Refeeding the Adult and Adolescent Eating Disorder Patient Webinar Transcript

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la-shell_johnson@med.unc.edu: Good afternoon, everyone, I would like to welcome you to today's webinar feature and hosted by NCEED. I want to go over a few things to note, before I begin.

la-shell_johnson@med.unc.edu: Participants will be muted upon entry and videos turned off. For technical assistance, please use the chat box. Third, you will receive an email approximately one month from today requesting feedback and impact on today's presentation.

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la-shell_johnson@med.unc.edu: As a reminder, we will have a 10 minute question and answer segment at the end of this presentation. Any unanswered questions will be sent to you via email one week from today's presentation.

la-shell_johnson@med.unc.edu: A copy of today's webinar presentation will be sent out immediately after the webinar has ended, with the evaluation that we ask for you to complete.

la-shell_johnson@med.unc.edu: I will now go ahead and introduce today's speaker for today's webinar titled, “Refeeding the Adult and Adolescent Eating Disorder Patient.”

la-shell_johnson@med.unc.edu: Today's speaker is Ms. Anna Lutz, a registered dietitian at Lutz, Alexander and Associates Nutrition Therapy in Raleigh, North Carolina.

la-shell_johnson@med.unc.edu: She specializes in eating disorders and pediatric family nutrition. Anna received her Bachelor of Science degree in Psychology from Duke University, and Master of Public Health and Nutrition from the University of North Carolina Chapel Hill. She's a certified eating disorders registered dietitian, and an approved supervisor, both through the International Association of Eating Disorder Professionals, IADEP. Anna also previously worked at Children's National Medical Center in Washington DC and Duke University Student Health.

la-shell_johnson@med.unc.edu: Treating individuals with eating disorders, she has completed extensive training through the Embodied Recovery Institute and strives to provide her clients trauma and semantically informed care. Anna is a national speaker, and delivers workshops and presentations on eating disorders, weight-inclusive healthcare, and childhood feeding.

la-shell_johnson@med.unc.edu: She also writes and talks about nutrition and family feeding free of diet culture on her blog Sunny Side of Nutrition and her podcast Sunny Side Up Nutrition podcast. I'll now turn things over to Ms. Anna Lutz.

Anna Lutz: Thank you so much, La-Shell. I really appreciate the introduction and I'm thrilled to be here today for this presentation, and we're just going to get we're going to jump in.

Anna Lutz: So we're talking about refeeding and the adult and adolescent client, and I think we've covered the introduction. I'm thrilled to be here and, I wanted to highlight that I'm an outpatient clinician, I've always been an outpatient clinician, so the presentation today is going to focus on outpatient nutrition rehabilitation and when to refer to a higher level of care.

Anna Lutz: Our objectives, today we are going to be at the end, be able to list three medical risks of malnutrition, regardless of body size in a patient with an eating disorder, will be able to define refeeding syndrome and assess for refeeding syndrome risk, and explain how to determine expected body weight in the treatment of the patient with an eating disorder.

Anna Lutz: And so, our outline today is I'm going to briefly cover the importance of screening for eating disorders in your practice, the risk of malnutrition we're going to go into refeeding syndrome and finally, close the webinar discussing expected body weight and we'll have time at the end for questions.

Anna Lutz: So, you know, you know always sticks important to talk about why it's important to be looking for eating disorders in our practices.

Anna Lutz: We know that eating disorders are unfortunately deadly, they're the second highest, they have the second highest mortality rate of all mental illnesses and one in five people diagnosed with anorexia nervosa die by suicide.

Anna Lutz: Pre-pandemic eating disorder rates had had doubled, so you can see, in comparing 2000 to 2006 that time period compared to 2003 to 2018, we had seen this significant increase in eating disorder rates worldwide and OSFED,

Anna Lutz: Other specified feeding an eating disorder is the most prevalent, followed by binge-eating disorder, bulimia nervosa, and anorexia nervosa so that's how things were in 2018.

Anna Lutz: And then, since then, eating disorders in the pandemic, we all know and you've probably heard from news media, eating disorders, have been in the news quite a bit lately that.

Anna Lutz: Eating disorder rates have doubled again and probably more because these studies are showing hospital admission rates, one being hospital and recent mates.

Anna Lutz: For eating disorders and the other studies showing emergency department visits related to eating disorders.

Anna Lutz: And we know that eating disorders do not discriminate they affect people of all races, ages, socioeconomic backgrounds, all genders, all body types, types and sizes, and all sexual orientation patients.

Anna Lutz: Our field has a history of only focusing on females, on white females, and so, but we know that eating disorders affect all people.

Anna Lutz: Unfortunately, people of color are two times less likely to be diagnosed with an eating disorder and one and a half, less likely to receive treatment and so it's something that our field.

Anna Lutz: Hopefully, is working on and has a lot of work to do. People that are transgender have an increased risk of a significant increase risk of developing an eating disorder and also their increased rates of eating disorders in sexual minority youth.

Anna Lutz: And so I wanted to point out NCEED’s new screening tool, and the website is there on your screen. Wherein a primary care practice can pull up the screening tool, and you can screen a patient for an eating disorder right there. It's specifically for adults. And so, if you work with adolescents, I cited a study and the resources are at the end of my slides.

Anna Lutz: But also, you know assessing for dieting history in an adolescent any, any, kind of dieting is a significant risk for developing an eating disorder, body image dissatisfaction, experiences with weight stigma. Any changes and eating and exercise patterns and that's what I think we really saw in 2020 with the all the changes that we all experienced.

