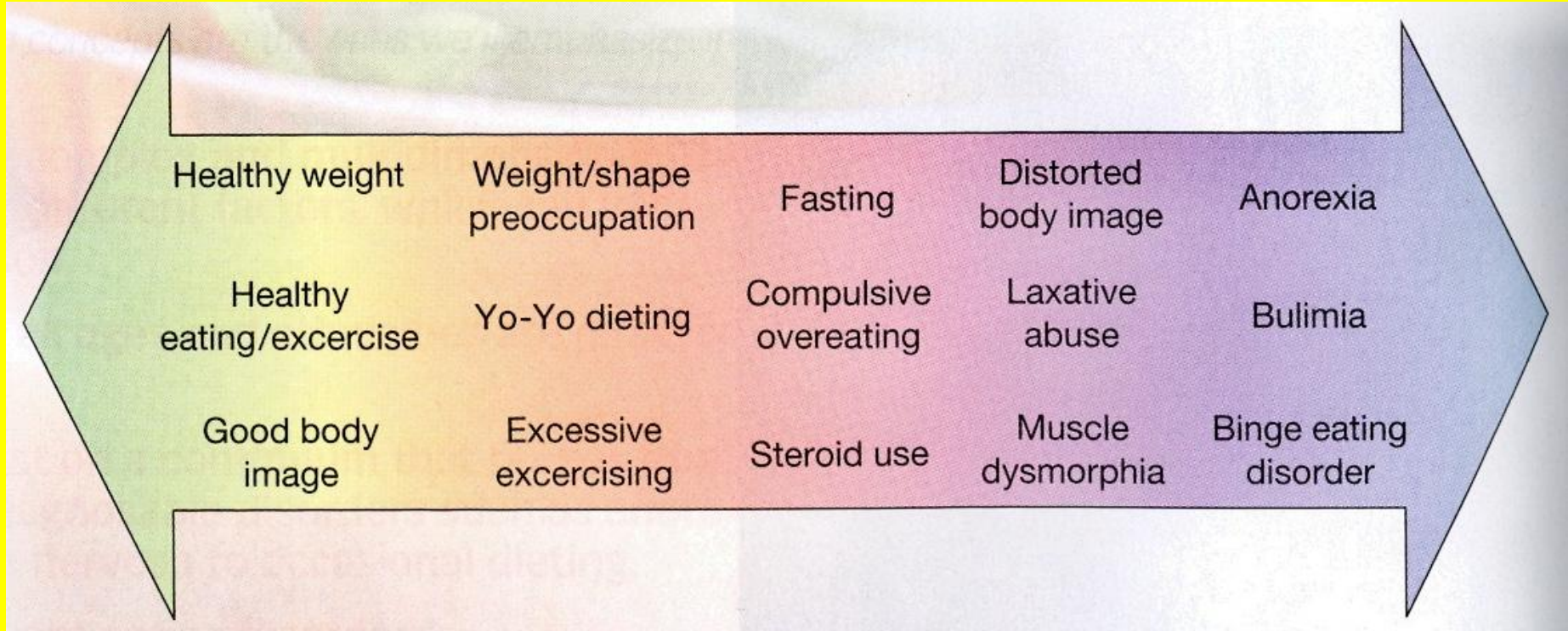


Eating
Disordered

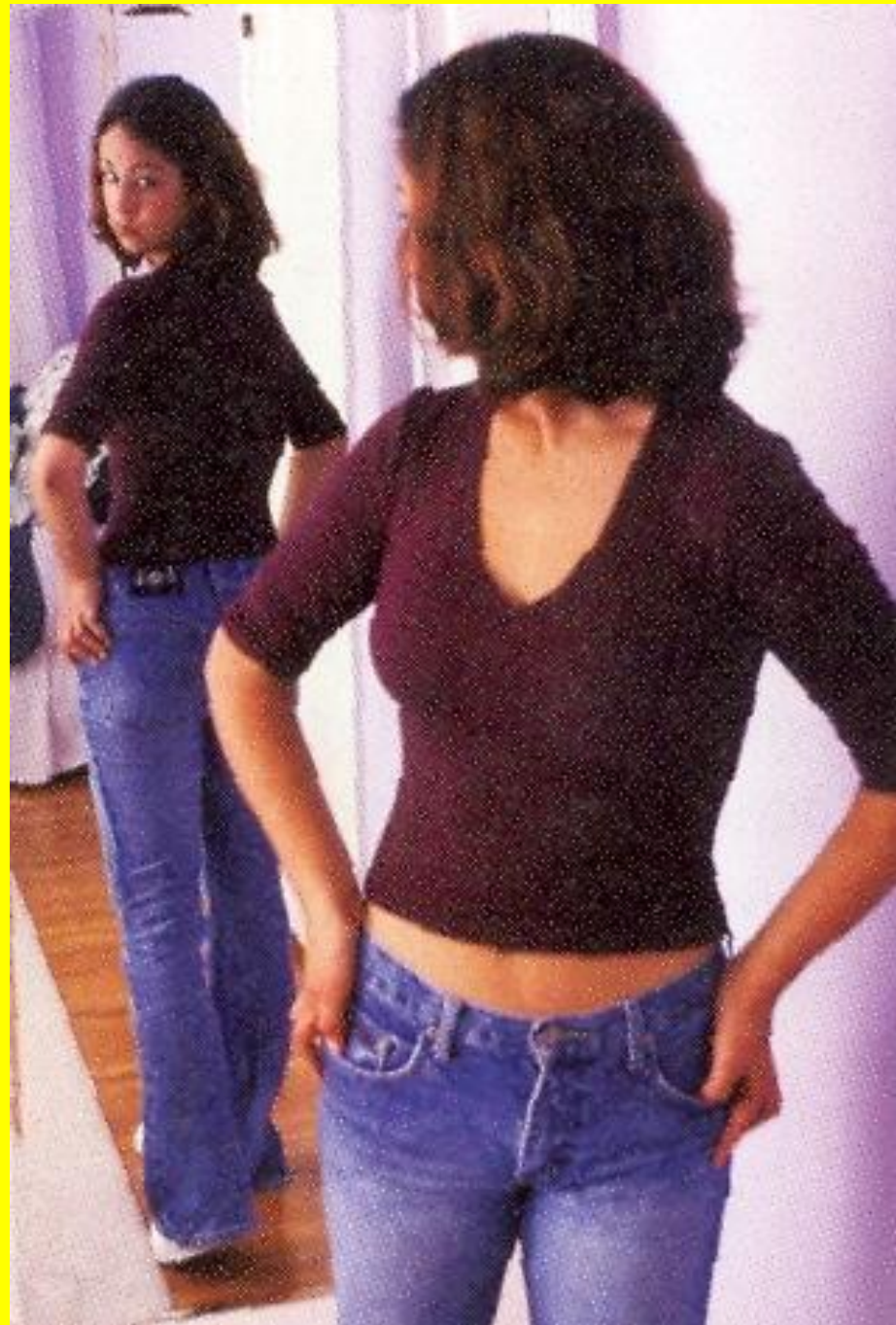
Body
Ownership



Body Hate/
Dissociation



Body Image:
Your
perception

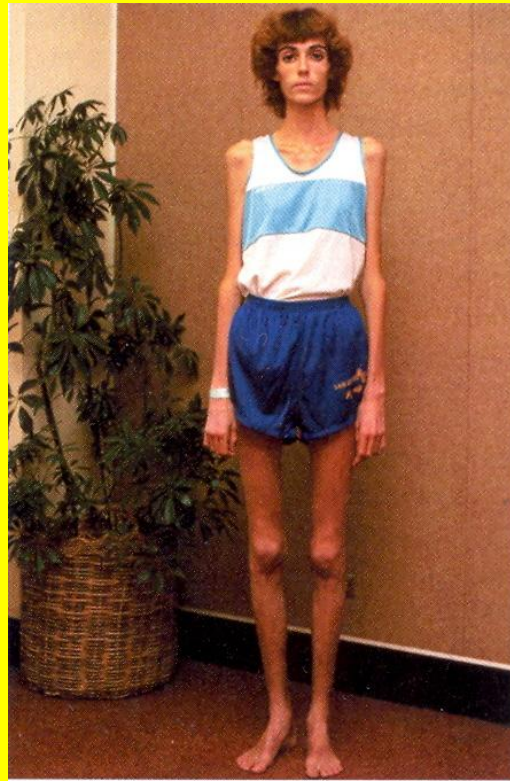


Eating Disorders

- Psychiatric disorder
- Severe disturbances: **body image & eating behavior**
- Impairs: **psychosocial health & physical health**
- 2 common types: **1) anorexia nervosa & 2) bulimia nervosa**

Anorexia Nervosa

- Self- starvation
- Severe nutrient deficiencies
- May result in **death**



Bulimia Nervosa

- Extreme overeating
- Followed by compensation to prevent weight gain:

Self-induced vomiting, misuse of laxatives, fasting, excessive exercise



What causes eating disorders?

