What to know about exposure therapy and medications for treating eating disorders: A practical primer

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ROGERS Behavioral Health

# Quick overview of logistics

Our speakers will give a 75-minute presentation.

Following the presentation, there will be a dedicated time to answer your questions.

 Please use the Q&A feature, located in the toolbar at the bottom of your screen, to send your question to the moderator.



 The moderator will review all questions submitted and select the most appropriate ones to ask the presenter.

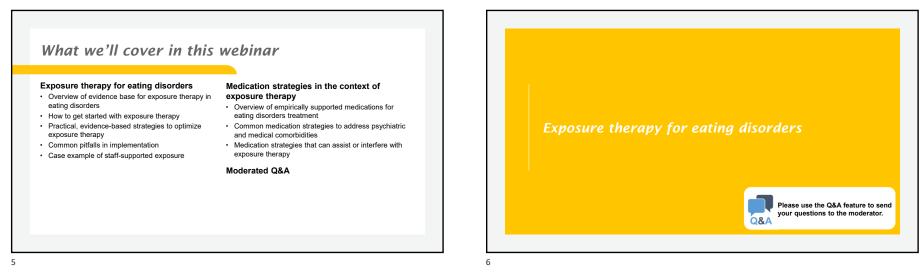
# Disclosures

**Brad ER Smith, MD, and Kaitlin Hill, PhD**, have each declared that they do not, nor does their family have, any financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the presentation.

The presenters have each declared that they do not have any relevant non-financial relationships. Additionally, all planners involved do not have any financial relationships.

# Learning objectives

- Upon completion of the instructional program, participants should be able to:
- 1. Describe at least two reasons for using exposure therapy in the treatment of eating disorders
- 2. List at least three different themes for exposures common to patients with eating disorders
- Identify at least two ways in which anxiety medications can assist or interfere with exposure therapy



# Why use ERP to treat eating disorders?

- Conceptual overlap between eating disorders and anxiety (Becker, Farrell, & Waller, 2020)
- Some evidence for an anxiety-driven model of EDs (Schaumberg et al., 2021; Waller, 2008)
- High comorbidity rates of anxiety disorders for individuals with eating disorders (Kaye et al., 2004; Pallister & Waller, 2008)
  - · Helpful to have a transdiagnostic approach

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- Research supports the use of exposures across ED diagnoses, as well as improving body dissatisfaction in non-clinical population (see Butler & Heimberg, 2020 for a review).
- Exposures are included in evidence-based treatments for EDs, such as CBT-E and FBT (Fairburn, 2008; Griffen, Naumann, & Hildebrandt, 2018; Waller & Mountford, 2015)

# Overview of starting exposure therapy

- Comprehensive assessment of eating disorder behaviors and symptoms
  - · Clinical interview and validated assessment measures
- · Provide psychoeducation/rationale for use of exposure therapy
- · In depth functional assessment
- · Focus on reduction of safety behaviors
- Create hierarchy of exposure ideas
- · Implement exposures in session
- Assign exposures for homework outside of sessions

Functional assessment:

The foundation for developing an exposure hierarchy



Fear Cues	Feared Consequence(s)	ED-related Safety Behaviors	Function of Safety Behavior
Eating around my friends	When they see what food I choose, they will judge me negatively	Eating only "safe" foods when with friends; avoiding eating with them	Relieves anxiety-related to perceived judgment
Feeling my thighs touching each other when I sit or walk	I will become intensely disgusted with my body and I cannot tolerate the emotional distress	Sit or walk with my legs deliberately apart, use pillow between thighs when sitting	Not having to feel my thighs touch and be disgusted by the sensation
Eating a food from unknown origin with unknown food preparation	I will get sick and throw up and I cannot tolerate the distress of vomiting	Checking all food, reassurance seeking about preparation, avoiding food I did not prepare myself	Relieves anxiety about vomiting

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# Functional assessment: Fear cues

**Feared foods** – can use feared food checklist (*handout available after program*)

Smells, tastes, textures

#### Feared eating scenarios

- Other people present who and how many?
- Level of control, what are other people eating?
- Locations
- · Restaurants, friends' homes, etc.
- · Idiosyncratic scenarios
- · Rate, size of bites, first to finish, etc.