Anna Lutz: psychosocial development how how's that going for the adolescent is there amenorrhea for someone who should be menstruating and there's other training specifically focused on screening in the in NCEED webinar library.

Anna Lutz: I did a webinar year ago that focused on, part of it was focused on screening adolescents. And so, if that's something that you're interested in, I encourage you to seek out treatment there, I mean seek out training there for screening.

Anna Lutz: Also, I want to kind of point out that eating disorders can show up in anyone's office, that so often, you know the entry point into eating disorder treatment, might be my office as a registered dietitian. And I'm doing an assessment, and then I may be referring to the medical provider and the psychotherapist.

Anna Lutz: Or, the entryway may be through the medical provider. Someone comes with certain medical complications, and then the medical provider is doing their assessment and referring to the psychotherapist, or registered dietitian, or, lastly, someone may feel more comfortable presenting to a psychotherapist. And then, the psychotherapist may assess that there's an eating disorder and referring on to the medical provider and registered dietitian, and so the entry point can be anywhere.

Anna Lutz: And that kind of forming that team as a minimum of these three providers is important.

Anna Lutz: So, malnutrition and its risks. I wanted to talk about just basic definitions. So malnutrition is the lack of proper nutrition and that could be on many different levels. Today we're going to talk more about severe malnutrition.

Anna Lutz: Starvation is specifically severe deficiency in caloric energy. And then, I wanted to differentiate between refeeding syndrome and what some people may call refeeding and the more preferred term of nutrition rehabilitation.

Anna Lutz: And so, refeeding syndrome, which we're going to get into specifically today is a range of metabolic and electrolyte alterations occurring, as a result of reintroduction of food, of calories.

Anna Lutz: Or it could be whether it could be food, it could be enterally nutrition or parenterally nutrition after there's been a decrease or absence of caloric intake.

Anna Lutz: Refeeding or nutrition rehabilitation is that reintroduction. So someone may be going through the refeeding process or nutrition rehabilitation process, but they don't have refeeding syndrome, and so I wanted to kind of we're going to be talking about actually all of these things today.

Anna Lutz: But, I wanted to make sure to differentiate between refeeding syndrome and this process of nutrition rehabilitation.

Anna Lutz: So what do we, know about starvation.

Anna Lutz: You know I bet many people on this webinar have heard of the Minnesota Starvation study, and if you haven't, I encourage you to look it up and there's very interesting articles about it, but this study involved 36 male conscientious objectors and their who was put on him semi starvation diet, they were put on about a 1500 calorie diet versus their needs of around 3000.

Anna Lutz: In all of these studies really showed the impact of starvation.

Anna Lutz: These men started showing behaviors that we think of as specific behaviors of have an eating disorder so focusing on food, changing you know, cutting up food in small pieces, an increased focus on body and body image. And so we really point to this as a lot of the behaviors that we think of an eating disorder behaviors are our actual behaviors of starvation and that's why the nutrition rehabilitation process is so important because, because without that these behaviors will continue, it's our body's way of trying to stay alive.

Anna Lutz: We first the first kind of noted experience with refeeding syndrome was first described after World War II involving prisoners of war, concentration camp survivors, and victims of famine. So that was the first time refeeding syndrome was described.

Anna Lutz: This is not an exhaustive list, exhaustive list, but you know malnutrition affects all of our systems all of our, it affects us all over our body.

Anna Lutz: Specifically, with our cardiovascular system we, we, see clients who may present with bradycardia, orthostatic instability, congestive heart failure. You can read the slides here, but I wanted to kind of highlight the psychological piece of anxiety, depression, hyper vigilance, body image, distress and suicide. These are specific risks that are associated with malnutrition and not just eating disorders, so again making sure someone is fully nourished, fully weight restored, which will be the last part of our webinar today is important to reduce these risks.

Anna Lutz: So I wanted to point out in this, this will come up several times today, what our field called anorexia nervosa versus and I put it in quotes “atypical anorexia.”

Anna Lutz: In my personal opinion is I don't love that term because it's not fitting, because it is actually far more typical than anorexia nervosa so the DSM V.

Anna Lutz: Part of the criteria for anorexia nervosa has this criteria of low weight now there's some you can interpret it how you'd like but it specifically it says in the.

Anna Lutz: Low weight in the context of the age, sex, developmental trajectory, and physical health, so let are less than mentally quote “normal or expected” and so when we see someone who is experiencing malnutrition, but they're not formally quote “underweight” oftentimes they're diagnosed with this atypical anorexia.

Anna Lutz:, But studies show that they're these individuals are just as physiologically, medically ill and they had the same risks if they were at what we call a low weight status, and so I think this is an important piece.

Anna Lutz: And that what we know is, we need to look more at weight suppression, which is the comparison of current weight versus highest weight and that can really be predicted the greater weight suppression, the greater the difference between.

Anna Lutz: Highest weight and current weight can really be predictive of medical complications, regardless of where that current weight is in relation to you know, kid of standards of what’s considered underweight.

Anna Lutz: Again we'll talk more about that, but I think that's an important piece as we're thinking through these individuals that are severely malnourished that severe malnutrition can happen at any weight.

Anna Lutz: So refeeding syndrome, the next several slides are going to be specifically about what it is because we've all heard about it, and so, sometimes it's good to stop and take a few what, what, is refeeding syndrome.

