



When Eating Right Goes Wrong: Orthorexia,
Eating Disorders, and Psychopathology

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*Eating Disorder Center
of Denver*
Your Life Worth Healing






Financial disclosures


- I received a pilot research grant from AACAP that was endowed by Lilly USA, but no strings were attached.
- I think a drug company bought me dinner once, but I can't remember which one.






Disclaimers

- I am not a dietician
- I am biased because I work primarily with eating disorders
- There is a lot of hype, but very little hard science, about orthorexia



Hype vs Science


- Rollin's Extremely Crude Measure of Hype:Science Ratio (RECMHSR)
 - For "anorexia nervosa"
 - Google results: 4,260,000
 - Pubmed results: 13,167
 - Ratio: **324**
 - For "orthorexia nervosa"
 - Google results: 166,000
 - Pubmed results: 27
 - Ratio: **6148**



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Agenda


- What is orthorexia nervosa? What isn't orthorexia nervosa?
- What causes orthorexia nervosa?
- What can you do about it?
- What can we do about it?




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Agenda

- What is orthorexia nervosa? What isn't orthorexia nervosa?
 - Definitions
 - Examples
 - Orthorexic behavior vs. syndrome
- What causes orthorexia nervosa?
- What can you do about it?
- What can we do about it?




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Agenda

1. What is orthorexia nervosa? What isn't orthorexia nervosa?
2. What causes orthorexia nervosa?
 - OCD
 - Addiction
 - Unique
3. What can you do about it?
4. What can we do about it?




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Agenda

1. What is orthorexia nervosa? What isn't orthorexia nervosa?
2. What causes orthorexia nervosa?
3. What can you do about it?
 - How to recognize or ask
 - How to address
4. What can we do about it?




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NATIONAL COMORBIDITY




Agenda

1. What is orthorexia nervosa? What isn't orthorexia nervosa?
2. What causes orthorexia nervosa?
3. What can you do about it?
4. What can we do about it?
 - Are there ways to change the culture that make it less likely to elicit orthorexia among vulnerable individuals?

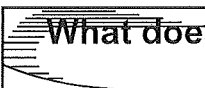


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WHAT IS ORTHOREXIA NERVOSA? WHAT ISN'T?

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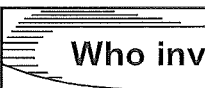


What does "orthorexia" even mean?

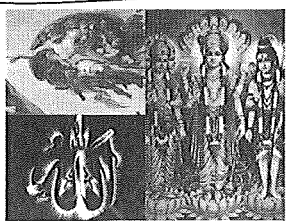
- Ortho-: (Greek) "straight, upright, rectangular, regular; true, correct, proper"
- -orexia: (Latin from Greek) "appetite, desire"
- Proper appetite
- **Adherence to food rules**

ortho, rexia. (n.d.). Online Etymology Dictionary. Retrieved April 02, 2015, from Dictionary.com website: <http://idiictionary.reference.com/browse/ortho>

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Who invented orthorexia?

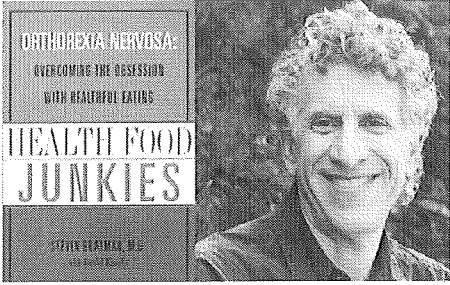


- **61.2% of the world follows religion-based food rules**

(2014). The World Factbook 2014-2015. Washington, DC, Central Intelligence Agency.

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Who invented the term "orthorexia"?



Bratman, S. and D. Knight (2000). *Health Food Junkies: Overcoming the Obsession with Healthful Eating*. Broadway Books

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Orthorexia nervosa vs orthorexia

- Orthorexia: adherence to food rules
- Orthorexia nervosa: clinical condition in which the rigid or excessive focus on or application of food rules leads to distress, impairment, illness, or disruption of normal functioning.

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Orthorexia nervosa vs orthorexia

- Orthorexia: behavior
- Orthorexia nervosa: syndrome

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Cases from our clinic

- 24yo female, treated for anxiety disorder at age 21, developed complications from pharmacologic treatment of anxiety
- Felt that anxiety syndrome was best managed through dietary changes
- By presentation to our clinic, was living largely on lysine supplements, green tea and cigarettes, severe underweight.