#### Body image-related cues

- Seeing reflection
- Other people see body image
- · Wearing swimming suit
- Certain clothing types
- Form-fitting tops
- Postures/positions

# Functional assessment: Fear cues

#### Internal stimuli

- · Feelings of fullness, nausea, bloating, warmth, hunger
- Worrisome thoughts
- Body awareness (sweat, skin touching)

#### Environmental / Social stimuli

- Media depiction of "thin, fit ideal" ("hot" = happy)
- · Others' comments about eating, weight, shape

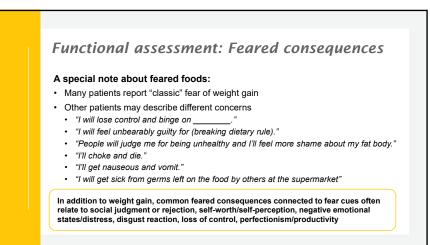
#### Binge eating / Purge cues

- Foods typically consumed during binge
- · Locations where binges or purges often take place
- Emotional antecedents to binge eating
- · Laxative or diet pill containers

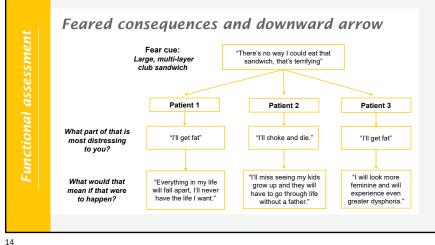












# How to identify ED safety behaviors

### Ask about eating disorder "rules" (handout available after program)

"What are things your ED or anxiety tells you that you have to do on a regular basis when it comes to ... "

- Food (e.g., eating situations, quantity of food, the way you eat)
- · Exercise (e.g., the way you exercise, when you exercise, what happens if you don't exercise)
- Purging
- Spending time with friends ٠
- Enjoying things
- · Productivity, etc.

# How to identify ED safety behaviors

"What are things you do to try to reduce your anxiety in the moment?"

"What are things you've stopped doing or have changed since the ED started?"

"What are things that other people have expressed concern about?"

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	Weight control behaviors	
S	Restriction	<ul> <li>Eating the same foods each day</li> </ul>
Safety behaviors	<ul> <li>Excessively drinking liquids ("hydro-loading")</li> </ul>	Only eating at certain times of the day
$\geq$	()	Over/under dressing
4	Abusing diet pills, laxatives / diuretics	<ul> <li>Food-related research and</li> </ul>
pe	Purging	advance planning
2	Excessive exercise	Calorie / exercise tracking
le	Fasting	Repeated / ritualized weight checking
Sa		<ul> <li>Negative self-talk ("Eating disorder voice")</li> </ul>

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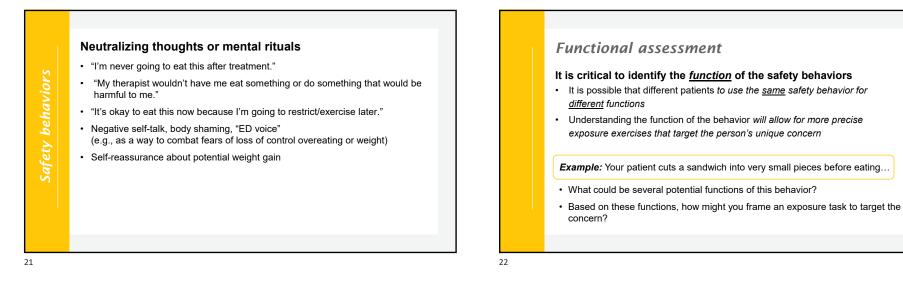
# Body image-related behaviors

- Checking appearance in mirror
- Extreme avoidance of body image
- Poking/pinching various body parts
- Attempts at manipulating body areas (e.g., pushing stomach to be flat)
- Adjusting body posture
- Seeking reassurance from others
- Using clothing to check for weight gain/shape changes
- Comparing self to others
- Hiding body from others (e.g., wearing oversized clothes)
- Overcontrol of image on social media or in social situations (e.g., photo editing, deleting pictures, excessive grooming)
- Avoidance of others in larger/smaller bodies

### Exercise-related behaviors

- Excessive bending / stretching
- Purposely choosing longer route to walk somewhere
- Tensing muscles
- Standing when sitting would be appropriate
- Extraneous movement (e.g., bouncing legs)
- Walking on toes
- Ritualized and/or excessive exercise regimens

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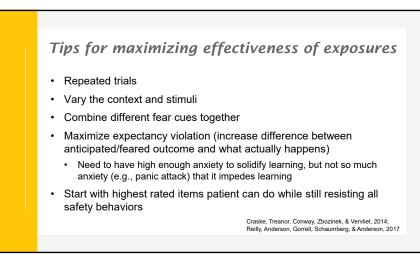
### Some notes about safety behaviors

- As we do with anxiety disorders (and in particular OCD), it can be helpful to start by having the patient focus on self-monitoring use of safety behaviors before you start any exposures to:
  - · Build awareness into the avoidance and safety behavior patterns
  - · Create sense of self-efficacy in resisting urges prior to starting exposures
- · Have patient continue to track this throughout treatment
- What if they are not able to completely resist a safety behavior?
  - They can start by delaying and then work to gradually increase amount of delay between the urge and giving into the behavior

