

Castellwood

Treatment Centers for Eating Disorders

ST. LOUIS, MO | MONTEREY, CA | BIRMINGHAM, AL

Building the Foundation For Balancing Nourishment and Pleasure In the Outpatient Setting

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The Starting Point: Hunger and Fullness

**Disordered
Eating**

Recovery

Alters brain and gut
signals

Distorts brain and
gut communication

Heals the brain and gut

Reconnects hunger/
fullness messages

Restores trust in
food and body

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Science tells us that the brain and
gut can heal and reconnect...

*How can we help
our clients truly believe this?*

Objectives

- Understand the interplay between the insula of the brain and interoception
- Discuss three key points of reconnection to hunger and fullness that help heal, restore and strengthen recovery
- Explore practical analogies that support basic hunger and fullness principles
- Learn four steps to clarify and embrace both emotional and physical hunger as part of the recovery journey

MOST IMPORTANT OBJECTIVE:

Guide client to see
hunger and fullness
signals through:

- **A filter for shame reduction**
- **A lens of self-compassion**
- **A frame of hope**



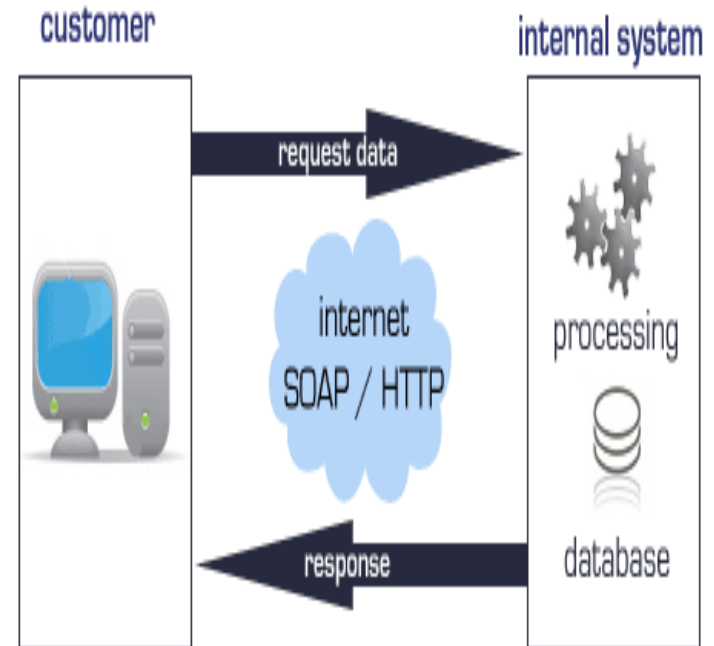
Shame is a soul
eating emotion.

C.G. Jung

quote fancy

The Brain's Relay Center: The Insula

- Coordinates the communication from most parts of the brain
 - The body's internet server
- Manages the internal state of our bodies
 - The body's host for internal folders, files, websites, videos...



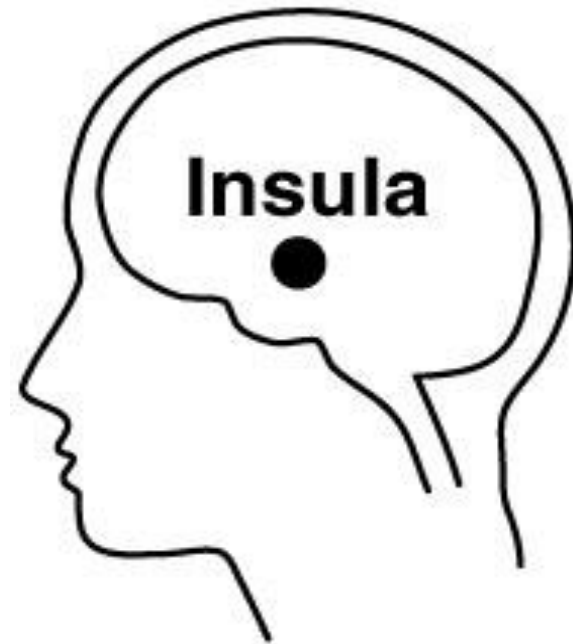
Arnold C. Decoding Anorexia. 2013

Malnutrition and Eating Disorders: The Effect on the Insula

Brain and gut
lose both
structure and
function

Blood flow to brain
(insula) decreases,
reducing energy
and oxygen

Neurons cannot
send messages
quickly or
consistently



Malnutrition and Eating Disorders: The Effect on the Insula

- Starved insula cannot regulate anxiety levels
- Starved insula alters internal perceptions
 - Studies (AN vs controls) looked at insula brain function when viewing photos of others or of self
 - **Similar** insula functioning in both anorexia and control brain images when viewing **others'** photos
 - **No** activation of insula in anorexia subjects when viewing **self** compared to normal activation in controls

