“Having diabetes is the easiest way to have an eating disorder. I can go out to eat with my friends, eat anything I want, and purge during the meal without anyone knowing I am doing it.”

The Basics
- Eating disorders
- Association between diabetes and eating disorders
- Inside the mind of a diabetic with an eating disorder/what they want us to know
- Treatment
- Other considerations

DSM-V Classifications
- Anorexia Nervosa
- Bulimia Nervosa
- Binge Eating Disorder
- Other Specified Feeding or Eating Disorder

Development of Eating Disorders
- Hunger: Physiological need for food.
- Appetite: Desire for food whether or not hunger is present.
- Satiety: Feeling of fullness and/or satisfaction.

Appetite (Psychological Hunger)
- Emotional connection with food as a positive experience starts at birth.
- Eating for reasons connected with boredom, stress, anxiety, sadness, etc., or eating to distract or escape can be learned and reinforced over time (eating to avoid negative emotions).
- Overeating/bingeing for reasons other than hunger can become habitual.
- NOT eating for emotional reasons can follow similar pattern.
Psychological Effects of Dieting (restriction)

- Feelings of deprivation often lead to cravings (both biological and psychological).
- Feelings of guilt due to eating forbidden foods.
- Preoccupation with food.
- Obsessive, compulsive thinking.
- Use of food (overeating/bingeing and/or restriction) as a coping mechanism (food gains more emotional power).

Restrict/Overeat or Binge Cycle

Diet or Menu Plan (restriction)

hunger

continue to eat (appropriately)

guilt

binge

gain weight

all or nothing mentality

Normal Hunger/Satiety Scale

<table>
<thead>
<tr>
<th>Hunger</th>
<th>Satiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Fullness</td>
<td></td>
</tr>
</tbody>
</table>

Hunger/Satiety Scale in People with Traditional Eating Disorders

- More difficult to identify moderate hunger and comfortable fullness.
- By the time hunger is identified, it tends to be more extreme.
- More difficult to eat moderately when hunger is more extreme.
- Some combination of restrict/binge/purge cycle present in those with eating disorders.

Development of Eating Disorders in Patients with Diabetes

- Patients may already have an eating disorder or disordered eating prior to diabetes diagnosis.
- Patients may also develop an eating disorder after diabetes diagnosis.
  - What percentage had symptoms of the eating disorder but no diagnosis before they were diagnosed with diabetes?

“Diabulimia”

- Not recognized in DSM-V as a diagnosis.
- Diabulimia describes an eating disorder behavior associated with Type 1 diabetes.
- Patients deliberately skip or reduce insulin dose for the purpose of losing weight or preventing weight gain.
- Results in hyperglycemia, glucosuria, diabetic ketoacidosis, ketonuria, and rapid weight loss.
“Diabulimia”
- Other eating disorder behaviors are often present (restriction, bingeing, purging, over-exercising, judging self-worth by weight/body size, etc.).
- Symptoms of an eating disorder may be sub-clinical.
- Diabulimic patients suffer the consequences of not taking care of a potentially life-threatening medical condition in addition to the risks associated with traditional eating disorders.

Potential Warning Signs for Traditional Eating Disorders
- Weight loss (often despite increased or no change in food intake).
- Weight fluctuations.
- Hunger denial, secretive eating, or bingeing.
- Restricting or eliminating certain foods or food groups (“safe” and “forbidden” food lists).
- Inappropriate use of diet pills, diuretics, laxatives, enemas, ipecac, caffeine, hot or cold beverages, sugar-free gum, etc.

Warning Signs for Traditional Eating Disorders
- Fatigue, weakness, lethargy.
- Excessive exercise.
- Preoccupation/obsession with weight, body-image and/or food intake.
- Being overly critical of appearance.
- Amenorrhea (females).
- Anxiety/depression/extreme mood changes.
- Self-hatred.

Warning Signs for Diabetes Related Eating Disorders
- Poor metabolic control (hyperglycemia and/or elevated HbA1c) despite reported compliance.
- Weight loss or weight maintenance despite unchanged or increased food intake.
- Recurrent DKA.
- Classic symptoms of diabetes: excessive urination, excessive thirst, excessive hunger.