Anna Lutz: So to think about in terms of nourishment, our body can really easily access energy stores, can use energy stores, we're putting micronutrients into storage as needed, we can access them and there's this there's this we're in more of a catabolic state, we can, in a building state.

Anna Lutz: In times of malnutrition, we can efficiently use those available energy stores. Our body says okay there's not enough food here, we need to use those energy stores that are available to us, whether that's mobilizing fat, or that's most mobilizing glucose from our storage form of glucose, mobilizing protein. You know we, we, it's an easy kind of back and forth for survival.

Anna Lutz: But in times of severe malnutrition what starts to happen is that our vitamins and electrolytes become more and more depleted and our electrolyte depletion can be exact, exacerbated by diarrhea, vomiting, gastric drainage diuretic use, which we see with a lot of our clients and so there's not you know we've gone from having malnutrition, where we can kind of access, what we need to survive to things being very, very depleted.

Anna Lutz: And so today we're going to talk a lot about the ASPEN guidelines for refeeding risk, and this is their diagnosis proposed diagnostic criteria from the study of 2020 to go back a slide this study that cited here is those ASPEN guidelines and so.

Anna Lutz: When we see a decrease in any one of these electrolytes—phosphorus, potassium, or magnesium by 10 to 20% and you can kind of see mild versus moderate.

Anna Lutz: versus more severe or organ dysfunction or and/or due to thiamine deficiency, which would be severe is that kind of last everything after the ‘or,’ and so.

Anna Lutz: And this would occur within five days of initiating nutrition. And so what I want to remember is that the ASPEN, ASPEN is the parenteral and enteral nutrition society, and so a lot of this is they're looking a little bit more from an inpatient hospital standpoint.

Anna Lutz: And so, but regardless, this is an important definition of what is refeeding syndrome.

Anna Lutz: So why does it happen? So when we introduce nutrition after severe malnutrition, blood glucose increases right we start to eat more our blood glucose increases.

Anna Lutz: Therefore insulin level increases because insulins job is to help us utilize the glucose in our blood. As insulin increases, part of what happens is that phosphorus and potassium goes into ourselves and so what we see is that because there's already this, we're already depleted at severe malnutrition this influx into the cells can drop to a fatal level and that's, of course, what we want to avoid.

Anna Lutz: So, phosphorus we're going to take each electrolyte one by one. Phosphorus is a vital component of ATP, which is our storage form of energy and humans.

Anna Lutz: During severe malnutrition are phosphate stores are used to produce ATP so that our bodies can keep going so we're using up our phosphate stores to produce ATP.

Anna Lutz: Phosphate depletion which would happen during severe malnutrition, can lead to muscle dysfunction and respiratory failure.

Anna Lutz: Low serum phosphorus levels can lead to cardiac arrhythmias and phosphorus depleting lead to tissue hypoxia, hypoxia so when we start to eat phosphorus can be kind of driven into the cells. Now potassium, insulin as insulin increase it stimulates this sodium potassium at ATPase.

Anna Lutz: And so what we see is that inside that's to stand stimulates the potassium going into the cells and sodium going out of the cells.

Anna Lutz: And so, again with the potassium going in, it can be, it can be a severe risk, and you can kind of see on the screen, the risks of hypokalemia which would be low potassium.

Anna Lutz: And then magnesium we don't fully understand magnesium's role in refeeding syndrome. Hypomagnesium impairs potassium reuptake in our nephrons so there may be that that might be the kind of association. So it may lead to excess losses. Hypomagnesium also impairs cellular transport of potassium. So magnesium is a low magnesium, or low serum magnesium levels is a risk for refeeding syndrome.

Anna Lutz: We also need to be looking at thiamine. Thiamine deficiencies also often seen in refeeding syndrome, the demand for thiamine increases during refeeding, and so the co-factor for glucose dependent metabolic pathway, thiamine is a co-factor for metabolic pathways and so there's an increase of thiamine.

Anna Lutz: When during severe malnutrition, are our thiamine levels are depleted and so often thiamine is supplemented and we'll get to that in a bit.

Anna Lutz: So who's at risk? So you know today we're mostly talking about individuals with eating disorders, but looking at ASPEN guidelines.

Anna Lutz: You know other people are at risk for refeeding syndrome and you can kind of see all, all the different individuals that we need to be on the lookout who may be at risk for recent refeeding syndrome. Today we're going to be focusing on people with eating disorders.

Anna Lutz: So to kind of summarize, refeeding starts with the reintroduction of nutrition. This increases our glucose load just the act of increased nutrition, whether its food or enteral nutrition or parenteral nutrition, there's an increase in insulin and we move to an anabolic state.

Anna Lutz: So we're shifting back to carbohydrate metabolism and protein synthesis so we're going from this kind of catabolic state to a more anabolic state.

Anna Lutz: And what happens is there's this increase in cellular uptake of potassium into the cells, magnesium and phosphate, and this increase of the anabolic demands depletes our stores that are already low.

Anna Lutz: We also know that this deficiency can hinder the production of ATP and so we're both we have this impaired production impaired utilization of, of energy that can happen, and so we want to go low and slow with nutrition, to avoid this for the individuals that are at risk.

Anna Lutz: So we need to be assessing for refeeding syndrome. The next several slides have a lot of words on it, but I wanted to instead of just say go look at the ASPEN guidelines, I wanted you to have them here.

Anna Lutz: For adults, the guidelines for assessing risk, they have two criteria they have moderate and severe, so the next slide has severe risk on there, and so you can kind of see.

