What does food mean to us?
- Food is love
- Food is fuel
- Food is pleasure
- Food is family

What food means to eating disorder patients
- Food is fattening
- Food is frightening
- Food is numbness – emotions, pain
- Food is control
  - Haven’t you had enough calories?
  - Starving kids in China

Shifting the relationship with food
- Food is medicine
- Food is legal
- Food is nurturance and all the other things you may want to deprive yourself of
One-quarter of what you eat keeps you alive. The other three-quarters keeps your doctor alive. (Hieroglyph found in an ancient Egyptian tomb)

The doctor of the future will no longer treat the human frame with drugs, but rather will cure and prevent disease with nutrition. - Thomas Edison

Definitions of Eating Disorders
- Weight preoccupation and excessive self-evaluation of weight and shape
- 50-64% of anorexics develop bulimic behaviors / bulimics often begin to restrict

Eating Disorders
- 7 million females
  - 5-3.7% of females have AN
  - 1.1-4.2% have BN
  - 2%- B.E.D.
- 1 million males with AN
- 10-25% of those with AN will die as a direct result of the disease
- 19% of college-aged females are bulimic
- 35% of US population is obese

Eating Disorders
- Have one of the highest mortality rates of all psychiatric diagnoses
  - SMR = 11.6 for anorexia; 1.3 for bulimia
  - SMR for suicide in anorexia = 56.9
  - Severity of alcohol use was associated with increased risk for mortality
  - Hospitalization for an affective disorder was protective from mortality
    - Keel PK, et al. Arch of Gen Psych. 2/2003;60(2)

Common Co-Morbidities
- Major Depressive Disorders
- Anxiety Disorders: ADHD, OCD, Panic
- Medical Complications
- Personality Disorders
- Social Phobias
- Substance Use Disorders

Integrative Approach to ED
- Superficial layer of symptoms: ED, CD, etc.
- Emotional Soup
- Sensate level – What I feel in my body
- Core Beliefs – My guiding principles
- Deepest Urges of the Soul, Passion, Spirit
Starvation Studies

- Starvation studies and semi-starved prisoners of war:
  - food preoccupation, food hoarding, abnormal taste preferences, binge eating and other Sx of appetite dysregulation
  - Mood disorders: depression, obsessivity, apathy, irritability and personality changes
  - Ancel Keys, 1950

- Severe illness → malnourished patients
  - Psychological effects: depression, anxiety, irritability, apathy, poor sleep, loss of concentration
  - Study of 22 patients with GI disease:
    - Nutritional status had dramatic effect on psychological parameters (POMS)
    - Stanga Z, et al. 2007

Newer Pieces to the Puzzle

- SPECT scans in anorexics show decreased cerebral blood flow in multiple areas of the brain associated with:
  - Emotional stability, social function, Learning and memory (temporal)
  - Impulsivity and Atteniveness (prefrontal cortex)
  - Worry and Obsessiveness (cingulate system)
- Scans showed improvement with weight restoration

Components of an Integrative Approach to ED

- Nutrition Program:
  - Shift relationship
  - Improve autonomy
  - Decrease distractions
  - Digestion/Absorption
  - Beginning to work on issues increases ED behaviors
- Psychotherapy:
  - Gain insight into behaviors
  - Food/mood
  - Body image
  - Getting at root causes
- Exercise:
  - Learn healthy behaviors
  - Get in touch with physical body
  - Learn body cues
- Nutraceuticals:
  - Support medication effects
  - Decrease side effects
  - Special qualities for ED

Integrative Approaches to ED

- Psychometrics:
  - Early identification of Axis I and II diagnoses
  - Inform treatment approaches
- Pharmacuticals:
  - Judicious use reduces numbness and allows therapist to see real emotions and clear diagnosis (ADD, Mood disorders related to nutrition)
- Integrative Therapies:
  - Emotional release
  - Deep relaxation
  - Integration of mind-body
- Skills training:
  - Practical skills
  - Treatment of Axis II issues
- Nutrition Program:
  - Shift relationship/autonomy
  - Digestion/Absorption
  - Nutrition-induced mood disorders
  - Beginning to work on issues increases ED behaviors
- Nutraceuticals:
  - Support medication effects
  - Decrease side effects
  - Special qualities for ED
  - Use of nutraceuticals, decreases distractions from trauma work, less somatization, fewer complaints about bloating, constipation, etc.
Nutritional approaches to the ED patient

- Overall approach
- Dietary supplements:
  - Addressing missing nutrients with
  - Addressing the symptoms of the eating disorder
  - Addressing symptoms of co-morbid conditions

Nutritional Approaches

- Nutrition information/education
- Patterns of eating:
  - Random and chaotic
  - Rigid and ritualistic

Nutrition approach - IBW

- Affect of IBW on cognition, mood and ability to participate in treatment
- % IBW vs. BMI
- Relapse predictor

Nutrition approaches

- Priority to treat life-threatening issues above all else in hierarchy
- Control issues
- Surrender must apply to food first

Who 1st said: “Food is Medicine?”

1. Dr. Andrew Weil in his book: “8 Weeks to Optimum Health”
2. Dr. Carolyn Ross in her weight management program “Naturally Fit” in 1987
Hippocrates

“Let they food be thy medicine, and let thy medicine be food.”

- Protein
  - Protein supplementation led to decrease in bingeing
  - Latner and Wilson, 12/2004
- Nutrient Density
  - Nutrient dense diet decreased binge eating behavior.
  - Davin-McPhillis, 1984
- Sugar:
  - Ingestion of sugar correlated with mood and urge to binge
  - Biscon, 1993
**Dietary Deficiencies: B-Vitamins**

- Deficiencies of B-vitamins found in eating disorder patients
- Anorexia - ? Subclinical form of pellagra
- Niacin may improve appetite and mental status
- Pyridoxine may play a role as a hormone balancer.