Many possible factors:

interactions

- **Psychological**
- **Interpersonal**
- **Social**
- **Genetic/biological**

GENETIC

- Inherited personality traits
- Genes that affect hunger, satiety, and body weight

PSYCHOLOGICAL

- Low self esteem
- Need for self control
- Unhealthy body image

SOCIOCULTURAL

- Thin body ideal
- Influences from media, family, and friends
- Abundant food supply

Family Environment & Eating Disorders



Family Environment

In general:

- Family “conditioning” influences eating behavior
- Childhood eating influenced by parents/guardians
- Eating together as a family vs. eating alone: making your own meals
- Choice/type of foods

Family Environment & Eating Disorders

- One child with eating disorder:
 - ↑ chances- **sibling** eating disorder
- Child with anorexia-
family may be:
 - A) More **rigid**- structured
 - B) Less open to **discussion**-
disagreeable topics



Family Environment & Eating Disorders

Child with bulimia

Family:

- A) Less stable structure
- B) Less nurturing
- C) More angry interactions

Physical/Sexual abuse: ↑ risk of eating disorders

Sociocultural Factors

- American/European cultures- emphasis on **slenderness & self-discipline**
- Associated with **health, wealth, beauty**
- Eating disorders- more common- **white females** in these cultures
- Other developing countries: **excess** body fat = desirable

Sociocultural Factors

- **Comments** by family, friends, teachers → affect way we look at ourselves
- **Peer teasing/pressure** about weight
 - ↑ **Body dissatisfaction**
 - ↑ **Eating disorders**



Christy Henrich

- **Gymnast**- failed to Make 1988 Olympic Team
- 4'11" **98** pounds
- US judge says she was "**too fat**"
- ↑ Dieting/obsessive exercise
- New weight **47** pounds
- Died- anorexia 1994



Former gymnast Christy Henrich and her fiancé, a year before she died.

Unrealistic "Media" Body Image

- Media ads "computer enhanced"
- **Lean, beautiful women**
- ↑ Eating disorders: white women
- **Adult men & women-** understand images- unrealistic

Unrealistic "Media" Body Image

- **Adolescents:**

developing

identity/

body image

- Unfavorable

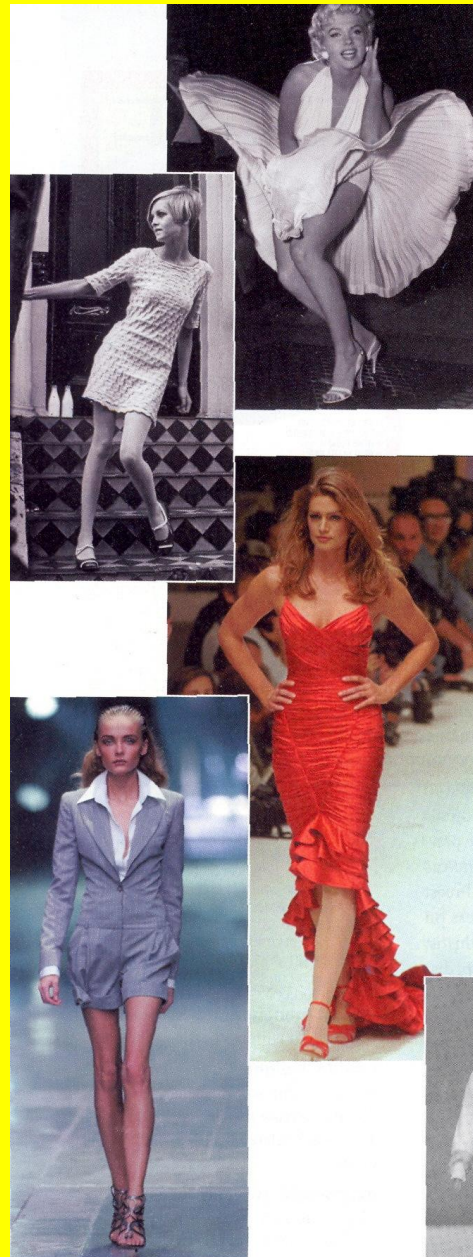
comparison: their body

with **"perfect"** female body

- Body image → influence → eating behavior



Body Image: changes over the years



Over the years, the idealized model look has gone from curvy to stick thin to sporty and back to waiflike again. Today, superslender women are the norm in magazines and movies.

The m

Lillian Russel



Actress Lillian Russell is considered a beauty at about 200 pounds



Marilyn Monroe

The thinner flapper look becomes popular



The curvy figure of Marilyn Monroe becomes the beauty standard



Twiggy



Twiggy, who weighs less than 100 pounds, is the leading model



Jane Fonda's workout book is a best seller



The fashion ideal today is thin but well muscled

Today

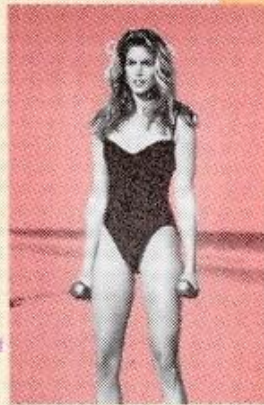


FIGURE F2.3 Thinness has not always been the beauty standard in America. This timeline shows how the female body ideal has changed over the years. (top three photos, Bettmann/Corbis Images; bottom photo, ©Corbis Sygma)

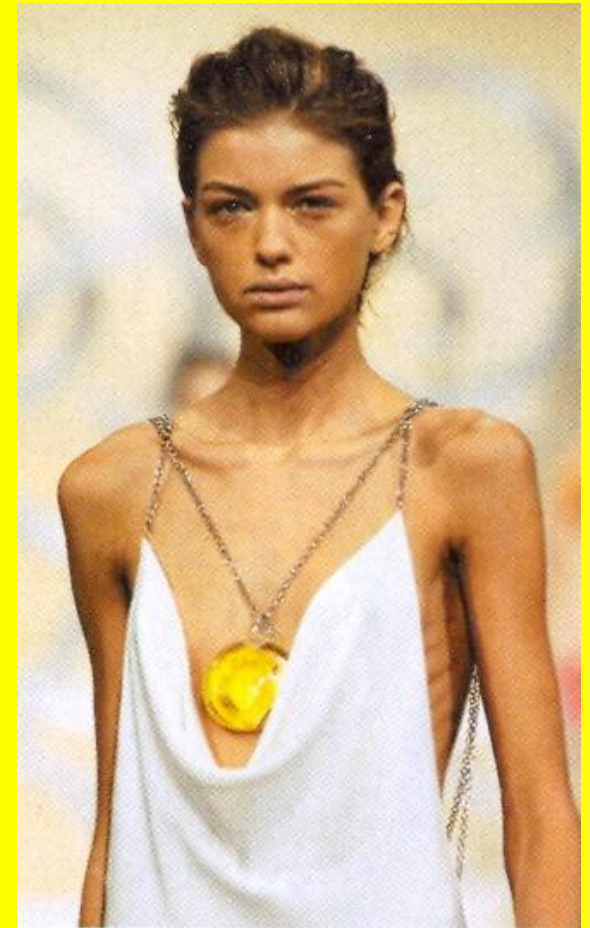
Unrealistic "Media" Body Image



Personality Traits

Anorexia- Relationships

- ↑ **Obsessive-compulsive disorder**
(compulsion- repeat certain behavior)
- May be **inherited**
- Families: one child with anorexia:
- Another child with **OCD**
- **Perfectionism**
- Socially inhibited
- ↑ **Emotional restraint**



Personality Traits

Bulimia- Relationships

- Impulsive behavior
- Low self-esteem
- Erratic personality
- Self-criticism, negative moods
overeating 
- Substance abuse
- Anxiety disorders

Personality Traits

Eating disorders: person uses
“**food**” to gain **control** over
his/her life and increase **self-
esteem**

Genetic & Biological Factors

Anorexia & Bulimia


- More common among **biological** relatives with these disorders
- **Twin studies: bulimia**

50% genetic

50% environment

influences

Genetic & Biological Factors

- Twin studies: **anorexia**
- 50-75% chance one twin  2d twin
- Even if raised: different families
- **Multiple genes**: may influence eating disorders
- Other biological factors:
imbalances- chemicals regulating:
hunger/appetite/digestion

Anorexia Nervosa

American Psychiatric Association

- Affects **0.5-1%** US females
- Anorexia: 90-95% **young girls/women**
- Most common **psychiatric disorder in women**
- Leading cause **deaths** females: 15-24 years old
- Lower prevalence- **males**

Anorexia Nervosa: characteristics

- Restricted eating (few calories/day): **“self-starvation”**
- **Fear** of weight gain/becoming fat
- **Anxiety, stress**: 1-2 pound gain
- **“Disturbed perception”**: own body weight/shape

Anorexia Nervosa: Behavioral signs

- Person avoids eating situations
- **Weighs** self often
- **Monitors** food intake rigidly
- **Unhappy**: body size
- **Denial**- being hungry



Physical Signs

- ↓ Body weight (< 85% normal)
- ↓ Energy, fatigue
- Unsteady walk
- Complaints: being cold
- Growth of fine/soft hair on face/arms: body's attempt-temperature regulation
- Thin hair/hair loss
- **Excessive exercise**



Dear Diary,

For breakfast today I had a cup of tea. For lunch I ate some lettuce and a slice of tomato, but no dressing. I cooked dinner for my family. I love to cook, but it is hard not to taste. I tried a new chicken recipe and served it with rice and asparagus. I even made a chocolate cake for dessert but I didn't even lick the bowl from the frosting. When it came time to eat, I only took a little. I told my mom I nibbled while cooking. I pushed the food around on my plate so no one would notice that I only ate a few bites. I was good today - I kept my food intake under control. The scale says I have lost 20 pounds but I still look fat.

