“I've freed myself from this compulsion of eating. When I wake, I am empty, light, light-headed; I like to stay this way, free and pure, light on my feet, traveling light. For me, food's only interest lies in how little I need, how strong I am, how well I can resist - each time achieving another small victory of the will: one carrot instead of two, half a cracker, no more peas. Each gain makes me stronger, purer, larger in my exercise of power, until eventually I see no reason to eat at all.”

-Bluedragonfly.org

Eating Disorders

(Anorexia and Bulimia)

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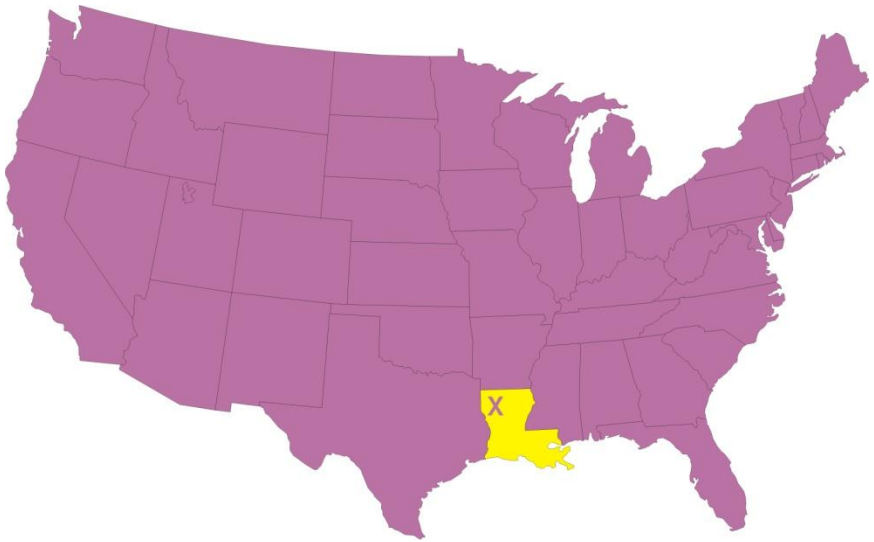
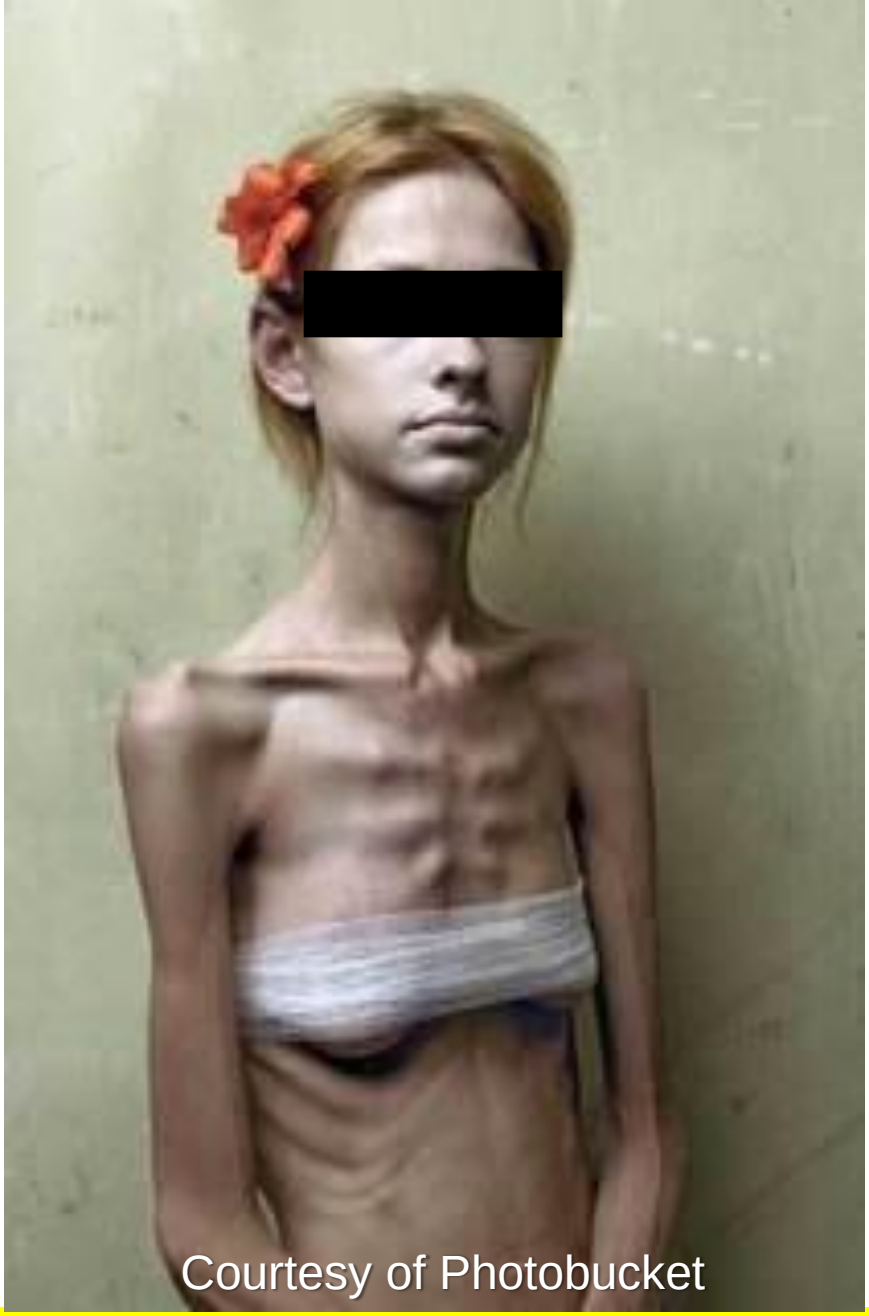