Anna Lutz: You know, looking at BMI, looking at weight loss, caloric intake, abnormal pre-feeding phosphorus, potassium, and magnesium and so that uh you know getting individuals.

Anna Lutz: Initial labs as part of their medical assessment, I think, is a really important piece, so we know where these levels are pre pre-feeding, pre-nutrition rehabilitation.

Anna Lutz: Assessing subcutaneous fat, muscle mass which may be hard to assess if it's not a patient, you know long term.

Anna Lutz: And then, looking at are there other comorbidities that might put them at risk, so if an individual falls into two of these categories they're considered moderate risk.

Anna Lutz: And then for severe risk, if they have even one of these categories, so I do want to point out that BMI and, and it's just one of these categories on either slide and so again that kind of supports that it's not just the individual that is at a very low weight that is at risk for refeeding, we want to be looking at all of these and do our patients.

Anna Lutz: Are they at risk for refeeding. The ASPEN guidelines are separate for pediatric patients, and so they for pediatric patients because we're so.

Anna Lutz: Their caloric needs are different, they're in a growth, there in that anabolic state stage, all the time, we want them to be gaining and growing and building new bone. The ASPEN guidelines breaks it up into mild, moderate, and severe risk for refeeding syndrome.

Anna Lutz: So this first slide is your mild risk if you meet any three of these criteria.

Anna Lutz: Something I want to point out, is for the weight loss for the pediatric client, this is a percent of expected weight gain so if if a pediatric patient loses weight, they've already ticked off one of these risk factors, the end of pediatric patient should not be losing weight.

Anna Lutz: And so you can kind of see that the first one is a Z-score so a change in from their baseline if they are well below the third percentile on their weight-for-length or BMI-for-age, Z-score growth chart you can kind of see the others.

Anna Lutz: Moderate risk which would be any two of these. And so, something I haven't kind of pointed out on the slides is energy intake so we're looking for low energy intake for five to seven consecutive days.

Anna Lutz: Mild risk was three to five days and severe risk would be more than seven days. So it's interesting to go to kind of compare these, but this last one, the severe risk for pediatric patients, is one of these criteria is needed to be considered at risk and so.

Anna Lutz: Eating less than 75% of estimated needs for more than seven days is considered at severe risk for the pediatric patient. So I wanted to also, you know offer, what you know in that initial medical assessment and the treatment of eating disorder.

Anna Lutz: What labs to include, what other things to consider as you're assessing the risk for refeeding syndrome, and so you can see the labs there something I wanted to point out was under additional serum tests is pre-albumin.

Anna Lutz: There's a study by Mehler and Guadiani that shows that low pre-albumin is predictive of medical complications in individuals with severe malnutrition and so kind of getting that as part of that assessment is important.

Anna Lutz: Also, orthostatic blood pressure, getting an individual's heart rate. I can't tell you how many of my clients have been told by a medical provider that their low heart rate is due to them being an athlete, being a runner, and so rather than from malnutrition and so really sussing out, is this a malnourished heart, is that why it’s slow or is it a conditioned heart and the difference, and this is something I've learned from Dr. Guadiani on these presentations and work is comparing a heart rate at rest versus walking down the hall and a conditioned heart or runner’s heart when they walk down the hall is not going to go up it's not going to go up; but a malnourished heart, it will. So kind of doing that that simple test.

Anna Lutz: An EKG and a DEXA scan are often recommended as part of that initial medical assessment an eating disorder treatment, and you can kind of see that the DEXA scan is recommended for three months of amenorrhea, six months of significant weight, weight loss. And you can kind of read more about it in both of these books that I've cited at the bottom.

Anna Lutz: So I wanted to point out that ASPEN's recommendations for the initiation of calories really a lot of it would need to be done in a hospital setting.

Anna Lutz: And so I've highlighted that that for the moderate to high risk of refeeding with low electrolyte levels, you need to hold initiation or increase of calories until like electricity lights have been supplemented or normalized and that's usually best done in a in a hospital setting, supplementing low electrolytes.

Anna Lutz: It's recommended to monitor every 12 hours for the first three days and high in high-risk patients, so this is the recommendations for initiation for electrolytes.

Anna Lutz: And this is for monitoring for someone who's at risk for refeeding recommending vital signs every four hours, for the first 24 hours after initiation and so you know something to consider when we're assessing the patient assessing what they need.

Anna Lutz: So when we have a patient come to us and we've assessed that they have severe malnutrition, we want to assess risk for refeeding syndrome.

Anna Lutz: You know, and to kind of think about is this person chronically malnourished are they severely underweight as a piece of it not always.

Anna Lutz: And a big one is had a should say or any of these have they not eating for 7-10 days, these are big red flags that this person needs a further assessment for refeeding syndrome and they probably meet criteria.

Anna Lutz: You want to obtain electrolytes serum levels prior to nutrition rehabilitation that that's an important piece of this is to really obtain those levels.

Anna Lutz: So if you do this assessment, and you, you think you have, you've determine that your client is at risk of refeeding.

Anna Lutz: Use the ASPEN recommendations for initiation and use the APA level of care guidelines to determine is, is this someone that we can do nutrition rehabilitation in the outpatient setting?

Anna Lutz: Or does this person at a higher risk of moderate to higher risk that we need to start nutrition rehabilitation and a higher level of care medical stability is for the APA level of care guidelines, the APA eating disorder level of care guidelines that really medical stability is.