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Cases from our clinic

- 22yo female, lifelong ethical vegetarian, learned of concerns about processed carbohydrates
- Began with modest attempts to increase balance of proportion of whole grains.
- By presentation to our clinic, refused to eat whole grain bread that was stored next to white bread because some white bread molecules may have come into contact with the wheat bread.

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Blurred lines

- Fad diet
- Elimination diet
- Multiple elimination diet
- Self-diagnosed food intolerance
- Lifestyle change centered around diet
- Time spent focused on contents of diet
- New peer group defined by dietary restrictions
- Alienation from friends/family due to dietary restrictions

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Blurred lines

- Cases involving weight loss are probably more likely to present to eating disorder treatment centers
- Plenty of distress/problems can occur without being underweight!

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ON in the DSM5?

Avoidant/Restrictive Food Intake Disorder (ARFID)

- Disturbance in eating or feeding, as evidenced by one or more of:
 - Substantial weight loss (or, in children, absence of expected weight gain)
 - Nutritional deficiency
- Disturbance in eating or feeding, as evidenced by one or more of:
 - Substantial weight loss (or, in children, absence of expected weight gain)
 - Nutritional deficiency
 - Dependence on a feeding tube or dietary supplements
 - Significant psychosocial interference
- Disturbance not due to unavailability of food, or to observation of cultural norms
- Disturbance not due to anorexia nervosa or bulimia nervosa, and no evidence of disturbance in experience of body shape or weight
- Disturbance not better explained by another medical condition or mental disorder, or when occurring concurrently with another condition, the disturbance exceeds what is normally caused by that condition

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

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Formal definition (proposed)

TABLE 2. Proposed Orthorexia Nervosa Diagnostic Criteria

Diagnostic criteria

- Criterion A. Observed preoccupation with eating "healthy" foods, focusing on extremes regarding the quality and composition of meals (Exact wording of the following):
- Consumes a nutritionally unbalanced diet owing to preoccupying beliefs about food "purity."
 - Preoccupation and worries about eating legitimate or unhealthy foods and of the effect of food quality and composition on physical or emotional health or health.
 - Rigid avoidance of foods believed by the patient to be "unhealthy," which may include foods containing any fat, preservatives, food additives, animal products, or other ingredients considered by the subject to be unhealthy.
 - Excludes or limits or restricts food intake, even when confronted with (e.g., 24-hour) per day preoccupation about, acquiring, and preparing specific types of foods based on their perceived quality and composition.
 - Gently refuses and/or avoids other transgressions in which "unhealthy" or "impure" foods are consumed.
 - Insistence on others' food beliefs.
 - Spending excessive amounts of money relative to one's income on foods because of their perceived quality and composition.
- Criterion B. The obsessional preoccupation becomes impairing by virtue of the following:
- Impairment of physical health owing to nutritional imbalances, e.g., vitamin deficiency because of an unbalanced diet.
 - Severe distress or impairment of social, academic, or vocational functioning owing to obsessional thoughts and behaviors focusing on patients' beliefs about "healthy" eating.
- Criterion C. The disturbance is not merely an exaggeration of the symptoms of another disorder such as obsessive-compulsive disorder or of a personality or another psychotic disorder.
- Criterion D. The behavior is not better accounted for by the exclusive observation of organic/biochemical/physiologic food observations or alarm concerns with specialized food requirements are in relation to professionally diagnosed food allergies or medical conditions requiring a specific diet.

Morone, R. M., T. M. Dunn, et al. (2014). "Microthinking About Microdetails: A Case of Transition From Obsessions About Healthy Eating to Near-Fatal 'Orthorexia Nervosa' and Proposed Diagnostic Criteria." *Psychosomatics*.

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WHAT CAUSES ORTHOREXIA NERVOSA?

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What causes ON?

- A little of each:
 - OCD
 - Addiction
 - Society
 - Its own thing
 - ???