Anorexia

"The relentless pursuit of thinness."



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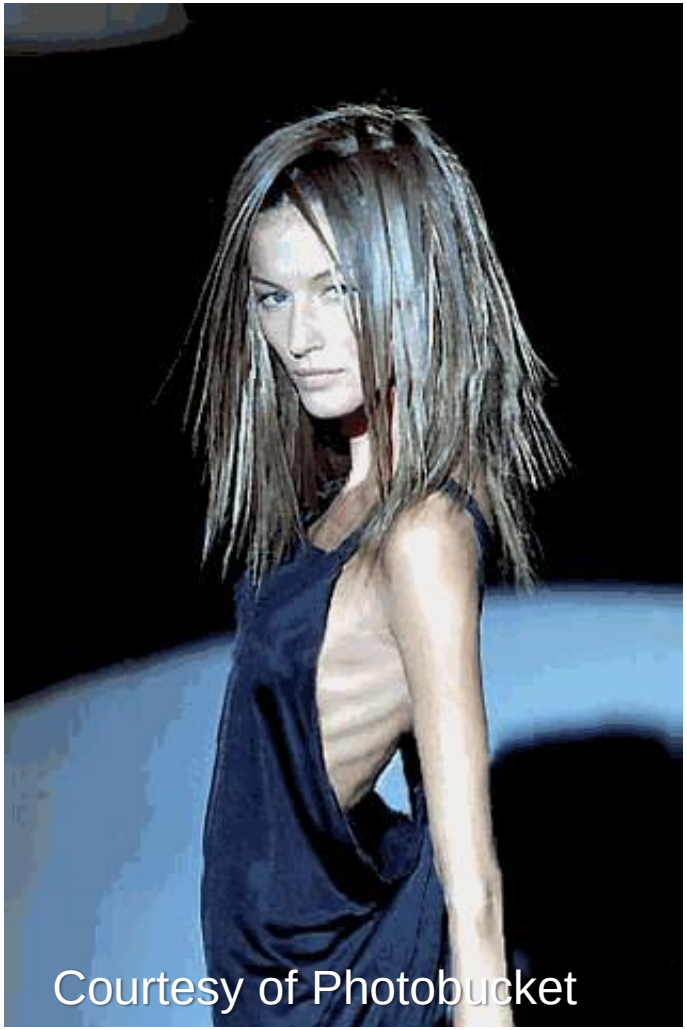
Introduction

- **Anorexia nervosa and bulimia nervosa intimately connected**
  - **Patients usually have some symptoms of both**
- **Best care usually multidisciplinary**



U.S. Epidemiology

- **1 to 2 million women with bulimia**
- **500,000 women with anorexia**
- **More common in females (1:6-10)**
  - **Children as young as 5 years show lower self-esteem related to higher weight, especially with excessive parental concern about weight**

- International Academy of Eating Disorders. www.aedweb.org/disorders.html.