Why might diabetic patients be at increased risk for developing eating disorders?
- Onset of diabetes is often associated with weight loss that diabetic does not want to give up.
- Insulin treatment often leads to increased hunger and weight gain, increasing likelihood of poor body image.
- Routine focus on weight at every doctor visit.
- Restrictive element of diabetic diet.
- Classification of foods as “allowed,” “forbidden,” “good” or bad.
- Shame about food choices.

Why are diabetic patients at increased risk for eating disorders?
- Contraindication of high carbohydrate foods when blood glucose levels are elevated.
- Focus on numbers.
- Necessity of reading food labels.
- Need for ongoing close monitoring of diet, exercise, blood glucose levels and insulin dosages leads to obsessive thinking and unhealthy preoccupation with food and weight.
- Fear of bad experiences going low – eat to prevent or correct, then feel guilt about eating and fear that eating will lead to weight gain.
Why are diabetic patients at increased risk for eating disorders?

- Role of parents or others (“diabetes police”) in managing diabetes (control).
- Misconceptions/judgments of others: “You can’t eat that, you’re diabetic!” (lack of understanding/education).
- Need for control (controlling food and/or weight when one can’t control emotions or external situations).
- Use as a coping mechanism (emotional disassociation).
- Focus on exercise.

Why are diabetic patients at increased risk for eating disorders?

- Psychological issues associated with diagnosis and management of long-term illness (anger at diabetes).
- Diabetes diagnosis can contribute to triggering factors that often lead to eating disorders: low self-esteem, depression, anxiety and loneliness.

Increased Risks for Diabetic Patients with Eating Disorders

If manipulating insulin:
- Hyperglycemia
- DKA
- Elevated HbA1c levels
- Earlier onset of degenerative complications of diabetes:
  - Retinopathy (blindness)
  - Kidney disease
  - Heart disease
  - Nerve damage
  - Circulation problems
- Higher early mortality rate than in diabetics without eating disorders

If bingeing and/or purging:
- Episodes of both hyperglycemia and hypoglycemia.
- Earlier onset of degenerative complications of diabetes.
- All complications (physiological and psychological) associated with bulimia.

Inside the Mind of a Diabetic Patient with an Eating Disorder

- “If I am not taking my insulin, I can eat without feeling guilty because I know my body is starving”.
- “Hunger is legitimate when I am not taking my insulin.”
- “The more I eat, the higher my blood sugar will go and the more weight I will lose”.

Inside the Mind of a Diabetic Patient with an Eating Disorder

- “I know exactly how high I can bring my blood sugar levels without going into DKA or needing to be hospitalized.”
- “If my blood sugars are so high that I crash, it is an accomplishment”. The eating disorder says, “Look how strong you are!”
- “I can function at blood sugar levels that others would be hospitalized for. I am invincible!”
Inside the Mind of a Diabetic Patient with an Eating Disorder

• “If my blood sugar levels get so high that I start vomiting, it is good because I am getting rid of sugar and my blood glucose levels will go down.”
• “Eating carbs before or after exercising defeats the purpose of the exercise”
• “If I am following all of the rules that a “good” diabetic follows, I am also following all the rules that my eating disorder dictates.”

Inside the Mind of a Diabetic Patient with an Eating Disorder

• “The less my team knows about eating disorder, the easier it is to get away with it.”
• “My endocrinologist who picked up on the fact that I was not taking my insulin is really smart, so I went to a different endocrinologist. My new endocrinologist should have asked for my records!”

What do they want us to know?

• “Thoughts of a diabetic with an eating disorder are not different than thoughts of a non-diabetic with an eating disorder. We just have another tool.”
• Treating someone with diabetes and an eating disorder is a balancing act. You can’t apply the same principles you use with a diabetic who doesn’t have an eating disorder.

What do they want us to know?

• Eating disorders can occur at any age.
• For some teenagers, not taking insulin is simply about wanting to be like everyone else.
• Don’t use scare tactics.
• “Don’t just assume I need more insulin if my numbers are high. Ask me more questions.”
• “Don’t put so much focus on my weight.”

What do they want us to know?