Anorexia: Health Risks

Skin/hair/nails:

- Hair becomes thin, dry, and brittle; hair loss occurs
- Skin is dry, easily bruised, and discolored
- Nails turn brittle

Blood and immune system:

- Anemia
- Compromised immune system increases risk of infection

Kidneys:

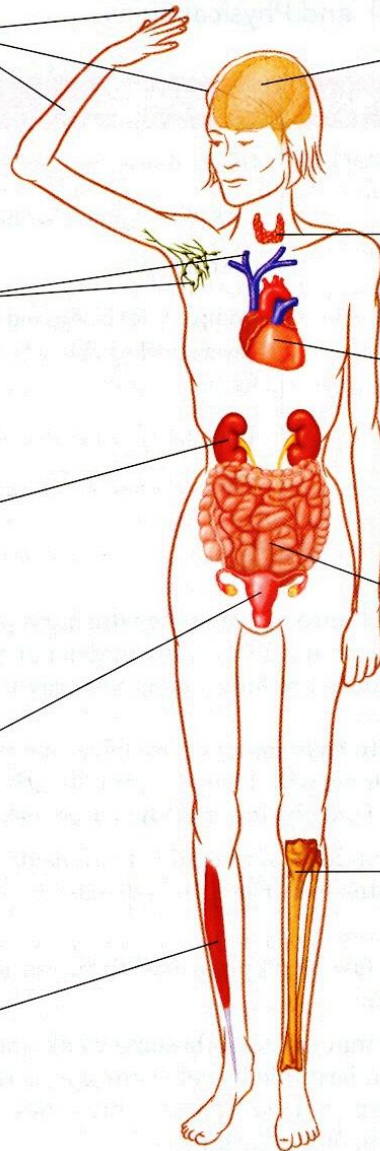
- Dehydration
- Electrolyte abnormalities that can be life-threatening
- Chronic renal failure

Reproductive function:

- Disruption of sex hormone production, resulting in menstrual dysfunction and amenorrhea in females
- Infertility

Muscle:

- Loss of muscle tissue as the body uses the muscles as an energy source



Brain:

- Altered levels of serotonin and other neurotransmitters
- Alteration in glucose metabolism
- Mood changes

Thyroid gland:

- Abnormal thyroid levels due to starvation

Heart:

- Low blood pressure and abnormal heart rate contribute to dizziness and fainting
- Abnormal electrocardiogram (ECG)
- Sudden death due to ventricular arrhythmias

Gastrointestinal system:

- Abdominal pain and bloating caused by slowed gastric emptying and intestinal motility
- Acute pancreatitis
- Constipation

Bone:

- Decreased bone mineral density (osteopenia)
- Decreased ability to absorb calcium due to low estrogen levels
- Decreased intake of bone-building nutrients due to starvation
- Increased loss of bone due to elevated cortisol levels

Anorexia: Health Risks

- Body uses **fat & lean** tissue for energy → maintain vital functions
- Shut down **non-vital** functions (conserve energy)
- In children/adolescents: **growth slows/stops**

Anorexia: Health Risks

- 1) Skin, hair, nails: dry, fragile, thin, brittle
- 2) Blood/immune system: anemia, ↑ risk infections
- 3) Kidneys: dehydration, electrolyte imbalances: **arrhythmias** → **death**
- 4) Renal failure

5) Reproductive system

↓ Reproductive hormones

Amenorrhea (no menstrual periods)

Infertility

6) **Muscles:** ↓ muscle tissue
(catabolized for energy)

7) **Brain:** changes in neurotransmitters, **mood**

- 8) **Heart**: abnormal heart rate,
↓ blood pressure
dizziness/fainting, arrhythmias
- 9) **GI system**: pain, bloating,
constipation, irritable bowel
syndrome
- 10) **Bones**: ↓ **Bone density**

“Dying to be Thin” Globe 3/31/08

- Higher rates eating disorders:
Type 1 diabetics
- 1/3 women with Type 1 diabetes may skip/skimp on insulin to lose weight
- ↑ Kidney, eye, nerve, foot damage
- ↓ Insulin ↑ blood glucose, ↑ urine glucose (loss calories), ↓ weight

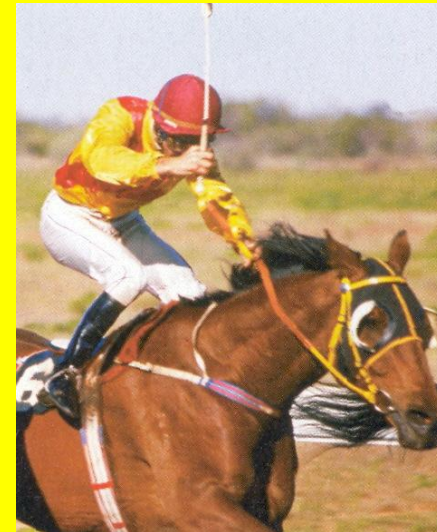
Jacqueline Jean Walsh

- Felt uncomfortable with weight gain:
86 → 98 pounds
- **Insulin** under dosing:
started- high school
Westford
- Began **wasting** away
- Loss clumps of hair
- Died 2004: age **27**
- Mom found **diaries**



Bulimia: bingeing & purging

- Affects: **1-4%** of women
- Predominantly women
- Sometimes- **men** in sports that encourage low body weight:
 - horse racing, wrestling, crew, gymnastics
- **1/2** people-
anorexia: also
diagnosed with **bulimia**



Bulimia: symptoms

- Low-self esteem/depression
- Withdrawal: family & friends
- Overly concerned: body shape and weight
- Binging: 2X or more/week
- Large amount-food/short time:
12 brownies
+ 2 quarts
ice cream: 30 minutes



A typical binge consists of easy-to-eat, low-fiber, smooth-textured, high-calorie foods.



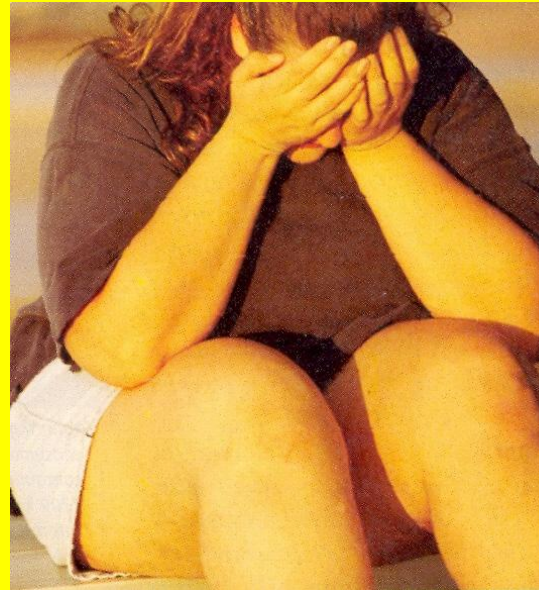
Dear Diary,

Today started well. I stuck to my diet through breakfast, lunch, and dinner, but by 8 PM I was feeling depressed and bored. I thought food would make me feel better. Before I knew it I was at the convenience store buying two pints of ice cream, a large bag of chips, a one pound package of cookies, half dozen candy bars, and a quart of milk. I told the clerk I was having a party. But it was a party of one. Alone in my dorm room I started by eating the chips, then polished off the cookies and the candy bars, washing them down with milk and finishing with the ice cream. Luckily no one was around so I was able to vomit without anyone hearing. I feel weak and guilty but also relieved that I got rid of all those calories. Tomorrow, I will start a new diet.

Bulimia: symptoms

• **Guilt feelings** → **purging**

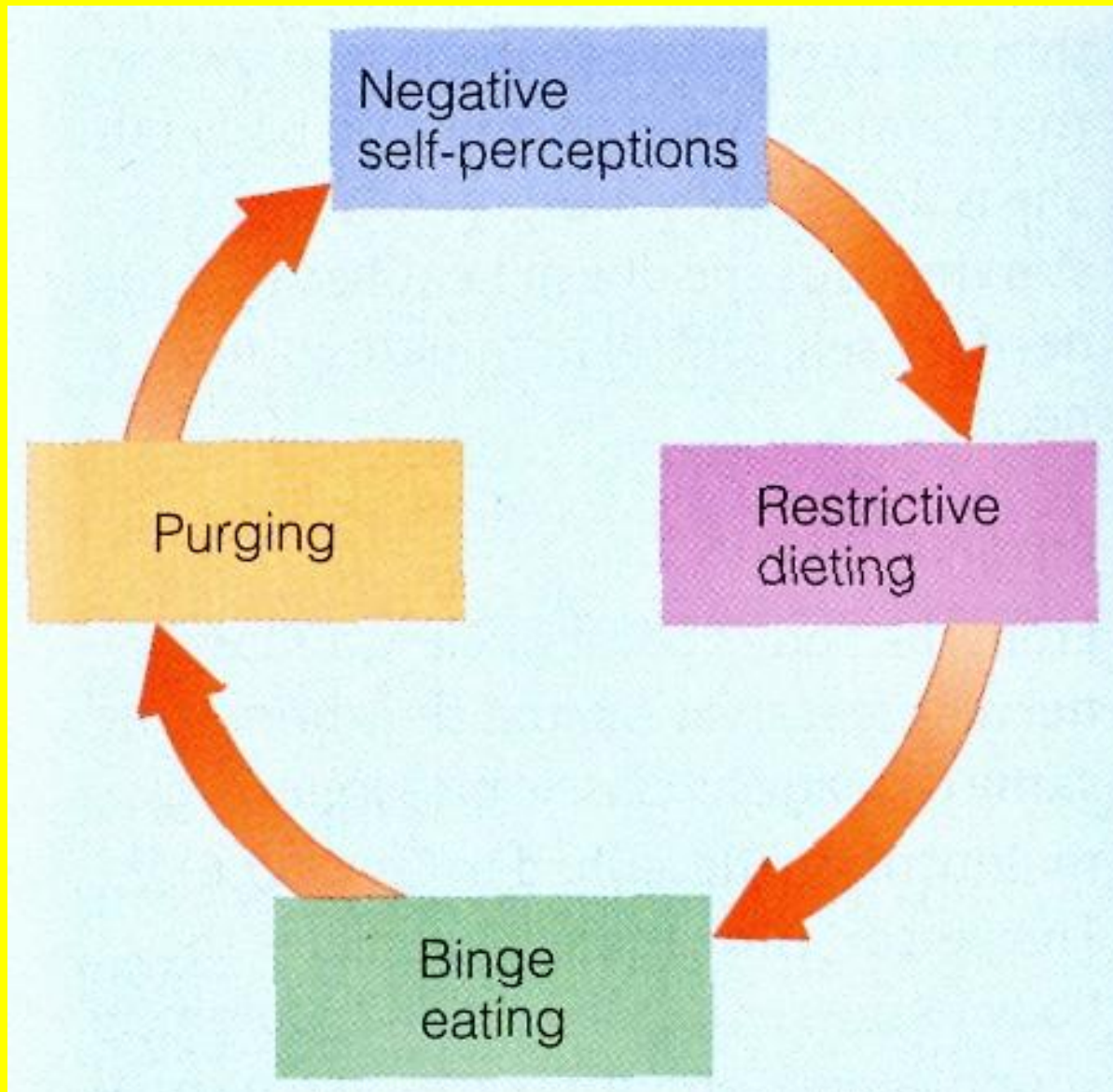
- Vomiting
- Laxatives
- Diuretics
- Enemas