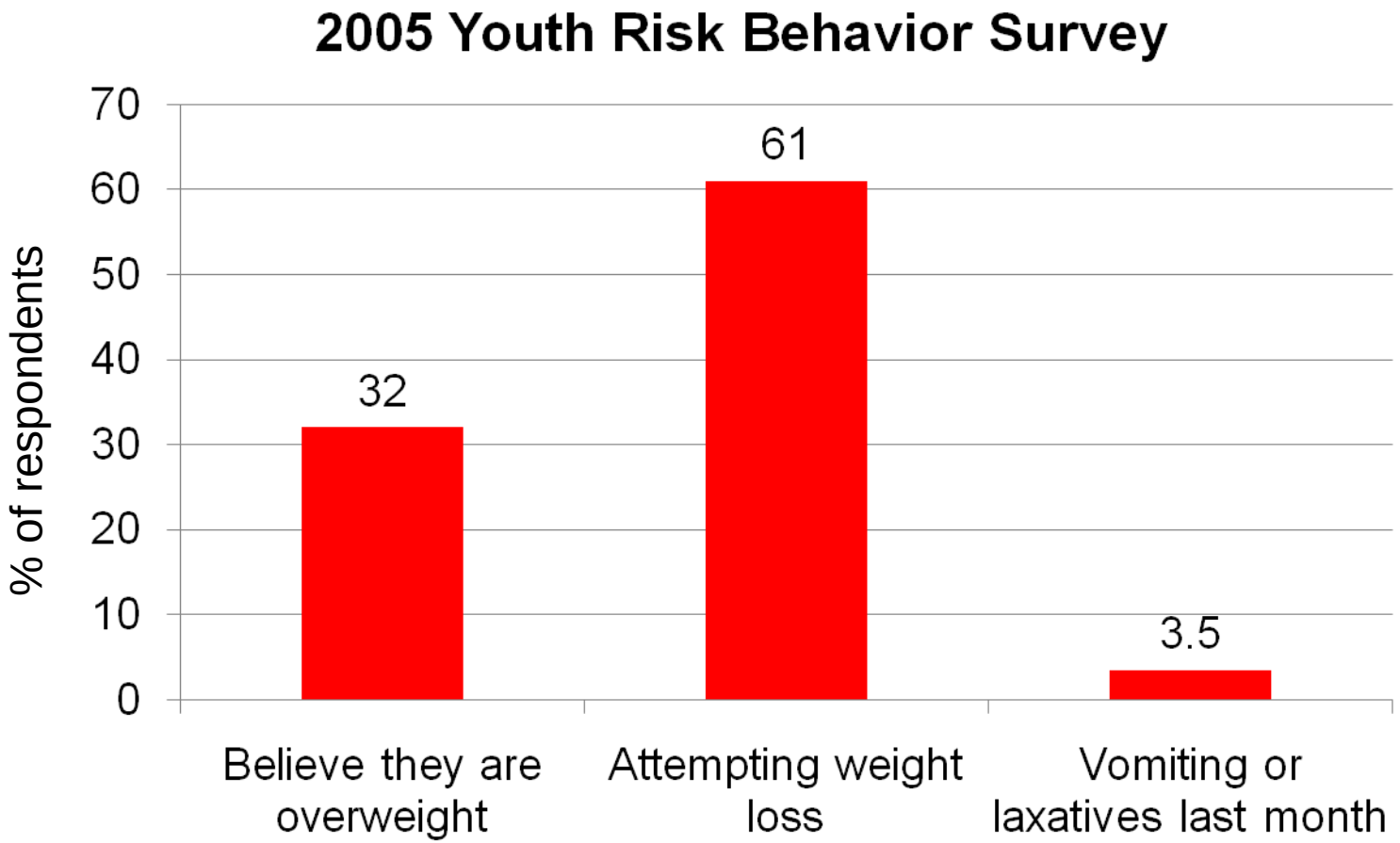
Twelve-month and Lifetime Prevalence of NZ Eating Disorders

	% of all people surveyed	% of all Māori surveyed	% of all Pacific peoples surveyed
12-month prevalence			
Any eating disorder	0.5 (0.3, 0.6)	1.0 (0.5, 1.6)	1.5 (0.7, 2.6)
Anorexia	<0.1 (0.0, 0.1)	0.0 (0.0, 0.2)	
Bulimia	0.4 (0.3, 0.6)	1.0 (0.5, 1.6)	1.5 (0.7, 2.6)
Lifetime prevalence			
Any eating disorder	1.7 (1.5, 2.1)	3.1 (2.3, 4.1)	4.4 (3.1, 6.2)
Anorexia	0.6 (0.4, 0.8)	0.7 (0.2, 1.6)	
Bulimia	1.3 (1.1, 1.5)	2.4 (1.8, 3.2)	3.9 (2.7, 5.5)

The figures in brackets = 95% CI.