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OCD and brain reward system

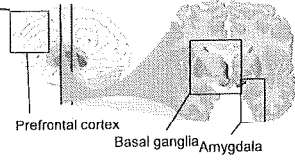
Prefrontal cortex

Basal ganglia

Amygdala

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OCD and brain reward system

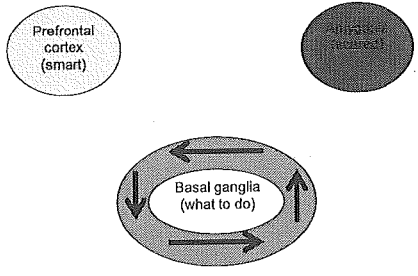


Prefrontal cortex
Basal ganglia
Amygdala

- Basal ganglia: decide what to do, do it, decide whether you should do it again
- Amygdala: fear/anxiety
- Prefrontal cortex: smart part

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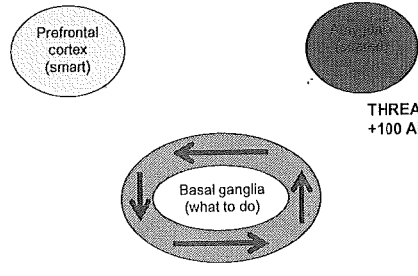
OCD and brain reward system



Prefrontal cortex (smart)
Basal ganglia (what to do)

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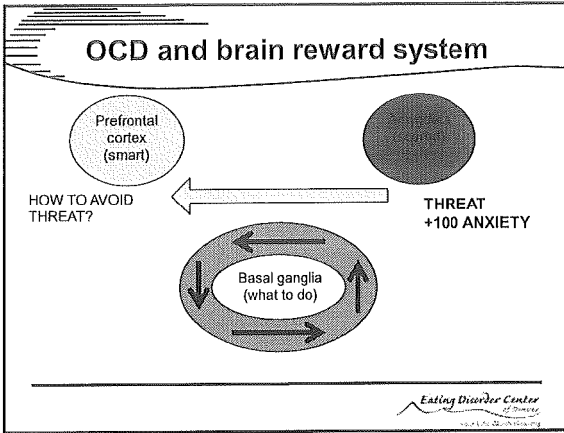
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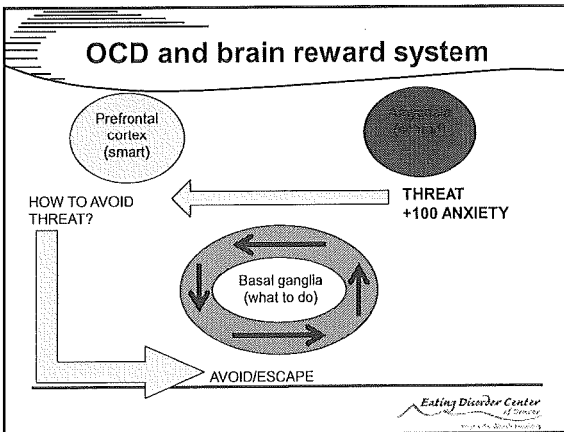


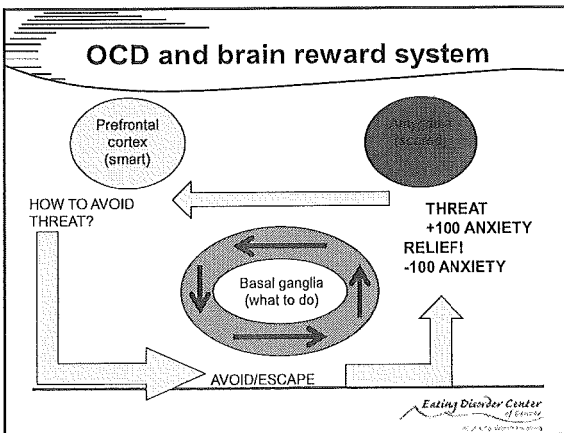
Prefrontal cortex (smart)
Basal ganglia (what to do)

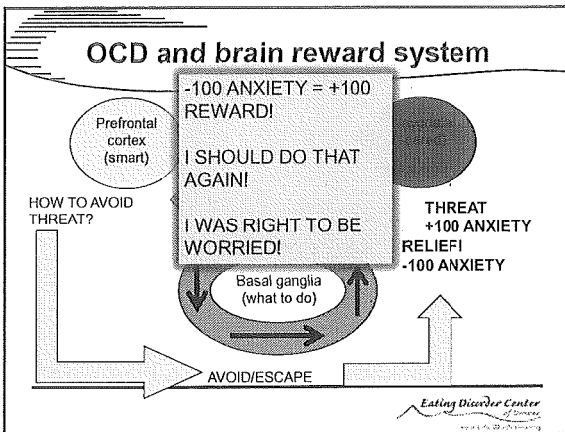
THREAT
+100 ANXIETY

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What causes ON?