Dear Diary,
I got on the scale today. What a mistake! My weight is up to 180 pounds. I hate myself for being so fat. Just seeing that I gained more weight made me feel ashamed - all I wanted to do was bury my feelings in a box of cookies or a carton of ice cream. Why do I always think the food will help? Once I started eating I couldn't stop. When I finally did I felt even more disgusted, depressed, and guilty. I am always on a diet but it is never long before I lose control and pig out. I know my eating and my weight are not healthy but I just can't seem to stop.

- **Excessive exercise**
- **1-2 days of fasting (no food)**

Binge- Purge Cycle



Bulimia: Physical Signs

- Disappearance from house: large **amounts** of food
- Frequent trips: **bathroom**
- **Excessive exercise**
- **Swelling cheeks,**
swelling salivary glands
- Complaints: GI discomfort/pain



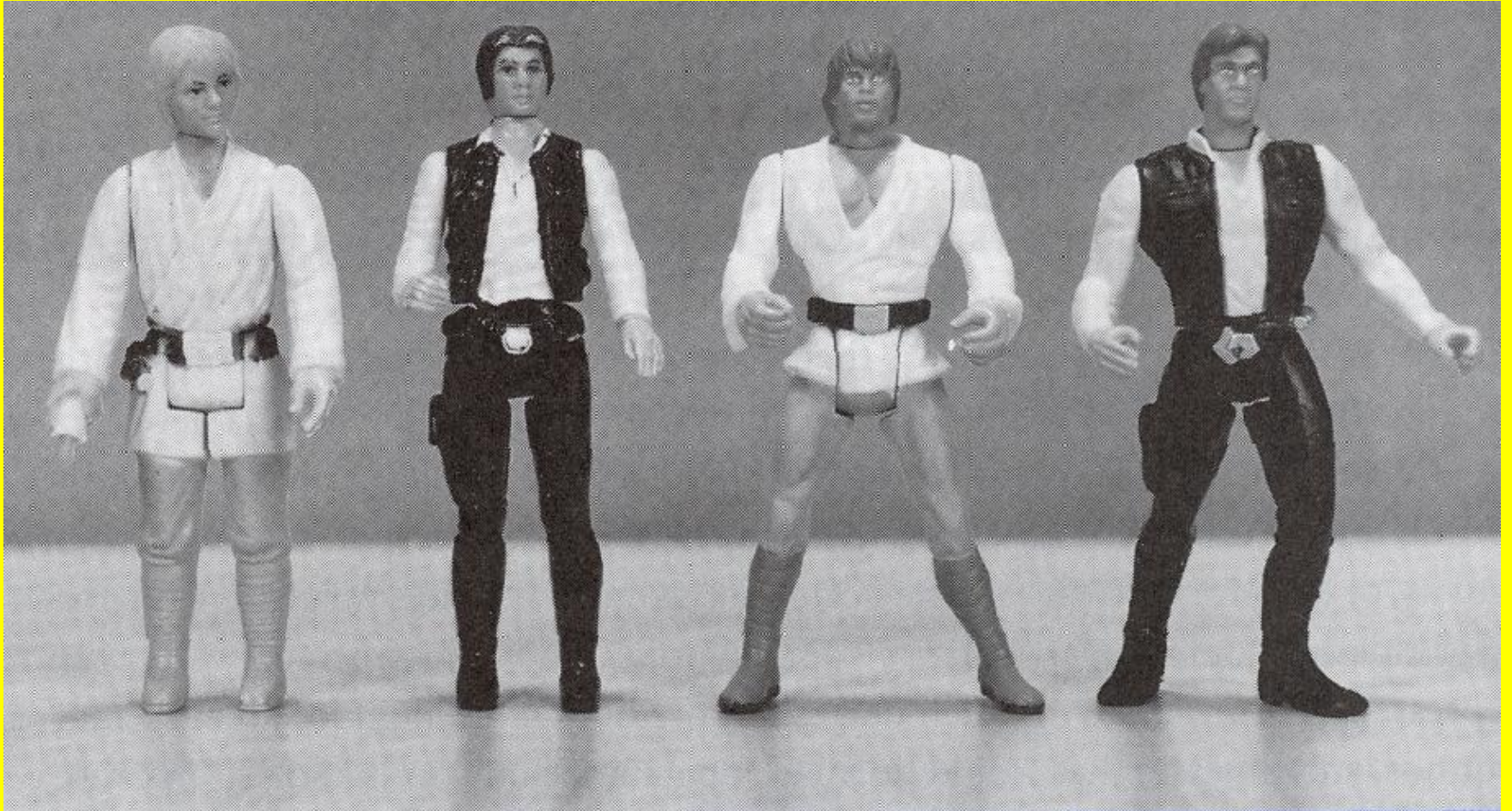
Bulimia: Health Risks

- **Electrolyte imbalances:** due to sodium + potassium + water loss: vomiting
- **Irregular heart rate:** heart failure/death
- **GI tract:** Inflammation/ulceration-rupture of esophagus/stomach, irregular bowel movements, constipation

Bulimia: Health Risks

- Tooth decay/staining/gum disease due to stomach acids- vomiting
- Calluses: back of hands/knuckles: self-induced vomiting
- Broken eye blood vessels- pressure from vomiting

Body Image Males



The male physique depicted in popular action figures in the 1970s, like Luke Skywalker and Han Solo from *Star Wars*, was more realistic than the bulked-up versions of the late 1990s.

“Reverse Anorexia Nervosa”

? New Male Eating Disorder

- Seen in males- often **overweight**
- Distressed if not **lean/muscular**
- “Concern”: body fat or “getting fat again”
- More emphasis (vs. women) on **% muscle mass** instead of total body weight

- Misperception of being “small & frail”
- **Body image distortion:** strive for “idealized” body size/shape



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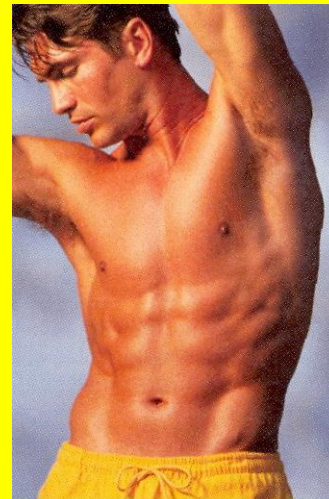
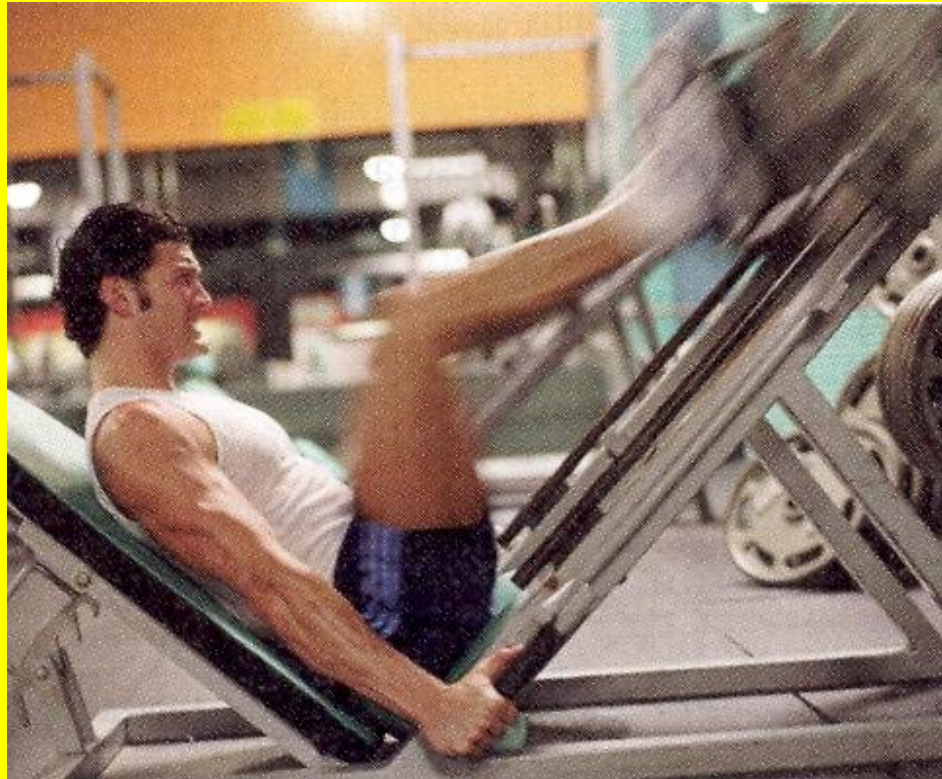