Oakley Browne MA, Wells JE, Scott KM (eds). 2006. Te Rau Hinengaro: The New Zealand Mental Health Survey. Ministry of Health: Wellington.

Adolescents At Risk



Eaton, EK, Kann, L, Kinchen, S, et al. MMWR Surveill Summ 2006; 55:1.

Courtesy of Photobucket

At-Risk Groups

- **Competitive athletes**
- **Females in "thin body" sports**
  - **Gymnastics**
  - **Ballet**
  - **Figure skating**
  - **Distance running**

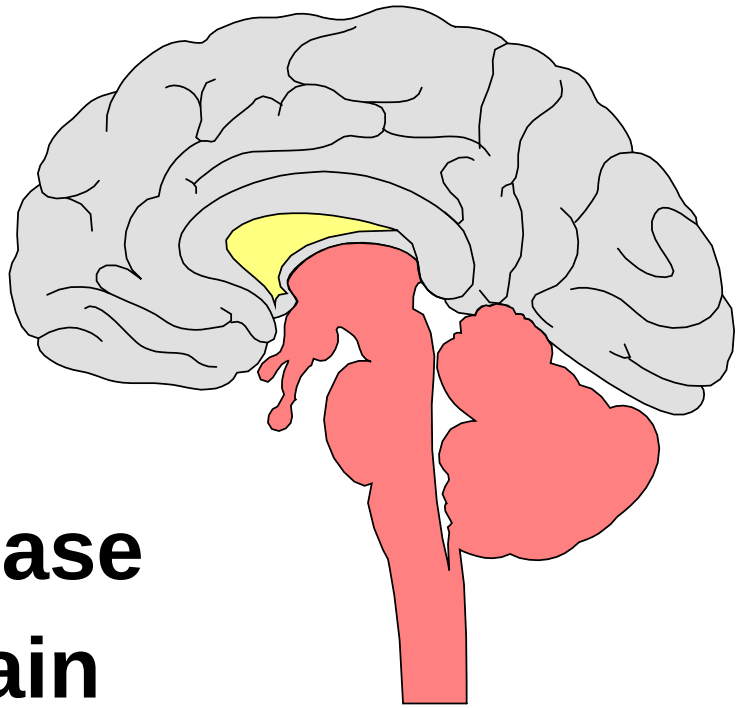
- **Nattiv, A, Agostini, R, et al. Clin Sports Med 1994; 13:405.**

At-Risk Groups

- **Males in body building and wrestling**
- **Preoccupation with thinness, performance anxiety, and athlete self-appraisal**
- **Classic AN on the rise**

At-Risk Groups

- **Eating disorders = lack of dopamine receptors in mesolimbic system, and abnormal behaviors "reward" patient by extra dopamine release**
- **Acts like Ecstasy in brain**



At-Risk Groups

- **1º anorectic female relatives**
  - **6-10x risk of anorexia and bulimia**
  - Woodside, DB. Curr Probl Pediatr 1995; 25:67.
- **Bulimic relatives = remains unclear**
  - **High rates of substance abuse**
  - **Particularly alcoholism**
  - Halmi, KA, et al. Arch Gen Psychiatry 1991; 48:712.

Epidemiology

- **High rates of comorbid psych illness**
  - **Depression, bipolar DO, anxiety DO, personality DOs, & OCD**
- **Sexual abuse in 20% to 50% with bulimia and anorexia**
- **Substance abuse**
  - **30% to 37% of bulimics**
  - **12% to 18% of anorectics**

Eating Disorders and Mortality

- Eating disorders can be fatal
- Female suicide rate with EDO 58x
- Herzog DB, et al. Intern J Eating Disorders 2000; 28: 20–6.
- Anorexia long-term mortality 10%
- Crow SJ, et al. Intern J Eating Disorders 35: 155–60.
- Nielsen estimated EDO mortality rates ranging from 0.3% to 20%
- Nielsen S. Psych Clin North Am 2001; 24: 201–14.