Sachdev et al, 2008. Neuropsychologia (46); 2161-2168

Wagner et al, 2003. Neuroreport (14); 2193-2197

Malnutrition and Eating Disorders: The Effect on the Insula

- Starved insula blunts hunger/fullness signals AND pleasure derived from the taste of food
 - Study (Recovering AN women vs controls) looked at insula brain function when sipping sugar water after overnight fast
 - Dramatic increase in blood flow to insula when pleasant taste registered in controls
 - Blunted blood flow to insula and much lower “spike” from pleasure sensation in women recovered from anorexia

Wagner et al, 2008. Neuropsychopharmacology (33), 513-523

Malnutrition and Eating Disorders: Research on Insula and Dopamine

- Suggests that clients with anorexia have decreased dopamine levels in the cerebrospinal fluid
- Has shown that premorbid digestive problems and “picky eating” in childhood interfere w/ normal dopamine reward from food
 - Clients with anorexia have high rate of both premorbid digestive issues and childhood “pickiness”

Stice, et al (2008); Kaye, et al (2009); Bailer, et al (2005)

Malnutrition's Effect on the Insula: Beyond Hunger and Fullness

- Starved insula's effect on internal regulation reaches beyond hunger/fullness cues
 - Study (AN women vs controls) performed heartbeat test (estimated personal count per minute vs measured count)
 - Significant discrepancy between perceived and actual number of heart beats in AN group vs controls
 - Blunted blood flow to insula creates deficits in internal regulation beyond food-related responses

Critchley et al, 2004. Nature Neuroscience (7), 189-195

Pollatos et al, 2008. Eating Behaviors (9), 381-388

Interoception and the Insula: What It Is and How Far It Reaches

- Interoception?
 - The signaling and perception of INTERNAL bodily sensations
 - External senses like sight, sound and touch help us understand the world around us
 - Internal senses like hunger, fullness, thirst and disgust help us understand the world inside us
 - Adjusting of internal senses can occur with or without our awareness
 - Blood pressure change vs. sudden fear

Insula Helps Explain Alexithymia and Anosognosia

Alexithymia = Difficulty recognizing and identifying self emotions

- The more difficulty a client with anorexia has identifying emotions the more prolonged the anorexic behaviors persist
- Alexithymia is directly related to interoceptive difficulties in clients with anorexia, other psychiatric disorders and in non-clinical populations

Anosognosia = Inability to recognize signs of own illness

- Deficits in interoception create the lack of awareness of severity of starvation and body changes during course of anorexia
- Anosognosia is directly related to interoceptive difficulties in clients with anorexia, schizophrenia, bipolar disorder and some stroke patients

Harrison, et al, (2010). Speranza, et al, (2007).
Dunn, et al, (2010). Herbert, et al, (2011). Uher,
et al (2003); Gazalle, et al (2007)

Insula and Brain Reward Circuitry: Effect on Binge Eating



- Dopamine hormone is released in response to food, sex, drugs of abuse
- Dopamine circuits are associated w/ reward
 - Brain will *automate response to behavior if repeated often*
 - “Want” it but do not have to “like” it

“How the Brain Forms New Habits:
Why Willpower is Not Enough”,
February 2013

Bill Kelley, PhD. Center for Cognitive
Neuroscience at Dartmouth College

Insula and Brain Reward Circuitry: Dopamine Response

- If brain can *predict* opportunities for reward, it will respond to the dopamine trigger
 - Pictures of food
 - Food-laden environments



Insula and Brain Reward Circuitry: Binge Eating Disorder

- Evidence suggests food stimuli are processed differently in BED vs. matched controls
 - Increased sensitivity to reward
 - Increased “rash-spontaneous” behavior
 - Lack of foresight and planning
 - Tendency to disregard future consequences
 - Inability to stop/cancel an ongoing response

Schag et al. (2013); Kessler et al. (2016);
Davis C (2015)