FIGURE F2.9 The ideal male body is as difficult for most men to achieve as the thin athletic ideal is for women. (Jim Cummins/Taxi/Getty Images)

Warning Signs

- Rigid/excessive weight training schedule
- Strict adherence: high protein, muscle-enhancing diet
- Use of **anabolic steroids**, protein powders, muscle-enhancing supplements
- Avoidance: social situations- where not able to follow strict diet
- Frequent: critical self-evaluation of body composition

- **Weight control:** more often-excessive exercise (vs. female methods: calorie restriction, vomiting, laxatives)



Dietary supplements to lose weight

2003: Baltimore

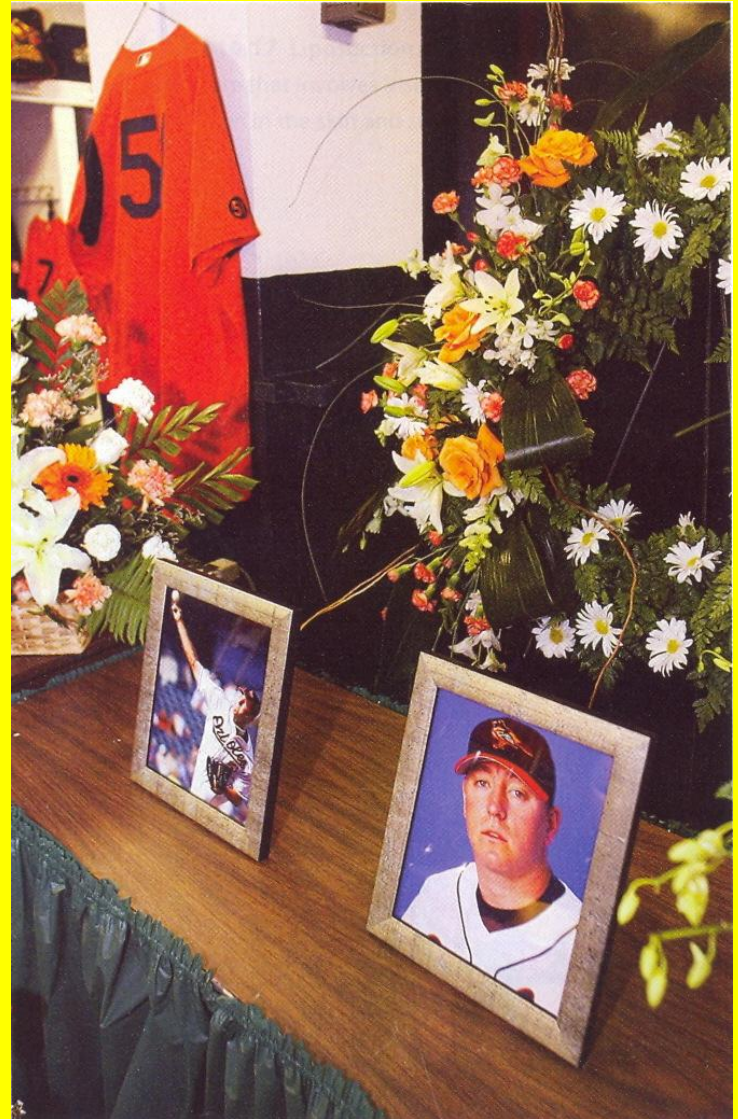
Oriole Pitcher

Steve Bechler

Died from using

dietary supplement

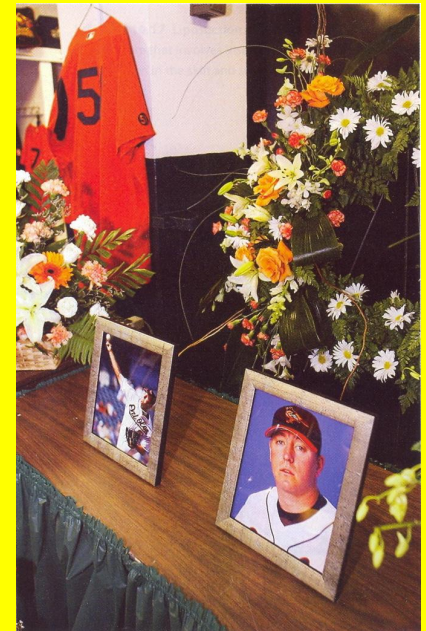
containing **ephedra**



Ephedra (ephedrine):

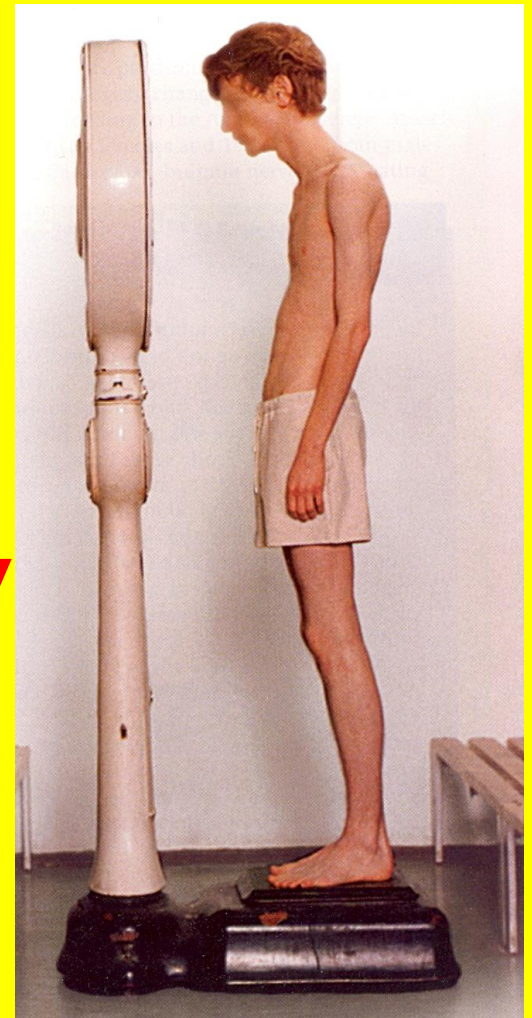
Stimulant isolated from plants
or made synthetically

- Rapid heart rate, blood pressure increase, dizziness, sweating, headache, sleep problems
- Linked to: heart attack/stroke/death
- 2004 FDA banned dietary supplements containing **ephedra**



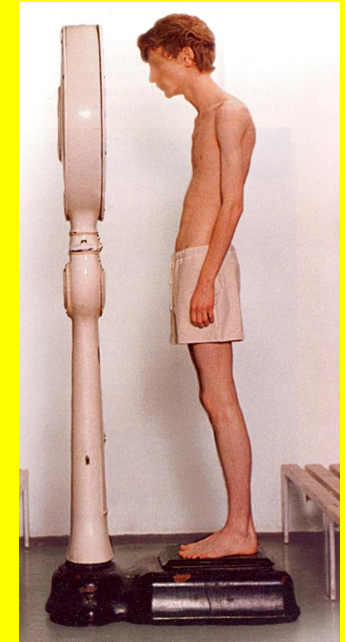
Gaining weight in underweight person

- Underweight BMI < 18.5
- Gaining weight often as difficult as overweight person losing weight
- Possible causes: genetics, lifestyle, chronic diseases, psychological disturbances
- Evaluation by doctor- find underlying cause(s)