DSM-IV Diagnosis - Anorexia

- **Refusal to maintain weight within a normal range (<15% ideal body weight)**
- **Fear of weight gain**
- **Severe body image disturbance**
- **In postmenarchal females, amenorrhea (>3 cycles)**

Courtesy of Photobucket

– DSM-IV American Psychiatric Association, Washington, DC 1994.

Body Image Disturbance

- **Body image is the predominant measure of self-worth & denial of illness seriousness**

  – DSM-IV American Psychiatric Association, Washington, DC 1994.

DSM-IV Diagnosis - Bulimia

- **Episodes of binge eating**
  - **With a sense of loss of control**
  - **Followed by compensatory behavior (self-induced vomiting, laxative / diuretic abuse, excessive exercise, fasting, or strict diets)**
  - **At least 2x/week for 3 months**
    - DSM-IV American Psychiatric Association, Washington, DC 1994.

Courtesy of Photobucket

DSM-IV Diagnosis - Bulimia

- **Dissatisfaction with body and weight**
- **Not exclusively with anorexia episodes**
  - DSM-IV American Psychiatric Association, Washington, DC 1994.

Diagnosis

- **Weight preoccupation and excessive self-evaluation of weight and shape**
  - **Anorexia subclassified into restricting and binge-eating/purging**
  - **Bulimia subclassified into purging and nonpurging**

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Diagnosis

- **Most commonly presents with amenorrhea**
- **May present with fatigue, weakness, or dizziness**
- **Active eating disorders during pregnancy = higher rate of post-partum depression**

Diagnosis

- **Many patients have a combination of symptoms**

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Diagnosis

- **Some features may result from malnutrition or semistarvation**
  - **Starvation studies show food preoccupation, binge eating, abnormal taste preferences, depression, obsessionality, apathy, irritability, and personality changes**
  - **Starvation-related symptoms may completely reverse with refeeding**

Anorexia Labs

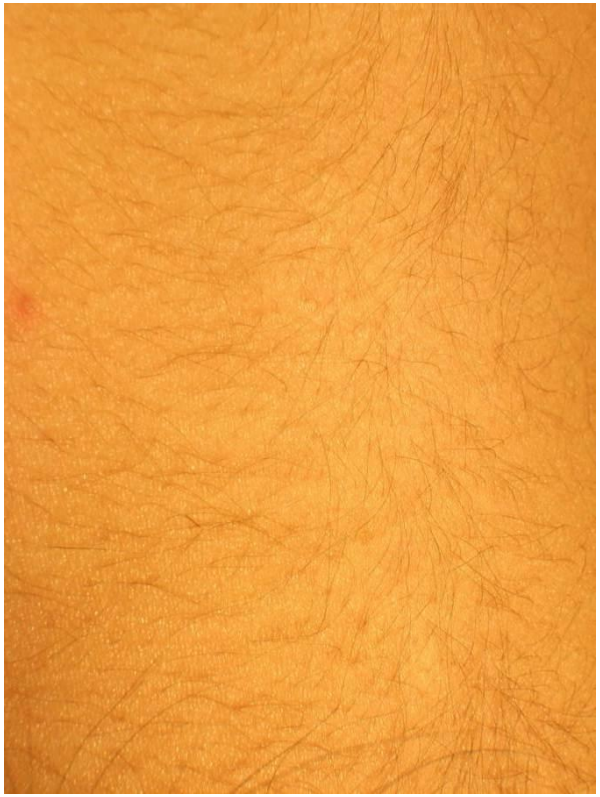
- Beta-hCG with amenorrhea
- Mg, Ca, PO4 for patients at risk for the refeeding syndrome
- Urine specific gravity to detect water load to falsely elevate wt
- TFTs, prolactin, and FSH
  - **Low T_3 and T_4 are usually not treated**
- EKG with bradycardia
- Other tests as indicated

Bulimia Labs

- **Electrolyte imbalances**
  - **hypokalemia, hypochloremic alkalosis**
  - **mild elevations of serum amylase**
  - **hypomagnesemia**
  - **hypophosphatemia (especially in laxative abusers)**