Insula and Brain Reward Circuitry: Binge Eating Disorder

- Evidence suggests brain reward circuitry is more active with sugar-based foods in hungry subjects vs. satiated subjects
- Evidence suggests that dopamine reward responses from “acute food pleasure” adjust as weight increases
 - Greater amount required to obtain same effect

Schag et al (2013); Kessler et al (2016); Davis C (2015);
Goldstone, et al (2009); Avena, et al (2008, 2012)

Making Sense of the Science

- Understanding the interplay between brain reward circuitry and perception of hunger/fullness supports healing
 - Reduces the “surprise factor”
 - Helps neutralize shame around food and body
 - Opens the door to curiosity vs judgment
 - Restores early stages of trust in recovery process
 - “What is my body telling me?”

What Can We Learn From This?

- AN clients may benefit from development of an approach to eating that offers greater cognitive control vs. internal cues during early stages up to one year of recovery
- Depending on patterns of restriction in clients with BN and BED, similar benefits may incur w greater cognitive control vs early reliance on internal cues

Focused Attention: Builds a New Foundation (and Rewires the Brain!)

- Mindsight is “focused attention (that) ... helps us to be aware of our mental processes without being swept away by them, enables us to get ourselves off the autopilot of ingrained behaviors and habitual responses, and moves us beyond the reactive emotional loops..” (Dan Siegel)

“Managing Urges and the Brain”, Travis Stewart, LPC, NCC,
Castlewood Webinar Series

Construction Zone Analogy

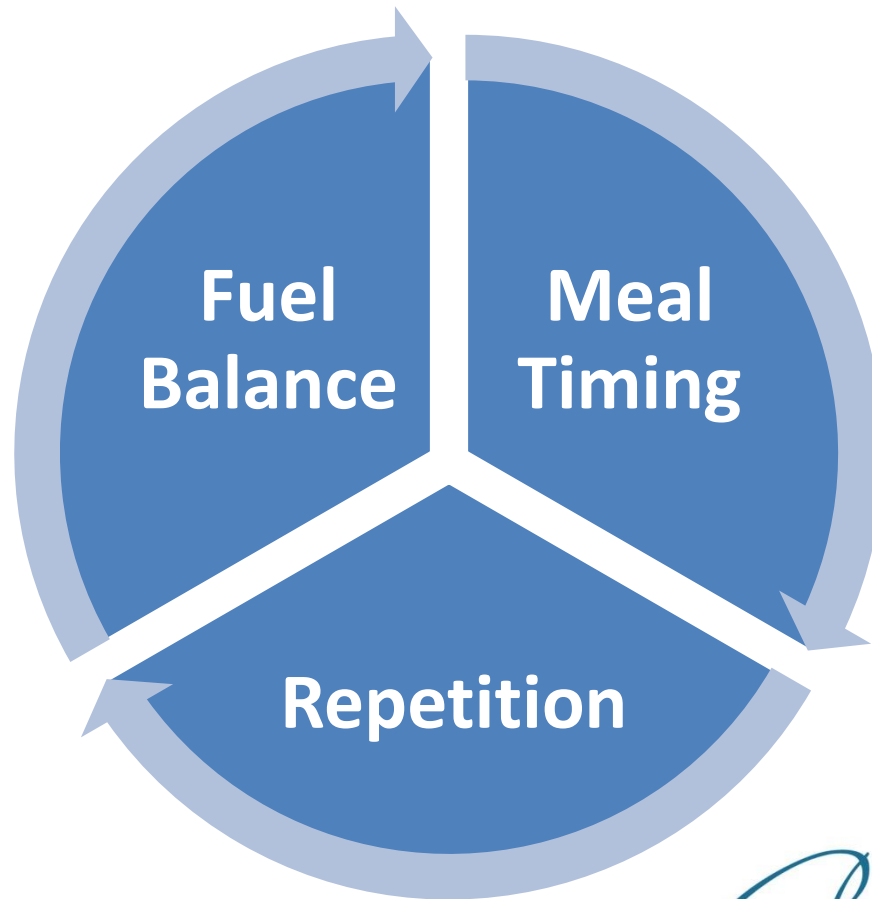
IN THE ZONE: Slower pace and controlled boundaries for safety and control



OUT OF ZONE: Free to decide what is best for the situation in both direction and pace



Rediscovering Hunger and Fullness



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Rediscovering Hunger and Fullness

Why fuel your body every 3-4 hours?