Anna Lutz: Important for outpatient level of care if you determine this person is not at risk for refeeding syndrome, or maybe a lower risk and you.

Anna Lutz: With the team has decided that to establish outpatient level of care, the question is okay, what is the monitoring gonna look like does this person need daily labs? Every other day?

Anna Lutz: How often are they going to see the medical provider as part of their outpatient team? And I wanted to take it make a note about family based treatment. We know that when treating the child or adolescent evidence based care is.

Anna Lutz: Is utilizing family based treatment which is really putting the parents in charge of the nutrition rehabilitation process and so sometimes that can feel at odds with.

Anna Lutz: refeeding risk because it's you know, the recommendation is to keep child at home and so it's again you're really assessing the whole patient, the whole situation, of course, we want to first priority is that the patient is safe.

Anna Lutz: And so, if someone's at severe risk they you know, need to be where they are safe, but sometimes.

Anna Lutz: It's assessing how are we, how can we do this safely on an outpatient level of care, so that family based treatment can be done.

Anna Lutz: So nutrition rehabilitation in the outpatient setting the, the MD or PA, that should say medical provider, would correct electrolyte abnormalities if there are and that's best done inpatient.

Anna Lutz: You want to attain serum electrolyte levels every day or every other day for this was some someone who may be at some risk for refeeding and you determine that they're going to be in the outpatient setting.

Anna Lutz: We increased intake by about three to 400 calories every three to four days so that's, that's you know the lower introduction, so that the body.

Anna Lutz: You know, one of the big risk of refeeding syndrome is refeeding too quickly, so we want to keep it lower and slower there there's different evidence in.

Anna Lutz: Research about Inpatient care where an individual can be more monitored, but if, if the determination is that the patient needs to be in outpatient care.

Anna Lutz: we're going to stick to the three to 400 calories every three to four days and if I'm working with a parent who's doing the refeeding or the nutrition rehabilitation with their child.

Anna Lutz: I may be giving them a meal plan for Monday and then I say you know, on Wednesday or Thursday, this is how you're going to bump it up so we're trying to bump it up quickly, but not too quickly, and they kind of have a stepwise.

Anna Lutz: And the outpatient level of care we're looking for a one to two pound per week weight restoration goal if weight restoration is needed if that's what's determined. Especially in a pediatric and adolescent patient.

Anna Lutz: And so that's kind of our goal, and then oftentimes individuals who have experienced severe malnutrition need upwards of 4000 calories to restore their weight and that's really because of the increase of needs of the body to restore, heal.

Anna Lutz: And so it can be, it can be a challenge in outpatient, but it certainly can be done. And the labs, of course, are important for ongoing medical monitoring and also looking for tachycardia, edema

which can be signs of refeeding syndrome, so we need to be for someone who we think could be at risk, really continuing close medical monitoring.

Anna Lutz: As the dietitian, I'm really helping the client with a balance of protein/carbohydrates/fat.

Anna Lutz: You know if it's all carbs carbohydrates that would be more of an insulin increase which could be a higher risk for refeeding syndrome, because what we talked about, about insulin playing that important role of driving electrolytes into the cells.

Anna Lutz: We want the food to be tolerable to the individual so we're really looking for that balance of protein carbohydrates and fat. You may consider a lower sodium diet, because of that insulin increases kidneys reabsorption of sodium so sometimes we see that there's an individual experiences edema because of this.

Anna Lutz: We wouldn't want that to limit the patient, I mean fed is best so we you know we really wouldn't want to put strict guidelines about lower sodium if that is going to inhibit an individual to increase their caloric intake to that goal of three to 400 calories every three to four days but it's something to absolutely consider and decide for this individual if that's appropriate.

Anna Lutz: A risk of malnutrition at any body sizes delay gastric emptying or gastroparesis, so we may be looking at how can we make meals more dense lower volume, so if someone's eating lots of salads, lots of fruits and vegetables, that's only going to kind of slow down the acting time the stomach more and so and, and make you feel fuller right, and so we really if we're trying to get working towards that.

Anna Lutz: To meet their needs for nutrition rehabilitation oftentimes we are trying to work with, how can we condense these meals.

Anna Lutz: The medical provider, maybe may consider about regimen with fire fiber supplements and fluids if there's lots of constipation delay gastric emptying that's something I usually let the provider the medical provider handle.

Anna Lutz: And oftentimes using liquid supplements is what's needed to get to the amount of calories that the client needs.

Anna Lutz: And with these clients I'm we're usually recommending a multivitamin and for the severely malnourished patients, a thiamine supplement and that's usually about this usually 100 milligrams of thiamine per day for the adult.

Anna Lutz: So I just wanted to do a quick case vignette to kind of give you, you know give you an idea of what this might look like. So this is Kathy an 11 year10 month old white female who her mother presented with concerns of this client had an eating disorder.

Anna Lutz: She had refused meals and weight loss for a few months, the patient denied trying to lose weight and mom presented to the RD and had already started the refeeding process, she had researched, how to help and she had started.

Anna Lutz: You know, saying this is what you needed to eat need to eat.

Anna Lutz: And what I remember is she was buying her child, some special baked goods from a bakery and so a higher carbohydrate refeeding diet.

Anna Lutz: And this was the child's growth chart at the initial visit, and so you can see, if you look between, on the left is the weight-for-age chart, on the right is the stature-for-age chart so I'm looking at the weight-for-age chart and you can see that drop.