- A little of each:
 - OCD
 - Anxiety, behavior, relief, repeat
 - Addiction
 - Relief/reward decreases over time

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What causes ON?

- A little of each:
 - Society
 - Its own thing

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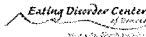
- **Diversion:** does society cause eating disorders?
- Media, body image, gender roles, social pressure
- Food rules, fad diets, Internet
- **CONTEXT vs CAUSE**
 - Society creates the **CONTEXT** for vulnerable people to develop eating disorders

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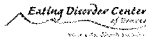
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What causes ON?

- A little of each:
 - Society
 - What phenomena create the context for orthorexic beliefs/behavior?

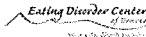


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- # What causes ON?
- A little of each:
 - Society
 - What phenomena create the context for orthorexic beliefs/behavior?
-
- 
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What causes ON?


- A little of each:
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What causes ON?


- A little of each:
 - Its own thing

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- # What causes ON?
- A little of each:
 - Its own thing
-
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What causes ON?

- A little of each:
 - Its own thing

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Food avoidance: special case?

- Food avoidance behavior may run particularly deep in our brains
 - Taste and odor recognition and conditioned avoidance are mediated by deep, old brain structures (amygdala, basal ganglia)
 - Slugs and snails are hard-wired to learn food avoidance behavior
 - Evolutionarily, this makes sense!

Margolis, M. J. (1972). "Taste and odor recognition memory: the emotional factor of the." *Phys. Monographs* 22(1-2), 451-469.
Rudy, J. W. (1970). "Conditioned taste aversion: the role of the amygdala." *Phys. Monographs* 22(1-2), 471-483.
Buckley, B. J. (1970). "The role of the amygdala in taste aversion." *Phys. Monographs* 22(1-2), 485-493.
Katz, V. S. (1970). "The amygdala: a role in taste aversion learning in the horned slug *Limax*." *Phys. Monographs* 22(1-2), 495-503.
Nelson, V. S. (1970). "Conditioned taste aversion and its role in the neurophysiological and metabolic characteristics of *Physa*." *Phys. Monographs* 22(1-2), 505-513.

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Causes: bottom line

- Some people are probably built to be exquisitely sensitive to food-related anxiety, and to the relief experienced by avoidance
- Among those, some are probably built to develop tolerance to the experienced relief, meaning they have to do more to experience the same effect

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WHAT CAN YOU DO ABOUT ORTHOREXIA NERVOSA?

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What can you do about it?

- Work to identify at-risk or ill individuals
- Help those individual manage their symptoms
- Refer them when you need to

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Recognizing ON in your clients

- Physical: weight loss, fatigue, malnutrition
- Distress: about diet, about health, about symptoms
- Accumulation of food rules
- Escalation of food rules
- Preoccupation: especially when it's hard to explain!
- Diagnosis-seeking

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Asking about ON in your clients

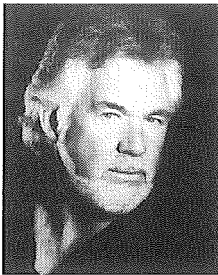
- Do you spend most of your free time or down time thinking about or dealing with your food rules?
- Have you had to avoid meals with friends/family because you know you won't be able to find foods that match your requirements?
- Do you remember the last time you broke a food rule?
- Do people comment on your food rules?

– NB: these are not research-based questions.

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Management of ON clients

- You gotta know when to hold 'em
 - *You are the expert*
 - *You don't have to go it alone*
- Know when to fold 'em
 - *Many orthorexic patients require higher levels of care*



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Management of ON clients

- Challenge rigid food rules early and often
- If your client is well, but you are concerned, challenge him/her to expand food choices and log them (exposure therapy)
- If you suspect malnutrition, collaborate with primary care provider to assess
- If your client cannot comply with these things, or avoids you when you have challenged him/her, consider referral to eating disorder treatment

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WHAT CAN WE DO ABOUT ORTHOREXIA NERVOSA?

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What can the therapeutic community do to prevent ON?

- Remembering context vs cause, are there ways to shape the messages emerging from this community help minimize the effects on vulnerable people?
- Is there an equivalent of not Photoshopping magazine photos?

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11.1.15 for World Eating Dis.

Thank you

For information or questions, please contact

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