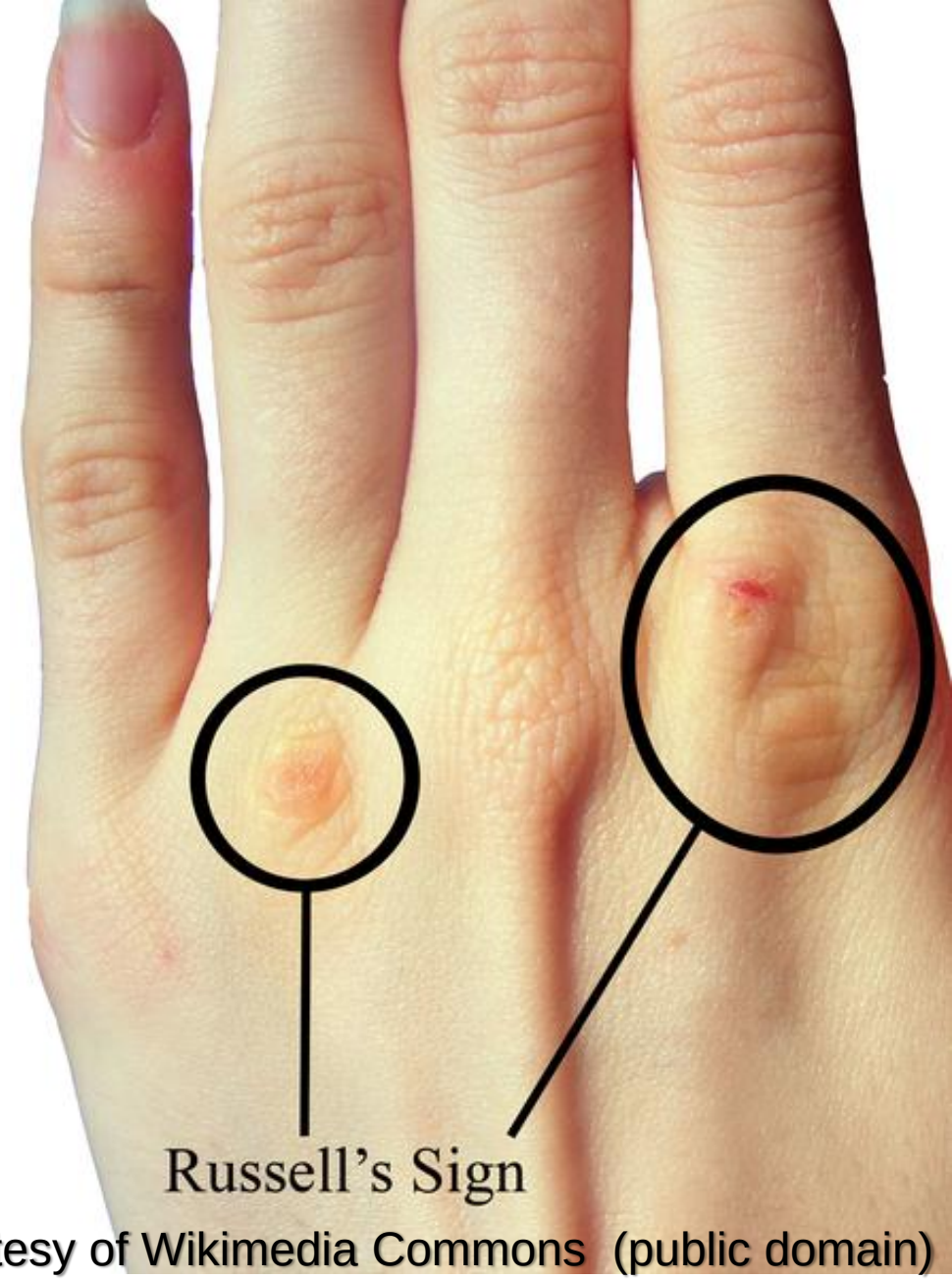
Physical Examination

- **Anorexia**
  - **Vital sign measurements**
  - **Skin - dryness, bruising, or lanugo**
  - **Cardiac examination**
- **Bulimia nervosa include above +**
  - **Parotid hypertrophy from vomiting**
  - **Erosion of anterior tooth enamel**



Physical Exam

- Bulimia
  - Finger skin lesions (Russell's sign)



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Anorexia Natural History

- **Full recovery rates modest**
- **2/3 of patients continue to have food and weight preoccupation**
  - **Up to 40% have bulimic symptoms**
- **Greatest patient mortality of all psychiatric disorders**
- **Better prognosis with younger patients**

Anorexia Natural History

- **12-yr course & outcome predictors**
  - **103 patients for 12 years with AN**
  - **Substantial improvement during tx**
  - **Moderate (often nonsignificant) decline during the first 2 years posttx**
  - **Further improvement >3 years posttx**
  - **52.4% had no major DSM-IV EDO**
  - **Impulsivity, symptom severity, and chronicity were important predictors**
    - **Intern J Eating Disorders 39(2):87-100, 2006**