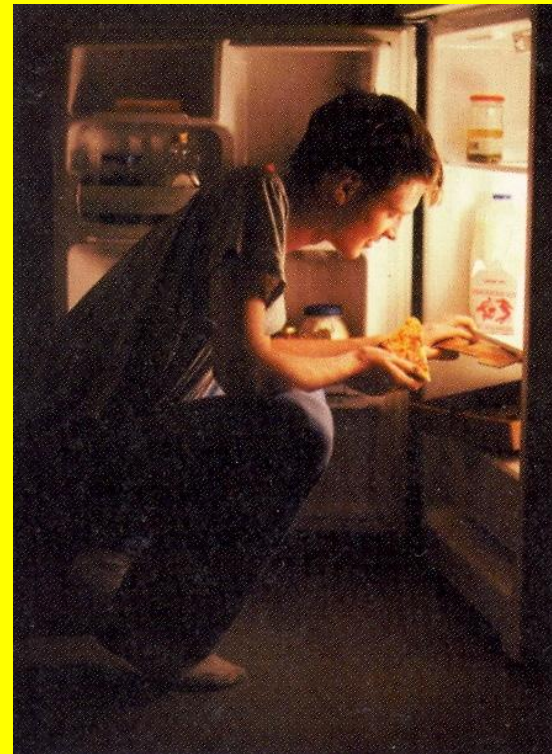
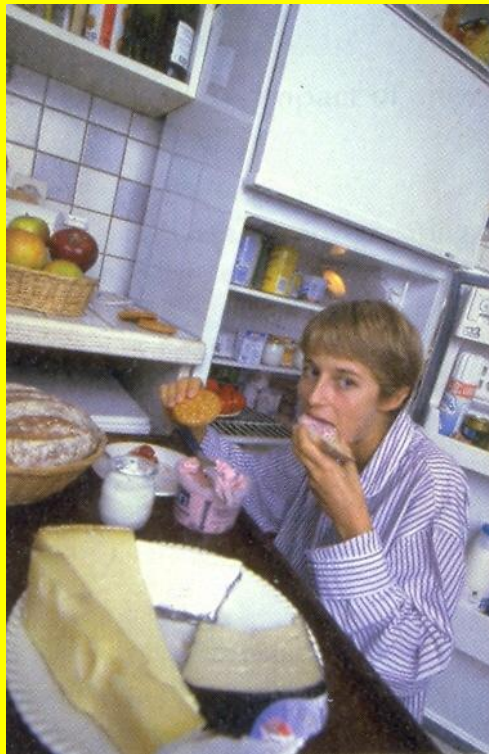
To gain weight

- Gradual increase in **calorie-dense foods**
- **↑** Healthy fats
- Fatty fish, salmon, olives, avocados, seeds, low fat cheeses, nuts, peanut butter, bananas, granola
- Fruit juices, low fat smoothies, milk shakes vs. soft drinks
- Regular meals + snacks
- Weight lifting + **↑** calorie intake



2 other Eating Disorders

- Binge Eating Disorder
- Night Eating Disorder



Binge Eating Disorder: **compulsive overeating**

Stressful event

(work,

relationships,

school)



“go on an
eating binge”

- Eat **large** amounts food/**short** period
- > 2X/week

Binge Eating Disorder

- Common in **men, minority** groups
- People often: **overweight**
- ↑ Amount of food **without** purging
- ↑ Weight gain

Binge Eating Disorder: Symptoms

- Rapid eating
- Eating until **uncomfortably full**
- ↑ Eating when **not** hungry
- Eating **alone**/in secret
- **Feelings: disgust, depression, guilt**
- **Negative self-esteem**
- Substance abuse
- Anxiety disorders

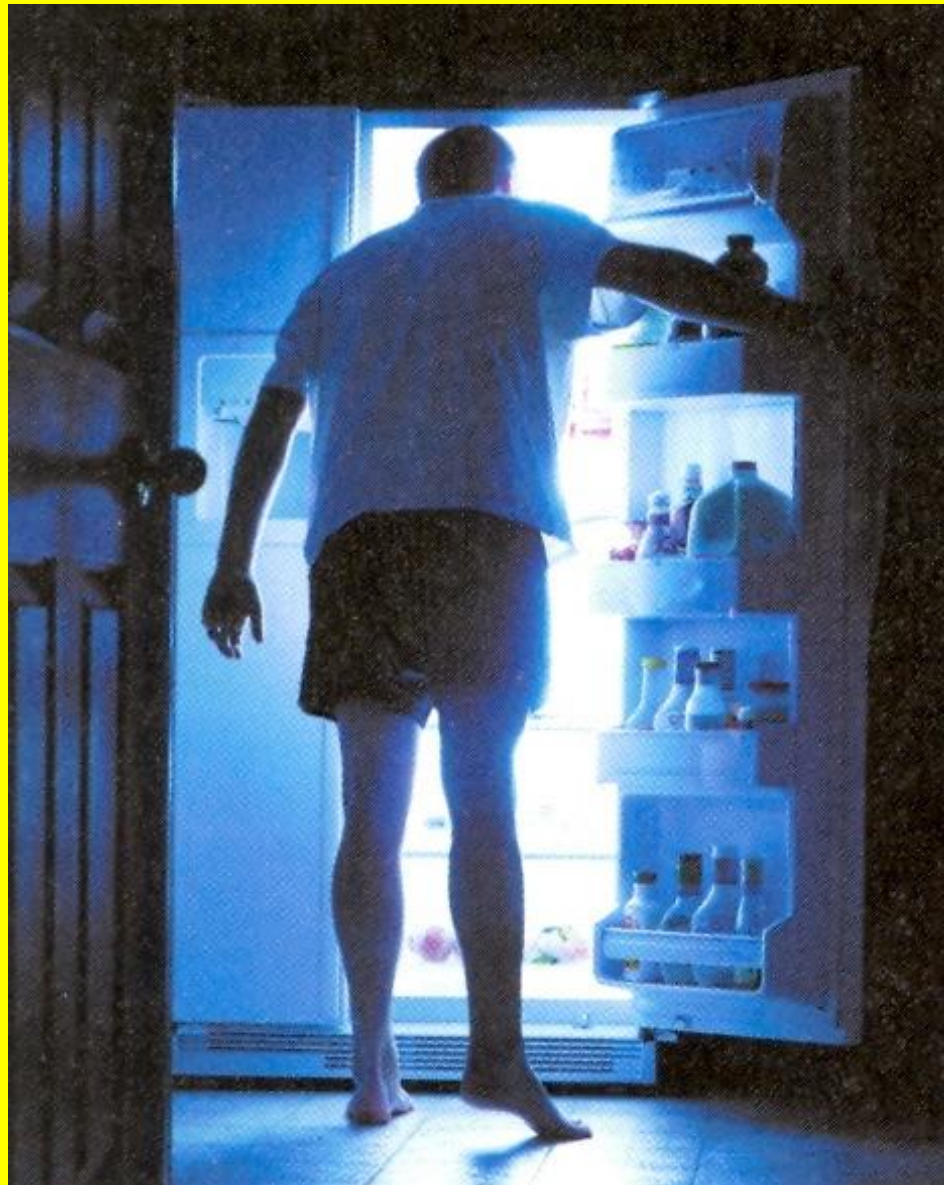


People with binge eating disorder often eat in secret.

Health Risks

- ↑ Risk: overweight/obesity
- ↑ Increased risk: heart disease/stroke, blood pressure, arthritis
- Binge foods eaten: high in fat & sugar: ↑ blood lipids
- **Stress** from binge eating: low self-esteem, depression, negative thoughts

Night Eating Syndrome



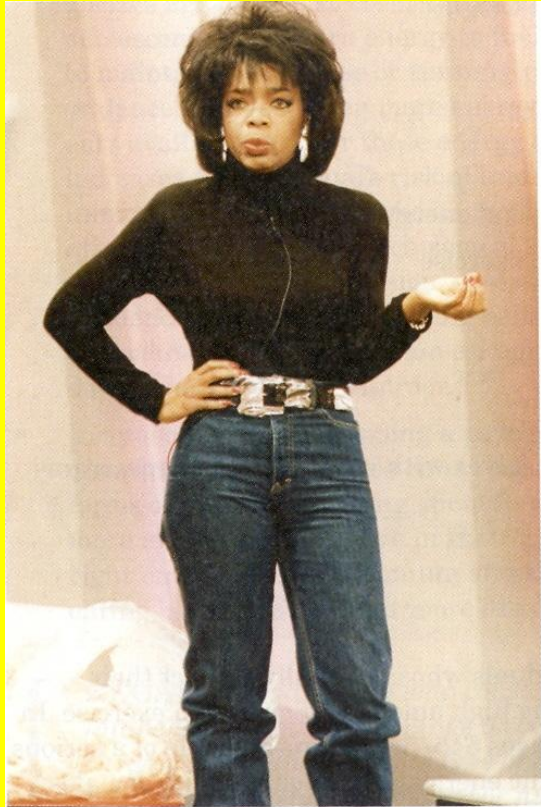
Night Eating Syndrome

- First reported 1955- Dr. Albert Stunkard
- Patients: **not** hungry in **morning**
- Eat little during **day**
- **Insomnia/altered sleep patterns**
- Spend evening/night: eating
- **8 PM- 6 AM**: most energy consumed vs. day
- Eat **high calorie snacks**- middle of night

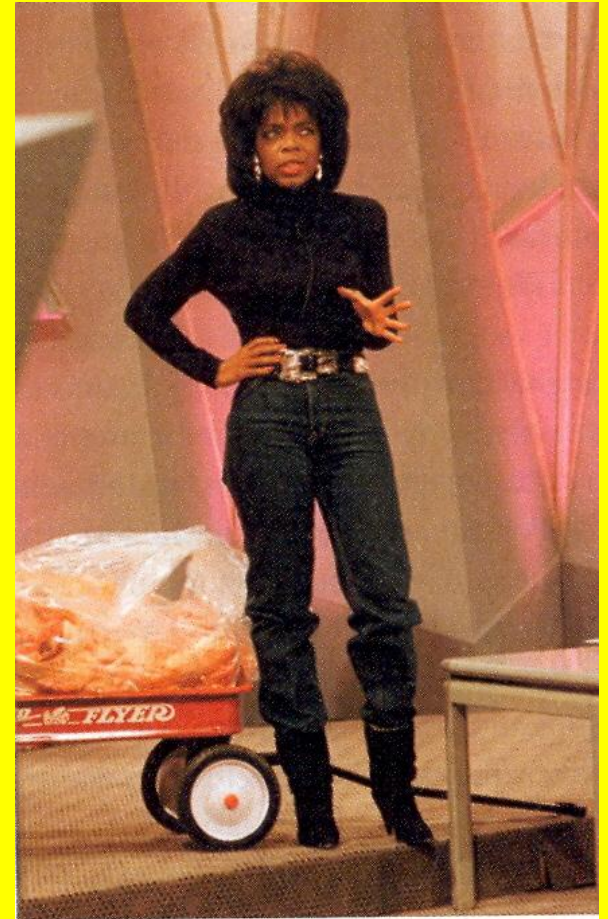
Night Eating Syndrome

- **No bingeing**
- **↑ Risk obesity**
- Occurs in people: obese, weight-loss clinics, weight-loss surgery
- May be **stress** related
- Changes: brain neurotransmitters, hormones
- **Depression/mood disorders**
- **↑ Risk: heart disease, stroke, blood pressure, diabetes, arthritis, sleep apnea**

Weight Cycling: Yo-Yo Dieting



After several rounds of dieting and then regaining the weight, Oprah Winfrey has stated that she is now comfortable with her weight. Here are two extreme examples of her weight cycling. At left, Oprah in 1988, after losing 67 pounds. At right, in 1992, having regained the weight.