Anna Lutz: Between 11 and 11 and you know 10 months is where that last dot is. So she, she lost weight be just looked at that one plot point at 11 years 10 months.

Anna Lutz: I don't think anyone would have been concerned because it's within her range of variability.

Anna Lutz: But it's that drop that so concerning and it's the slope of that drop that it's so steep that so concerning looking over at the height curve that's she's kind of plotted pretty predictably on the height curve.

Anna Lutz: I often don't use BMI, but I'll get into that a little bit more with expected body weight, but you can see that drastic drop because of that weight loss.

Anna Lutz: And so her current weight was at 87.6 pounds there had been about a five pound weight loss in three months we'd expect her to be about 96 pounds looking at her growth history so five pounds may not sound like a lot of weight loss to some people it's really she's down.

Anna Lutz: You know, nine plus pounds and so because children are always gaining and growing so looking at this, she was 91% of her expected body weight. I put that there, getting a little ahead of ahead of us, but, when someone's less than 80% of their expected body weight that's when we start to think about residential level of care. So just looking at that may not be alarming but it's the sharp rate of weight loss and it's the fact that it's a child that has lost weight, instead of gain weight and so mom had was doing a great job already started the refeeding process the child got her got labs the next day.

Anna Lutz: But I want to show you this, if we just looked at this pediatric severe risk and we go through for this patient for Kathy.

Anna Lutz: What we know is there's been weight loss so she hasn't gained her expected and there has been – she's been eating less than 75% of her expected needs for more than seven days. The rest are not known at that initial assessment we didn't know her pre-feeding.

Anna Lutz: Just mom came to that first visit kind of following family based treatment.

Anna Lutz: So I recommended that I referred her to an eating disorder therapist and I referred her back to her pediatrician for a medical assessment and that's where the labs were done and those initial labs did show low phosphorus and then her liver enzymes were high showing malnutrition and so.

Anna Lutz: This person what was stabilized at a residential level of care, inpatient level of care before coming back out to continue family based treatment.

Anna Lutz: Right so we're going to move into determining expected body weight.

Anna Lutz: So there's lots of terms that are thrown around, so I always like to kind of start off with defining terms like I did in the refeeding section of the talk. But ideal body weight is this very defined term in the dietetic field for children, it might be 50th percentile weight-for-age, regardless of if a child was tracking along the 75th percentile or the 25th percentile.

Anna Lutz: Sometimes some treatment facilities may say ideal body weight it's 50% that's, that's the way that we're kind of looking at or 50th percentile BMI for age or it might be that for an adult the HAMWI calculation, which you may you know may know hundred pounds for five feet, then five pounds for each inch after that. It's very kind of, one size fits all but what we know in eating disorder treatment is that you know we're all different and.

Anna Lutz: Genetically our body sizes are different, and so some people use the term expected body weight, which would be the body weight we would expect if the individual didn't have an eating disorder. Or the treatment goal weight, though, you know is one factor of recovery – maybe get an estimated goal weight or biological appropriate weight. I think it's a great term like, biologically where are we guessing that this patient may be if they don't have an eating disorder.

Anna Lutz: And so, and it takes in all of these factors that takes in historical weight, and height, growth trajectory, pubertal stage, menstrual history, energy intake and expenditure, extent the client is malnourished, and weight suppression.

Anna Lutz: And so you're going to see some studies in a minute of why this is important but that's what we're going to be talking about is this right hand side.

Anna Lutz: So the determination of expected body weight in treatment is the role of the physician, or medical provider, and/or registered dietitian.

Anna Lutz: We might be working in conjunction with each other. We might, it may be that if the registered dietitian is an eating disorder expert they may be determining it or vice versa. And there's no gold standard is the truth, there's no gold standard of this is the one way to determine expected body weight or treatment weight.

Anna Lutz: But I want to point out that so much there's so many studies that are you know, looking at population groups of patients, and sometimes ideal body weight is used in this research, because it's it's set, it's easy to study. 50th percentile kind of can cover a lot of people right in the middle.

Anna Lutz: But the work that I do, and the work that I imagine, many of you do, who are on this webinar we're doing individualized care, so we need to think about this patient what's going on with this patient. What's going to work best for this patient? What does help look like for this patient if that's their goal?

Anna Lutz: So we know the research shows that evidence that even a small change in weight as little as five pounds can be the difference between having periods and not for the person that is supposed to be having periods.

Anna Lutz: Evidence suggests that expected body weight or treatment goal weight may need to be set a little higher for menstruation to resume.

Anna Lutz: And I touched on weight suppression earlier, but it's that difference between current weight and highest weight and this needs to be factored into determining a treatment goal weight. We know that higher weight suppression of bigger difference between current weight and highest weight is associated with more severe eating disorder behaviors.

Anna Lutz: And that higher weight suppression shows less improvement in symptomatology. So it's a risk factor we want to be closing that to decrease someone's risk of eating disorder behavior or relapse.

Anna Lutz: So if you're working with a child or an adolescent, the first thing I do is I look at their historical growth history. Growth charts are not perfect, they just give us a clue into what might have been going on before the eating disorder. The truth is, everyone grows differently and so you've got to, you know use it as information, but not the be all end all.

Anna Lutz: Marking less life events along the X-axis can be really helpful of you know. When did the patient start their period if they have?

Anna Lutz: Maybe there was a significant life event. When did the eating disorder start to try to start to interpret the, the growth chart?