Bulimia Natural History

- **Long-term prognosis?**
- **Short-term success for psych tx or meds is 50% to 70%**
- **Relapse = 30%-50%**
- **Patients' motivation very important**

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Anorexia Nutritional Rehab

- **Goals for sig. underweight pts**
  - **restore weight**
  - **normalize eating patterns**
  - **achieve normal perceptions of hunger and satiety**
  - **correct sequelae of malnutrition**
- **90% of ideal body weight**
  - **Normal menstruation**

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Anorexia Nutritional Rehab

- **0.5 to 1 lb/week for outpatients**
- **Start 30 to 40 kcal/kg/day (2000 to 1600 kcal/day)**
  - **Increase to 70 to 100 kcal/kg/day**
  - **Vitamin and mineral supplements**
  - **PO_4 may drop during refeeding**
  - **Deal with weight gain and body image**
  - APA Practice guidelines. Am J Psychiatry 2006; 163 Suppl 1:1.

Anorexia Refeeding Syndrome

- Refeeding syndrome
  - Potentially fatal condition
  - Rapid changes in fluids and electrolytes when given feedings
  - Severe anorexia during first 2-3 weeks
- Severe hypophosphatemia
  - Cardiovascular collapse, rhabdomyolysis, seizures, and delirium
  - Mehanna, et al. Refeeding syndrome: what it is, and how to prevent and treat it. BMJ 2008; 336:1495.

Anorexia Nutritional Rehab

- **Physical activity adapted to the food intake and energy expenditure**
  - **Physical fitness, not expending calories**
- **Magical numbers cause resurgence of anxious symptoms**
  - **The closer to ideal weight at discharge, the lower the risk of relapse**

Anorexia Psychosocial Tx

- **Enhance patients' motivation**
- **Nonpunitive reinforcers**
- **Helpful once weight gain started**
- **Cognitive behavior psychotherapy**
  - **Individual or group psychotherapy to address personality disorders**
  - **Min. 1 year (may take 5 to 6 yrs)**
  - Lewandowski LM, et al. Clin Psychol Rev 1997; 17:703.

Anorexia Medications

- **Psychotropic medications should not be used as primary treatment**
  - **Prevention of relapse**
  - **Treat depression or OCD**
- **Amitriptyline and SSRIs**
  - **Neuroleptics and antianxiety agents**
- **Osteoporosis tx**
- **Olanzapine (Zyprexa) helped in open label trials**

Bulimia Nutritional Rehab

- **Nutritional counseling**
  - **Reduce eating disorder behaviors**
  - **Minimize food restriction**
  - **Correct nutritional deficiencies**
  - **Incr. variety of foods eaten**
  - **Encourage healthy (but not excessive) exercise patterns**

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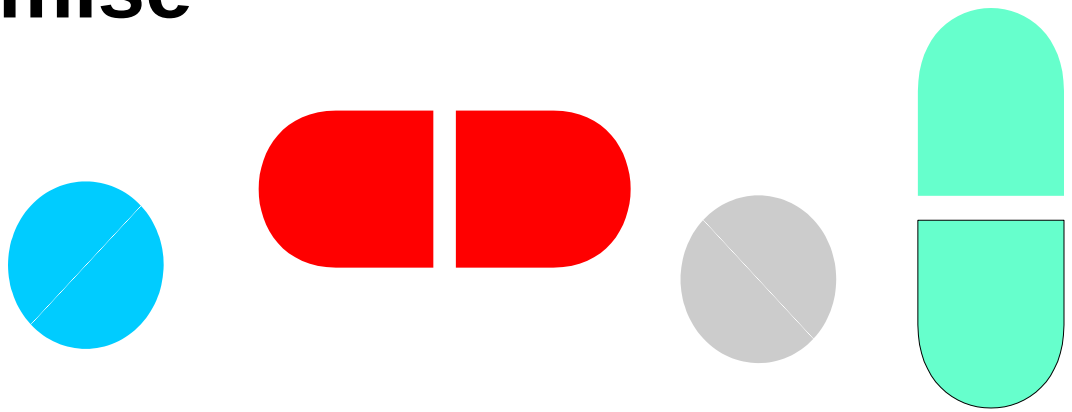
Bulimia Psychosocial Tx