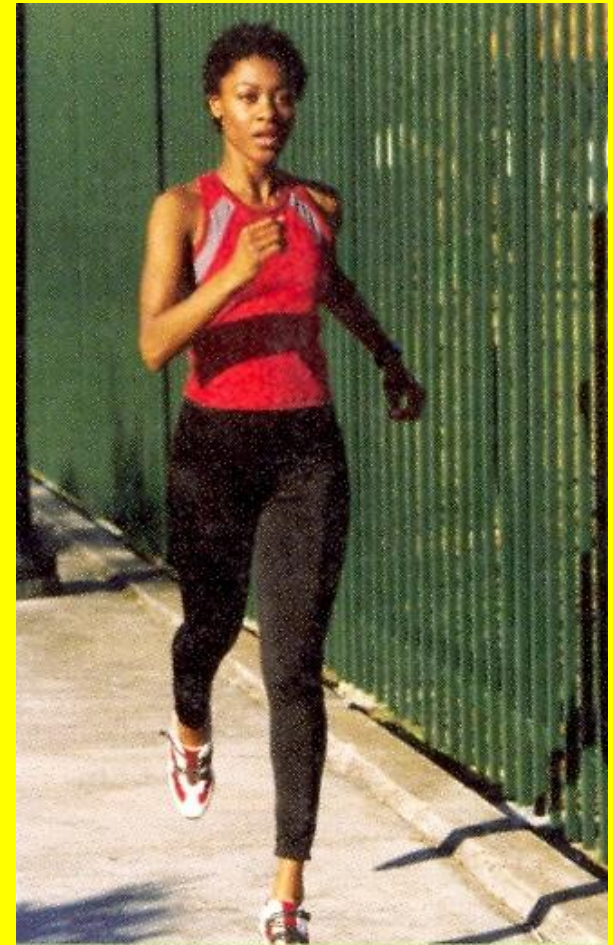
Oprah Winfrey after she lost 67 pounds (the amount of fat in the wagon) by consuming a very low-calorie, liquid protein diet.

Weight Cycling: Yo-Yo Dieting


- Also called: “**Chronic Dieting**”
- Successful **weight loss** then....
- **Regain** of lost weight
- Repeat of **cycle**: over/over again
- **Stress** related to dieting: **↑ cortisol**
(Stress hormone-adrenal gland)

Symptoms

- **Preoccupation:**
food/calories/weight/body size/shape
- Strict **dieting**
- Person classifies food:
 “good” or **“bad”**
- **Excessive exercise**
- Chronic fatigue
- Mood swings
- Loss concentration



Health Risks

- Poor **nutrient**/energy intake
- Loss- **lean tissue**
- Poor **bone** health
- **Fatigue** 
decreased ability to exercise
- May develop: **anorexia or bulimia**

Underlying Problem:

- **Severe** restriction- **calories**
- **Metabolism slows**
- **↓ BMR** faster than **↓ weight loss**
- Result: need even greater **reduction** in calories to lose weight
- **Frustration**

Better approach to weight loss

- ↑ Exercise/activity

(aerobic/weights): +300-500

burn: calories/day

- Moderate ↓ in food/drink:

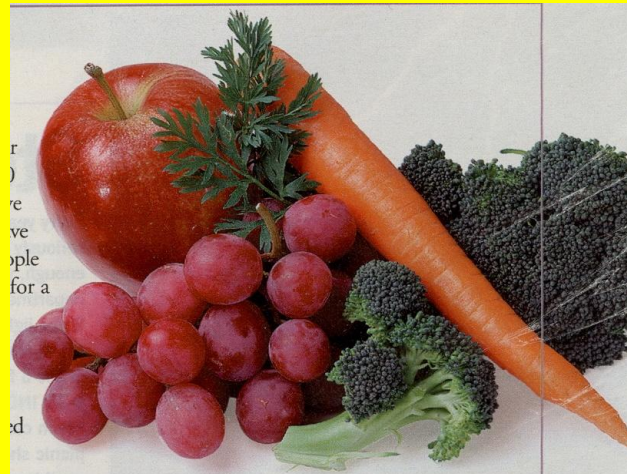
- 300-500

calories/day

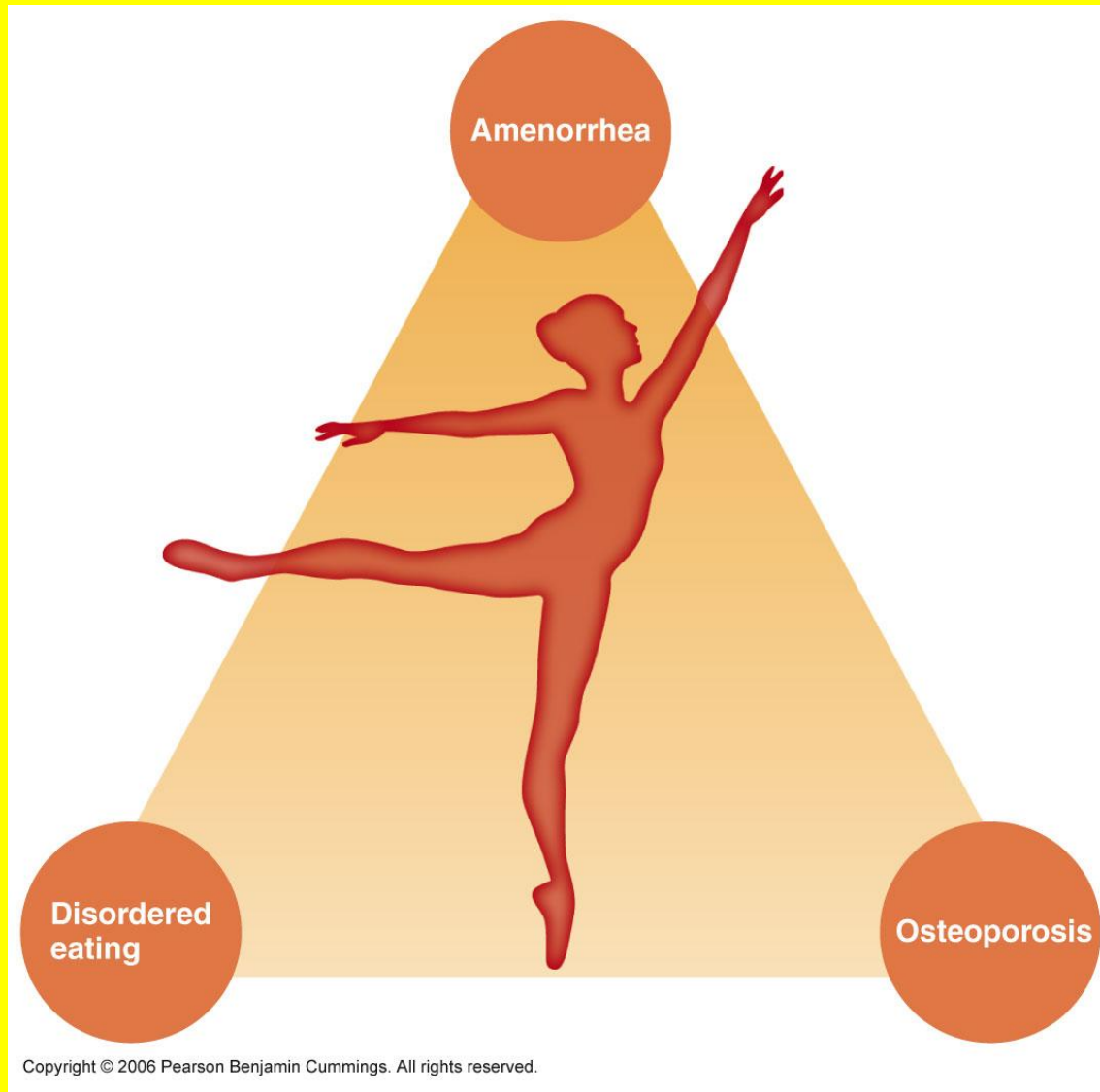
Achieve: energy (calorie) **deficit**

Better approach to weight loss

- Nutrient dense/low calorie foods
(volumetrics)
- Result: ↓ Fat tissue
- Minimal changes: lean tissue & BMR