**Folate**

- Folate increases the effectiveness of antidepressants but may not be effective alone - Taylor, MJ, et al.
- Low folate levels implicated in poor response to antidepressant therapy - Coppen A.

**B-Vitamins - Research**

- Low B12 and FA noted in patients with depression and in alcoholics who can have SIMD

**Supplements: to replace missing nutrients**

- Food sources of calcium
  - Fortified breakfast cereal
  - Lean meats
  - Yogurt
  - Beans
  - Nuts and seeds

- Food sources of zinc:
  - Oysters
  - Lean meats
  - Fortified breakfast cereal

**Supplements**

- Digestion & Absorption:
  - Enzymes: Thorne or Tyler
  - Probiotics: Lactobacillus GG
    - [www.culturelle.com](http://www.culturelle.com)
      - Deficient in patients with chronic constipation - Hongisto, 2005
      - With fiber → decreased constipation and bloating - Kniff, 2005
      - IBS - Kajander, 2005

**Dietary Supplements**

- Low omega-3 & 6 found in anorexics
  - Holman RT - 1986
  - Langer SM - 1985
- Omega 3 supplementation → increased appetite in AN
- Zinc and EFA deficiency:
  - EFA's are important in zinc absorption
  - Zinc necessary for EFA metabolism:
    - Conversion of LA to GLA
    - Synthesis of PG's
      - Horrobin DF - 1980
Research – Omega 3 FA

- Lower DHA and higher Omega 6:3 ratios were predictive of suicide attempts
  \[\text{Mann JJ, 2006}\]
- Omega-3 FA helpful in medication-refractory depression
  \[\text{Nemets B 2002}\]
- DHA may reduce postpartum depression
  \[\text{Hibbeln J 2002}\]

Dietary Supplements

- L-Tryptophan \(\rightarrow\) Tryptophan \(\rightarrow\) 5-HTP \(\rightarrow\) Serotonin \(\rightarrow\) N-acetyl serotonin \(\rightarrow\) Melatonin

Serotonin: regulates sleep, pain, appetite, intestinal function, anxiety and depression.

- Food sources of tryptophan: chocolate, turkey,

Tryptophan

- Blood tryptophan is lower in anorexic
- Bulimics have impaired satiety responses related to serotonin and abnormal responses to transient changes in serotonin

Serotonin: 5-HTP is a precursor

- Cangiano C, 1992
- Cochrane Database
- Weltzin TE, 1995
- Brewerton TD, 1994
- Mraw M, 1989

Uses:
- Sleep
- Refractory depression

Chromium

- Chromium supplements may reduce carbohydrate cravings of atypical depression
  \[\text{Docherty JP, Sept 2005}\]

Other consequences of malnutrition

- Active bulimia associated with polycystic ovaries
- Males with anorexia may have low testosterone \(\rightarrow\) decreased lean muscle mass
- Amenorrhea secondary to low estrogen in anorexics

Mindful approach to meals

- Ceremonies and rituals \(\rightarrow\) sacred place for food
- Modern culture: Fast Food Nation
- Mindfulness
Forming a more whole-person view of eating disorders

- Ayurveda and the doshas
  - Focus on inherent constitution vs. external appearance
  - Standards based on observation not culture/media
  - Stood the test of time
  - Appearance is part of a whole system of care – food, activity, inner spiritual work

5-Element Acupuncture

- Metal constitution: Anorexia
- Water: Depression, trauma
- Wood: Alcohol, cocaine abuse, anger issues
- Earth: Co-dependency

CASE: Spunky Chelsea

- Anorexia Nervosa-purge type (79% of IBW)
- Alcohol dependence
- Medications:
  - Klonopin 0.5 mg BID
  - Lexapro 20 mg/day
  - Levoxyl
  - Trazadone

Axis I: Alcohol dependence
- Adj. disorder with anxiety and depression
- BDI: 33

Medications:
- Klonopin tapered off
- Buspar, Lexapro, Trazadone

Grief therapy:
- Guilt about her
- Anger at mom
- Empty chair - Father

Family Therapy:
- Confront perpetrator
- Give up Mother
- Spiritual Mom

Medical:
- Osteoporosis

ED Skills:
- Emotional regulation
- Nutrition + supplements
- Sleep
- Moods
- Digestion
- Food phobias

Progress in Tx

- EDI-3 on admission
- EDI-3 on discharge

- Admission weight = 79% of IBW
- Discharge = 85.8%
- Symptoms of constipation / night sweats – relieved
- Continued insomnia but improved
- Tapered off Klonopin
- BDI on admission = 33 / on discharge = 16
EMMA EMDR

Physical memories
Of abuse/unwanted sex. Exp.

“I’m not loveable”

Shiatsu:
Kidney def & Liver chi stagnation (fertility/anger)

Reiki

Cold in Pelvis

Somatics:
Dissociation Complete flight
Return shame

Medication Changes

Therapy:

Family Therapy:
Confront perpetrator
Give up Mother
Spiritual Mom

TRAUMA therapy
Inner child

ED Skills:
Emotional regulation
Nutrition + supplements
Sleep
Moods
Digestion

Guided Imagery

Zero balancing

Acupuncture:
Kidney def. (fear / trauma)

Resolution of an issue

AMENORRHEA
Fear of infertility

1 YEAR LATER: Happy News

Parenting of her own 6 year old

Inner Child healing

References