Anna Lutz: And then I look over on the height for age, I usually do that on the weight-for-age chart, looking for the height for each chart. Has there been a big cross in percentile of height-for-age.

Anna Lutz: You know, has someone always been tracking between the 25th and 50th percentile height-for-age rage, or were they at the 25th and now they're up at the 75th percentile. If someone has an earlier puberty compared to average, which averages for menarche is about 13 for females.

Anna Lutz: Then, if if their puberty was early, then we, we often see them cross percentile lines on the height–for-age curve, because their growth spurt is earlier than the population that was used to develop the growth curves.

Anna Lutz: So that's an important piece of it, and if our height if we cross percentiles in height, then most likely we're probably also crossing our percentile in weight, the weight-for-age chart.

Anna Lutz: So we want to estimate expected body weight as a return to growth trajectories and weight-for-age and with a pediatric client, we want to be, the we want to be.

Anna Lutz: Determining it six months from now. So if I'm working with a client that's 11, I'm going to be determining their expected body weight at 11 ½. , because it may take that long you know we don't want to, we want to be kind of ahead of the eight ball and not always be trying to catch up.

Anna Lutz: We want to establish treatment goal weight as a minimum. I really recommend doing a minimum or a range but let's kind of thinking less it's looks like for health, to satisfy, we need to be at least above this weight and then reassess every 3-6 months for the pediatric client. For adults, we may or may not have growth curves but we're assessing medical and weight history if you can find birth charts.

Anna Lutz: It can they can be really helpful. So if you have a 20 something year old or, or someone who has access to their growth charts, that can really shed some light on growth history.

Anna Lutz: They might remember their weight in high school might you might be able to get some points – was, has there been a pregnancy history? What is this clients dieting history over the years?

Anna Lutz: You know how does that impact their, their weight history. For people that are supposed to be menstruating, have menstrual cycles stopped and then at what weight did they stop? and is there weight suppression and how big is that?

Anna Lutz: And so we want to continue to reassess as we're working with the client but it's, it's honestly with an adult it's a, it's an educated guess and then we're making a lot of reassessment.

Anna Lutz: But I really caution us all about setting the weights too low, you know we're all affected by fat phobia, diet culture and we know that.

Anna Lutz: Research shows that if goal weights are set too low it can really impact the patient's recovery or risk for relapse.

Anna Lutz: So as little as 2.2 kilograms have been shown to drastically reduce a person's risk of relapse, a rate of weight gain has been shown to reduce risk of relapse, so really someone restoring their their weight quickly and that we know that negative energy balance, so dieting, restricting calories is a contributor to eating disorders. That's what we learned from the Minnesota Starvation diet studies and so, if someone's weight is kept too low, they're at that negative energy balance, then they can't recover from their eating disorder.

Anna Lutz: So what if birth and weight history isn't available certainly that happens all the time.

Anna Lutz: And so you know we're trying to determine, are there any plot points available, you know what is the premorbid weight, are there some sick visits from a doctor's office, are there weights in a baby book, or is there anything we can kind of determine.

Anna Lutz: And we might defer expected body weight if we don't have any weight history, especially for a pediatric client, we may just defer it.

Anna Lutz: And we're focusing on normalizing eating patterns, vital signs, what's going on there, physical exam findings, menstrual function, laboratory function, absence of eating disorder behaviors.

Anna Lutz: And we want to keep in mind, what are the signs of nourishment because I think we can all get focused a lot on weight, which is an important piece because of that weight suppression research, but it's not everything and so zooming out knowing weight is a piece of this but also looking at energy levels, menstruation, heart rate, blood pressure.

Anna Lutz: Appropriate time thinking about food. I know, when my clients are renourished, they're spending a lot less time thinking about food, thinking about their body. So often, body image struggles improve with nourishment.

Anna Lutz: Are they able to sleep now? You know being malnourished wakes us up, so we will go eat, so has sleep improved? How's the GI function?

Anna Lutz: You know, we know that our GI tract does not work well when we are malnourished. What's the health of our skin and nails? Have abnormal labs resolved? Although so often, labs are normal all the way through, so we don't want to hang our hat on that too much. Has there been a decrease of eating disorder behaviors?

Anna Lutz: Are hunger and fullness cues coming back? That can take a while like I do want to say that, but have they? and is this client able to interact socially.

Anna Lutz: So I've had to case vignettes so I'm going to try to run through quickly, just so we can do a few questions at the end.

Anna Lutz: But this time is a 10 year, four month old client that presented after eating more healthfully her parents this person has always been a picky eater she was.

Anna Lutz: Pre puberty there was no findings on an EKG, all labs are normal, and she had always tracked between the 25th and 50th percentile. Growth charts were pretty predictable – always tracked between the 25th percentile weight-for-age, always tracked around the 10th percentile for height-for-age.

Anna Lutz: There was a little jump in the last few years and then you can see that there had been a 6.6 pound weight loss in 16 months. So these were the growth charts that were presented so you can see, between 11 I'm sorry nine and 11 this downward trend.

Anna Lutz: That was concerning, height pretty, pretty predictable of tracking but it kind of started going up a little bit which we would expect weight to even go up a little bit higher percentile wise as the height had, but we saw this this decrease.

Anna Lutz: And so, when I'm establishing expected body weight I'm wanting six months from now.

Anna Lutz: This child to be back between the 25th and 50th percentile. So I'm looking ahead on the growth charts and and determining what that might be, and so you can kind of see.