Female Athlete Triad

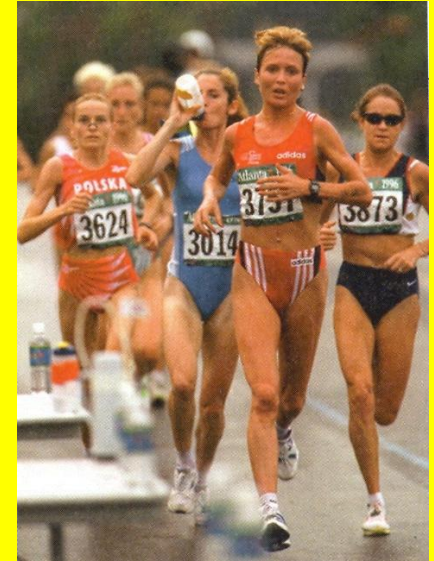
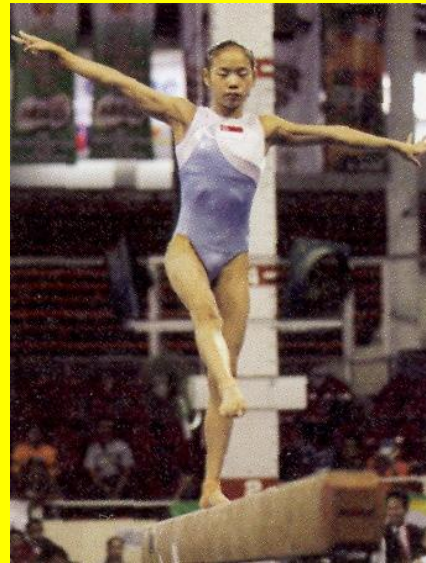


Female Athlete Triad

- Syndrome: seen in female athletes
- 3 components:
 - A) Disordered eating
 - B) Menstrual dysfunction (amenorrhea)
 - C) Osteoporosis

Females at risk: sports emphasizing leanness

- Dance
- Figure skating
- Diving
- Gymnastics
- Long distance running
- Cycling
- Cross-country skiing
- Horse racing
- Rowing
- Martial arts
- Sports requiring: **weigh-ins, weight specific**



categories

Pressure to be **thin**/have
certain **body size**



General:
Social,
Cultural

Coaches, Teammates,
Judges, Spectators

Fear: cut from team, loss athletic
scholarship, elimination during
competition

Result: some female athletes 
Disordered Eating

- Energy (calorie) deficit
- ↓ Sex hormones
- Disrupts menstrual cycle: amenorrhea
- ↓ Estrogen (needed for bone density)
- ↑ Risk: **osteoporosis**
- ↑ Risk: muscle/bone injuries; stress fracture

Female Athlete Triad

Treatment: multidisciplinary
approach

Work together:

- Coach, trainer, nutritionist, exercise physiologist, psychologist, parents, friends

Eating Disorders: Treatment

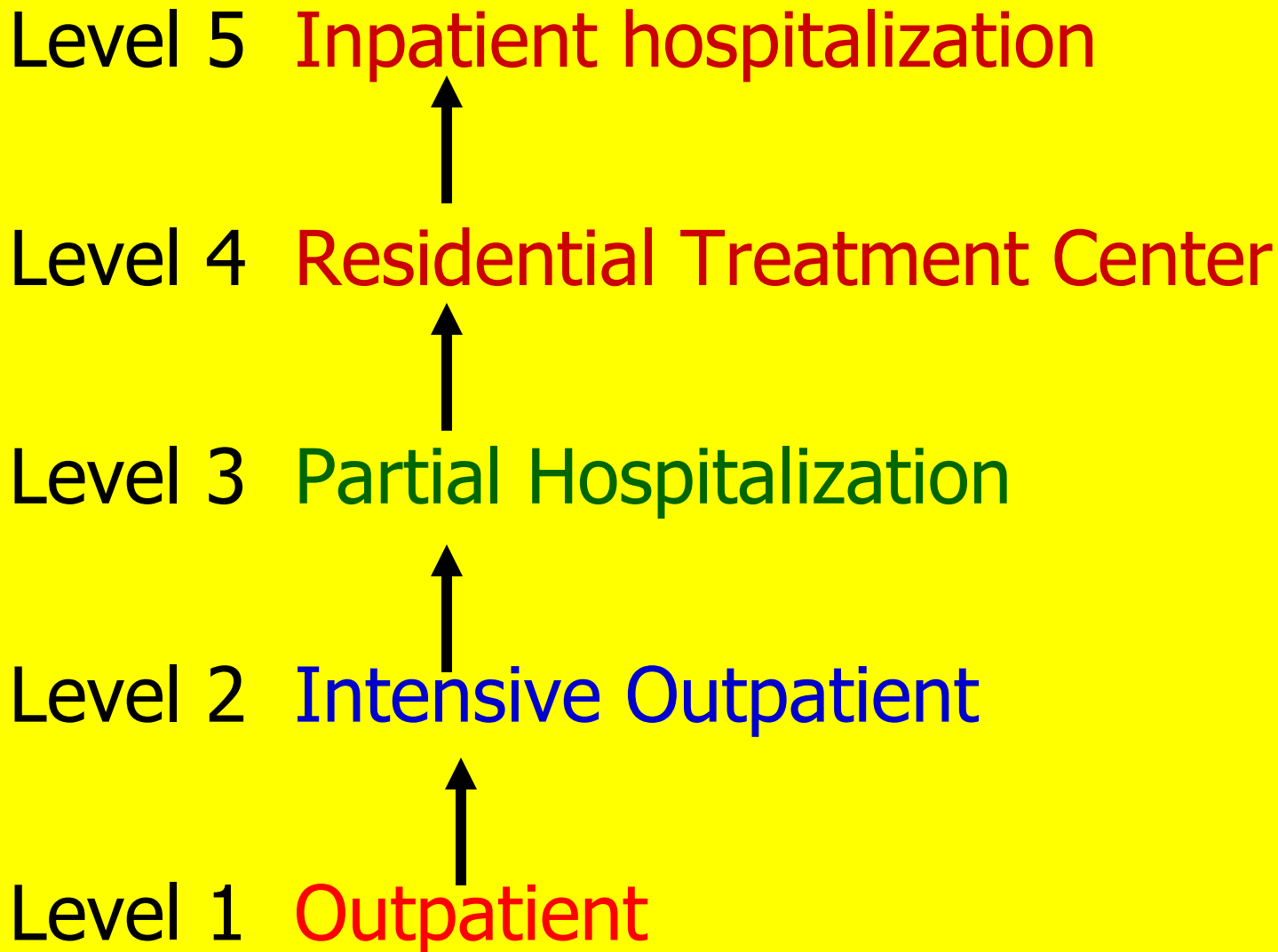
Multidisciplinary Team Approach

American Psychiatric Association

5 levels depending on:

1. Severity
2. Type of Disorder

Eating Disorders: Treatment



Eating Disorders Treatment

- Physical exam, diagnosis, identification-underlying causes
- **Team members**: meet with patient and family & friends (ask questions about severity- patient may be in denial)
- **Severity level**: A) severe malnutrition: hospitalization, stabilize condition, **refeeding**; B) underweight but medically stable: **outpatient**

Eating Disorders Treatment

- **Key: education** (patient & family), advice, support
- Encourage **healthful eating**
- Minimize **distress** about food, body weight/shape
- **Nutritional counseling** (dietician)
- **Psychotherapy**: psychiatrist, psychologist
- **Family Therapy, Support groups**
- **Medications** (antidepressants)
- After weight gain: Continue treatment 1-2 years- prevent **relapse**, medications

Eating Disorders: **key**- recognizing **risk factors** → **prevention**

Emphasis:

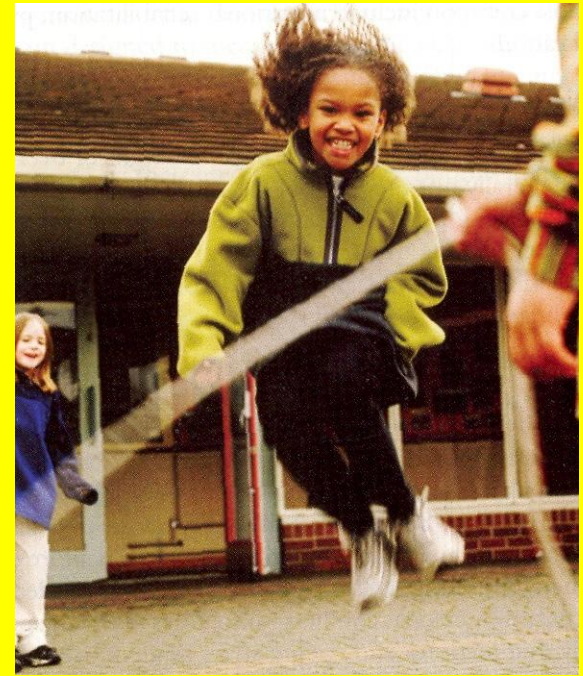
- Achieve **healthy weight** for person: maintained for life
- Weight based on: **genetics, environment, exercise opportunities**

VS.

- Striving for **unhealthy** body weight, constant dieting, disordered eating behaviors

Prevention

- ↓ Peer/family weight related teasing/criticism
- Help children understand “unrealistic” media body images
- Encourage physical activity/sports in children: prevent weight gain
- Establish good eating behaviors: school, home, outside (friends)



Prevention

- Teach children about **nutrition**: foods to **encourage** vs. **limit**
- Encourage children to **walk**: to/from school, at school, work, home
- Have parents be **role models**: healthy diet/exercise
- **Emphasize positive comments: children's body image, appearance during their development**