• Diabetics can eat like people without diabetes, as long as they dose.
• “Don’t tell us we can’t or shouldn’t eat certain foods--it fuels the eating disorder.”
• Carb cravings--especially for sugar--are drastically higher when not taking insulin, as compared to carb cravings when just running low.
  – Most say that the most common craving that they have is for soda.

What they want us to know?

• Exchange systems can fuel the eating disorder, contribute to all-or-nothing thinking, lead to a sense of failure and “what difference does it make?” thinking in people with or at risk for an eating disorder.
• Trying to treat the diabetes without treating the eating disorder is like putting a band aid on a bullet wound.
What do they want us to know?

- “You, as the professional know the protocol, but if you don’t have diabetes you don’t know how it feels.”
- “I need my whole team to be on the same page.”
- “DON’T GIVE UP ON ME!”

Goals

- Restore hunger scale to normal range.
- Develop ability to appropriately interpret and respond to physiological hunger:
  - Decreases urges to restrict and/or binge.
  - Helps patients recognize when they are wanting to eat for reasons other than hunger.

Goals

- Give permission to eat freely. Accept one’s food behaviors without self-judgment
  - Hunger is normal.
  - Eating in response to hunger should not lead to self-criticism.
  - It is ok to eat foods one likes.
- Accept body at natural weight based on genetic predisposition.

Intuitive Eating and Diabetes

- Meal exchanges can reinforce the rigidity and restrictive tendencies of the eating disorder.
- Intuitive Eating allows each individual the flexibility to decide the best eating plan for him/herself.
  - Emphasis on using hunger, appetite and satiety to guide food choices.
  - Appropriate insulin dosing allows the diabetic patient freedom and flexibility in food choices.

Challenges: Food

Should diabetics choose lower carbohydrate meal alternatives when blood glucose levels are higher and or choose sugar-free/no sugar added foods for meals or snacks?

- Appropriate for diabetes management.
- How do we know when the decision is driven by the eating disorder rather than a desire to regulate blood glucose levels?
- How do we recommend lower carbohydrate options without triggering the patient?

Challenges: Food

- How do we talk about high carb foods?
- What do we recommend about label reading?
  - Label reading is contra-indicated for the eating disorder patient but integral to diabetes protocol.
Challenges: Exercise

- Unhealthy exercise behaviors may develop as an integral part of the eating disorder.
  - Focus on burning calories
- May develop a pattern of compulsive over-exercise (moving target).
- May lead to all-or-nothing thinking and yo-yo exercise, similar to what occurs with dieting.
- Beneficial for insulin effectiveness and blood glucose management.

Challenges: Insulin

- How do we approach a diabetic who we think may not be taking insulin for the purpose of weight management?

Treatment Related Questions

- How do we screen for eating disorders in patients with diabetes?
  - HbA1c may not be higher than expected.
  - Patients unlikely to volunteer information.
  - It is beneficial for endocrinologists and diabetes educators to know what questions to ask.

Treatment Related Questions

- What is the influence of patients’ desire to please their endocrinologists and/or diabetes educators?
  - Eating disorder patients are often people-pleasers.
  - Patients are often reluctant to report if they are not taking insulin as prescribed and/or are engaging in other eating disorder behaviors.
  - Eating disorders are strongly linked to shame, embarrassment and secretiveness.

Treatment Related Questions

- Is the reason that some patients with diabetes develop eating disorders based on the predisposition of the patients, the way we educate about diabetes management, or is it some combination of both?
  - What makes some patients more vulnerable?
  - What modifications might we need to make in diabetes education?

Treatment Related Questions

- Do current methods of diabetes education increase the incidence of eating disorders in at-risk patients?
  - Labeling good foods/bad foods.
  - Emphasis on numbers.
  - Rules, rigidity and fear-based motivation tactics can lead to shame, guilt, hopelessness and increased risk for eating disorders in some patients.
Treatment Related Questions

• How do we educate diabetic patients who are at risk for eating disorders?
• How do we identify which patients are at-risk?
• Current methods that are effective for patients at negligible risk for eating disorders might be contra-indicated for people who are higher risk.
• Is this the tip of the iceberg?