- Heals your brain
- Stabilizes your metabolism
- Sustains your energy
- Clarifies your thoughts

Why balance your fuel choices?

- Honors nourishment *and* pleasure
- Removes the judgment
- Eliminates “good/ bad” food lists that disrupt recovery

Rediscovering Hunger and Fullness

- Why repeat the pattern?
 - Reduces your physical cravings
 - Reveals your emotional cravings
 - Rewires the brain
 - Builds a strong foundation for healing and recovery

Meal Timing Matters!

- Consistent, regular meal and snack times serve as TRAFFIC CONES during “construction”
 - Recalibrates metabolism
 - Restores body’s “appetite-based” pattern of eating
 - Study: After 2 days of adjusted mealtimes, liver’s rhythm **shifted** 10 hours (Science Journal. Jan 2001)
 - Separates physiological and emotional triggers



Meal Timing Analogies

A New Way to “Drive”



Our Body's Fuel Gauge



Hunger and Fullness: Our Body's Fuel Gauge



Balance and Variety Matter

- Balance and variety at meals and snacks serve as TRAFFIC CONES during “construction”
 - Better outcomes associated w/ increase in energy dense foods and variety, particularly carbohydrates
 - Evidence supports increased satisfaction and decreased desire to binge after consuming meals adequate in protein
 - Lack of variety is associated w/ relapse in AN



Raben, et al (2003) Amer Jrnl Clin Nutr 77(1) 91-100;
Schebendach et al. (2011) JADA 111(5) 723-736

Balancing Nourishment and Pleasure

- Nourishment and pleasure can be found in all foods and combinations
 - Fresh fruit salad with vanilla yogurt
 - *Nourishment* from energy, calcium, protein, vitamin C, potassium
 - *Pleasure* from tangy crispy freshness next to smooth vanilla
 - Warm chocolate brownie with ice cream
 - *Nourishment* from energy, calcium, B vitamins
 - *Pleasure* from chocolate warmth next to cold creaminess
- Nourishment and pleasure may be defined differently by each client

What IS Balance?

- Balance is defined as “to bring to or hold in equilibrium; to move in rhythm to and from (dance); to be equal in value”
 - includes “*mental steadiness or emotional stability; habit of calm behavior*”
- Balance is not only in the tangible food choices **but also the intangible emotions and judgment surrounding the food**

Emotional vs. Physical Hunger

- Three questions to ask during a food craving:
 - Am I fueling my body every 3 to 4 hours?
 - Do I notice a steady energy level when I consistently eat every 3 to 4 hours?
 - Do I notice an overall decrease in my anxiety level when I consistently eat every 3 to 4 hours?
- If YES, If NO,
 - Both options are valid
 - Each option deserves respect