- **Behavioral techniques** such as planned meals or self-monitoring
- Concurrent anorexia or severe personality disorders benefit from **extended psychotherapy**
- **Family therapy** for adolescents
- **Support groups and 12-step** programs not for sole initial tx

Bulimia Medications

- **SSRIs - Prozac 60 mg FDA-approved**
  - **Reduction rates of 50% to 75%**
- **Antinausea drug ondansetron (Zofran), buproprion, topiramate shows promise**



Anorexic Nation

- **Web sites exist that promote anorexia, not as a disease, but as a lifestyle choice**
- **"Anorexic Nation" or "pro-ana" sites**
- **Hidden as resource sites**

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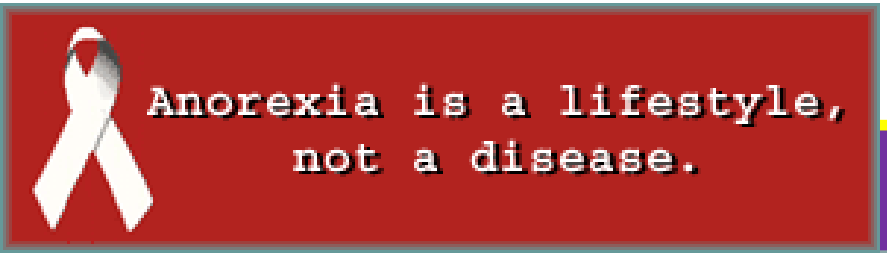

NZ Organizations for EDO

- Eating Disorders Assoc NZ (EDANZ)
  - Established by parents of people with eating disorders
  - (09) 5222-679; email info@ed.org.nz
  - http://www.ed.org.nz/
- EDEN – Eating Difficulties Education Network
  - Ph: (09) 378 9039; Email: info@eden.org.nz
  - http://www.eden.org.nz/
- Future Directions for Eating Disorders Services in NZ
  - http://www.moh.govt.nz/moh.nsf/0/87929C23C9EEE217CC25741C007A9866
- Central Region Eating Disorder Service
  - http://www.eatingdisorders.org.nz

NZ Organizations for EDO

- Academy for Eating Disorders
- www.aedweb.org
- www.aedweb.org/Medical_Care_Standards

Hiding - Tricks of the Trade

- **Hiding changes in your body weight- by wearing baggy clothes, putting weights in your socks to fool the doctor's scale, drinking a gallon of water before a weigh-in, lying to people you love, etc.**
- **Hiding the changes in your eating habits- by moving the food around on the plate, mushing it up instead of eating it, dropping food into a napkin, lying more and more, stealing food, etc.**
- **Hiding the evidence- by throwing up in baggies, jars, trash cans, plants, cups, napkins, by hiding pills, stealing money, stealing pills, etc.**

The Thin Commandments

1. If you aren't thin you aren't attractive.
2. Being thin is more important than being healthy.
3. You must buy clothes, cut your hair, take laxatives, starve yourself, do anything to make yourself look thinner.
4. Thou shall not eat without feeling guilty.
5. Thou shall not eat fattening food without punishing oneself afterwards.
6. Thou shall count calories and restrict intake accordingly.
7. What the scale says is the most important thing.
8. Losing weight is good/gaining weight is bad.
9. You can never be too thin.
10. Being thin and not eating are signs of true will power and success.

Binging and Purging Tips

- **Tie your hair back before purging. Having puke in your hair can be an obvious sign to others.**
- **Flush the toilet at least twice after purging to avoid anything unseen to you floating around when someone else comes in to do their business.**
- **Purge in the shower, the noise should be blocked and it's a lot less unpleasant than the alternatives.**
- **Don't eat/drink anything that is red. When vomiting, in some cases bleeding may occur and you won't know if it's serious, or just what you ate/drank.**
- **Drink tons of water throughout your binge, breaks food down and helps get everything out quickly.**
- **Eat soft foods in a binge, they are easier to vomit.**
- **Use a toothbrush, easier to vomit and you won't scar your knuckles.**

The Rules

- **Look in the mirror, tell yourself you are fat.**
- **Don't believe what others say about you.**
- **Look at pictures of skinny girls daily and become like them.**
- **Don't think about or eat food at all. Food makes you fat. Any food makes you fat.**
- **Drink as much water as you can. If you feel like you are going to explode, drink more.**
- **Go to the mall and try on clothes two sizes too small for you so you will be motivated to not eat and to fit into them.**
- **Don't cry. All crying does is show you don’t have self-control.**