Anna Lutz: You know, currently she was 8.4 percentile and to be six months from now, between the 20th and 50th percentile 71 to 80 pounds, and then six months from then 75 to 85 pounds, six months from then 79 to 90 and that's to stay at this minimum of where she had been pre-eating disorder.

Anna Lutz: And I compared to the BMI chart I'm going to run through this just so we can get to the adult and to our questions. So here's a 34 year old female presented with a 60 pound weight loss in nine months.

Anna Lutz: Her current weight is 153 she did heard from a lot of doctors, she needed to lose weight, her periods had stopped.

Anna Lutz: She has had one child, she said she never had lost the baby weight. She had started intermittent fasting about nine months ago, no prior eating disorder, but lots of dieting.

Anna Lutz: Parent has a history of substance abuse, which is a risk factor for developing an eating disorder, to have a first degree relative within substance abuse history.

Anna Lutz: She's had trouble sleeping—recent panic attacks, so we tried to you know, come up with a weight history. So her goal weight for herself was 150, because this would put her at a BMI under 25, which is what the doctors had told her, she needed to be.

Anna Lutz: When she graduated from high school she was 163. I'll I'll say personally, most of the time I'm saying we've got to be at least what you were when you graduated from high school, you know that our weight continues to increase post high school.

Anna Lutz: And so genetically this person is not supposed to be at a BMI of less than 25. End of college she remembered she was about 168 and her pre pregnancy was 175. Her period stopped at 165#.

Anna Lutz: Again, this is an estimate shot in the dark let's get at least 170, let's just at least at the very bare minimum, and then let's assess for these other things and, and work towards renourishment. That may be too low, but let's let's let's see where this goes.

Anna Lutz: And there we are, we made it through it and I know we're close to our time but I'm happy to answer a couple questions. And I am going to show you that all the references are here at the end.

la-shell_johnson@med.unc.edu: Thank you so much Ms. Lutz.

la-shell_johnson@med.unc.edu: Let's, let's we will now go ahead and open up for Q and A. If you have any questions, we ask that you type those into the chat box.

la-shell_johnson@med.unc.edu: So I'll go ahead and start with the first question.

la-shell_johnson@med.unc.edu: When can look when you catch a patient in your office who meets the risk criteria for refeeding syndrome and they can't get into a medical provider for a couple weeks, do you recommend they wait to start refeeding again until after they get assessed with labs from the medical provider?

Anna Lutz: That is a tough question you know because we're weighing out risk of refeeding versus severe risk of malnutrition, you know and so.

Anna Lutz: It's such a nuanced question. I mean I may I may be referring them to the ER to see, they can get labs through an emergency department, to not wait, to wait weeks.

Anna Lutz: I wouldn't want to wait weeks for someone to start eating more or have more nutrition. If they're at severe high risk of refeeding though, as a dietitian and I really do want them to have those labs done and a medical assessment.

Anna Lutz: So it's a, it's a tricky question that I don't know if I have a great answer for except to see if you can be creative with how the person can can get labs.

la-shell_johnson@med.unc.edu: Thank you so much for that response. I'll move on to the next question. Any specific recommendations for a woman recovering post pregnancy, with an eating disorder?

Anna Lutz: So its, resources for someone is that right?

la-shell_johnson@med.unc.edu: recommendation.

Anna Lutz: Recommendations um any specific recommendations I mean, I think you know, certainly someone who is pregnant or post pregnant, who has an eating disorder, needs individualized care I don't know of any specific Resources out there, except to find an eating disorder specialist who has a

has experience working with pregnancy, because of course that's another complication of our body's needs pre and post pregnancy.

la-shell_johnson@med.unc.edu: Thank you once again Anna, for that. The next question reads, “Do you have a suggestion for calculations for transgender clients?”

Anna Lutz: I'm not an expert in transgender care. I have attended webinars and trainings and, and learning as I go and I don't believe there is consensus on certain calculations. I think it's really from what I understand is.

Anna Lutz: Assessing individualized care of what makes the most sense for this person in front of you have what calculations you're going to use.

Anna Lutz: But that may you know, you may seek out a webinar specific eating disorder webinar and treating transgender individuals I'm not sure if there's one through NCEED, but I can make other recommendations of those.

la-shell_johnson@med.unc.edu: Thank you once again and, as far as those recommendations I’m not sure, but folks are welcome to visit our resource library, the at www.nceedus.org In order to see if you find resources that match your particular inquiries.

la-shell_johnson@med.unc.edu: Anna is there anything else that you'd like to share before we adjourn? I’ve addressed all the questions we receive thus far. If there are any questions that you may have at this time as an audience member, please feel free to put those in the Q and A box and I can get those over to Ms. Lutz and have them shared with you via email one week from today.

la-shell_johnson@med.unc.edu: As a reminder, we will also send the slides and evaluation at the end of this webinar. Anna do you have anything additional to share?

Anna Lutz: I don't think so, I appreciate being here today and I appreciate the questions.

la-shell_johnson@med.unc.edu: Well, thank you so much Anna, for your time and this wonderful presentation today. We have two people, I think that asks a question. Okay, it says, thank you.

la-shell_johnson@med.unc.edu: If you have any additional questions, feel free to send those to us and we'll make sure that those are shared with Ms. Lutz. We will also put that information in the email that you receive with the slides at the end for contact if you have any additional questions. Thank you all for joining today. Thank you once again Anna, and you have a great day.