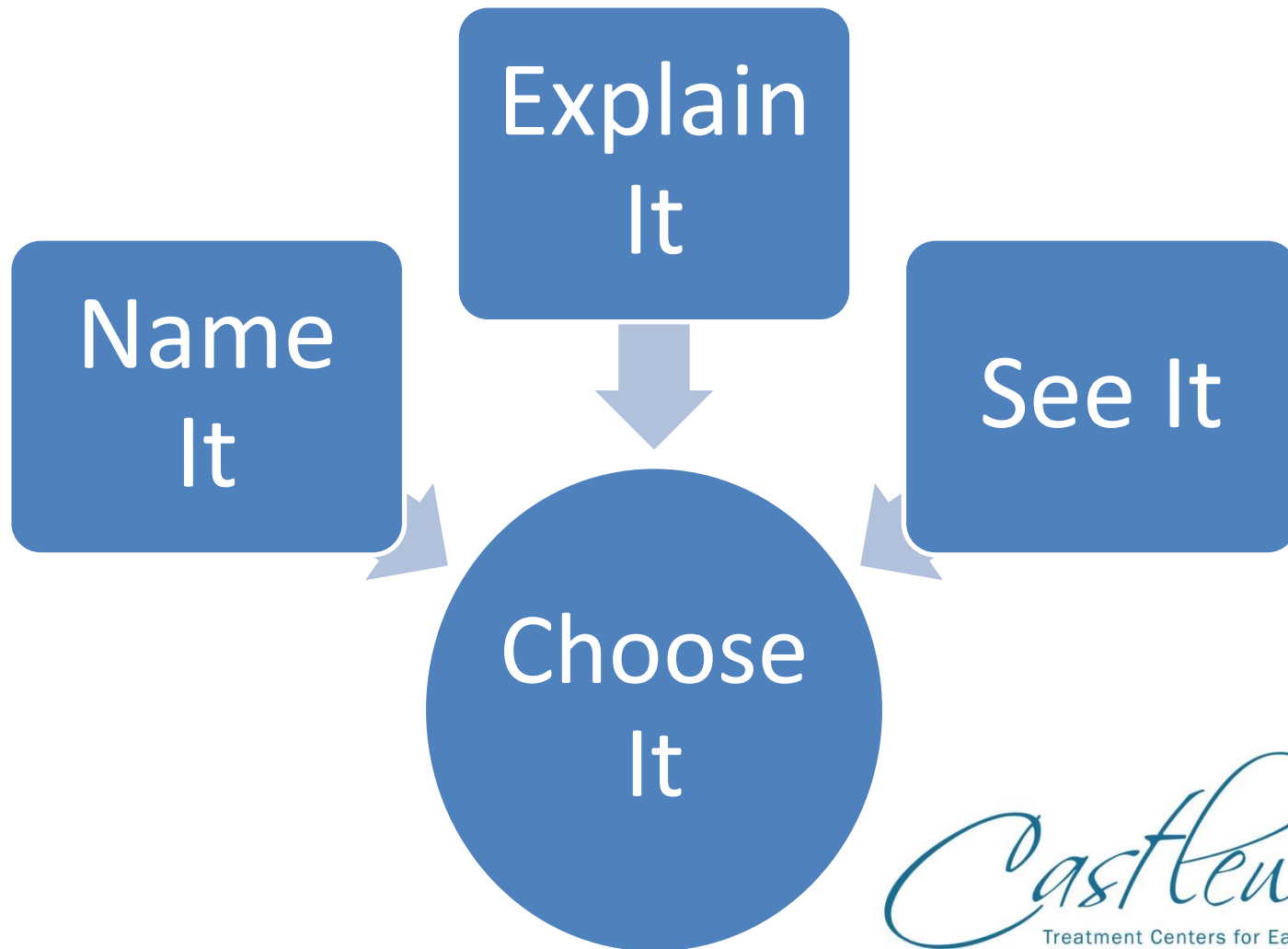
If “YES” more often than not...

- Tell yourself, “I am learning to trust balanced fuel and meal timing to do its healing work”
- Stay curious and notice how different fuel combinations feel and sustain your body
- Stay curious and notice how you respond differently to unexpected stress when eating every 3 to 4 hours

If “NO” to any of the above...

- Stay curious and notice what and when you experience a craving
- Practice the “Four Steps to Rediscovery” as soon as you become aware of your craving
- Collaborate with your RD to balance variety and amount of fuel you provide your body, sharing what you discovered about yourself

Four Steps to Rediscovery



Choose NOT to feed the emotional craving?

- I choose not to feed this craving now because my body isn't physically asking for it
- I choose to feed my emotion with an alternative of _____ instead of food
- I choose to sit in the discomfort and be gentle with myself as it passes

Choose TO feed the emotional craving?

- I choose to be present and fully engaged through this emotional experience
- I choose to learn more about myself by embracing self-compassion for what I am needing right now
- I choose to eat my next regularly planned meal or snack to support my recovery

*“I do not understand
the mystery of grace -
only that it meets us where
we are and does not leave us
where it found us.”*

Anne Lamott

Every Small Change Matters



- Create a celebration chart or recovery journal
 - Any change in choices
 - Any change in thoughts
 - Any change in emotions
 - No change too small!

“Take Home” Points

- Understanding the interplay of insula and interoception helps both clinician and client
- Meal timing + fuel balance + repetition = rediscovered hunger and fullness
- The Four Steps (Name it, Explain it, See it, Choose it) clarify and embrace BOTH emotional and physical hunger as part of the recovery journey

Castlewood Treatment Centers: Changing the Way People Recover

Through the three main principles of our program's philosophy – Compassion, Respect and Empowerment – our mission is to identify and address the internal wounds of our clients and work toward overall healing.

If you or someone you know needs treatment for an eating disorder, contact us:

877-796-6378 or info@castlewoodtc.com