### ED exposures

Think of the exposure hierarchy like a "fear ladder" – the goal is to climb the "rungs" on the ladder to get to the top





Devi is a 30-year-old, gender expansive Indian-American presenting with a history of binging and purging with frequent dieting and periods of restriction. They report subjective binges most days and objective binges about 1x/week. Purging frequency varies, but currently is about 2-3x/week. They have diagnoses of bulimia nervosa, depression, and social anxiety. They report their queer identity and fluid gender expression is one of the things that brings them confidence and enjoyment in their body, and one of the few things in their life they feel secure about. Their BMI is in the overweight range and has been since early childhood.
Devi reports significant distress related to:
Feelings of fullness, tightness, and bloating → increased purge urges
Body image → Avoid full length mirrors, tight clothes, tank tops, and shorts
Weight gain and the fear they will gain weight indefinitely if they give up weight-control behaviors (e.g., restrictive dieting, purging and laxative use, calorie tracking, food research, weighing themself multiple times per day, and only eating 1-2 meals per day)
Feeling out of control related to binging and unable to trust themself around certain foods (e.g., chips and snack foods, cookies, desserts, and fast food)

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## Collaborative weighing

thought challenging

Powerful exposure exercise focused on maximizing expectancy violation and habituation to hearing weight (reducing power of the number)

- Patient is weighed once a week with therapist
  - Before weighing: Discuss patient's predictions about weight, factors contributing to that prediction and specific fears about weight, and strength of belief in prediction

After weighing: Discuss any differences between

specific prediction and actual weight, elicit any helpful reasoned conclusions, in the moment

- RP ? ??
- Chart patient's predictions over time along with actual weight and periodically use this in sessions

(See Fairburn, 2008 and Waller et al., 2013 for a more in-depth discussion)

# Interoceptive exposures

Pair interoceptive exposures with imaginal or *in vivo* exposures Examples:

- · Gulping/water loading with still or carbonated water
- Jumping up and down
- · Wiggling the body
- · Pushing stomach out
- · Wearing tight clothing, particularly around stomach
- Sitting or lying on a beanbag or inflatable chair which makes the body feel heavy

Becker, Farrell, & Waller, 2020; Schaumberg et al., 2021

# Cue exposures

- Many patients who binge eat develop associations between various environmental cues and binge-eating episodes
- · Highly palatable, rich foods
- Emotional cues (often negative emotions)
- Other situational cues (physical contexts in which bingeing occurs)
- During exposure to these cues, patients are encouraged to focus attention on their thoughts and the intensity of their cravings
- Goal is to reduce cravings in response to cues (extinction)

### Mirror exposure

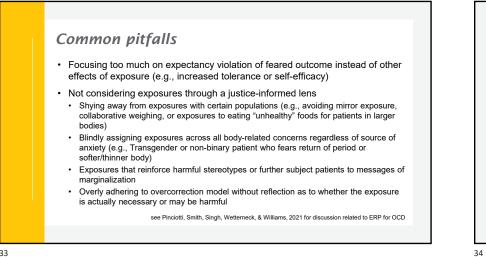
- For patients who were weight suppressed, wait to start once patient is within (or close to) biologically appropriate weight range
- Full-length mirror is used to allow patient to look at their full body
  - "Pure" → patient comments on thoughts and emotions experienced while viewing body
  - Mindful/nonjudgmental/functional → patient directed to describe appearance of body in neutral, nonjudgmental, or functional terms

Relatively common mistakes that reduce the efficacy of exposures



# Common pitfalls

- · Mistaking forced contact with exposure
- Therapists' own anxiety about exposure leading to more cautious approach
- Assigning exposures without truly understanding underlying core fear
  - · Risk not actually addressing core factors maintaining ED
- Patients using safety behaviors and neutralizing the exposures without therapist knowing
- · Starting exposures without having buy-in from the patient
- Assigning exposures for homework, but not spending time in session doing exposures with the patient
  - Or alternatively, only doing exposures in session without assigning homework





# **Overview of empirically support medications**

### FDA approved medications by diagnosis

Diagnosis	FDA approved medication
Anorexia Nervosa	NONE
Bulimia Nervosa	Fluoxetine
Binge Eating Disorder	Lisdexamfetamine dimesylate
ARFID	NONE

# Anorexia Nervosa (off label)

- NONE FDA approved
- Antipsychotics as a class
- · Olanzapine
- Mirtazapine
- · Cyproheptadine
- Cannabinoids
- Zinc

# Antipsychotics 2011 Aigner et al: World Federation of Societies of Biological Psychiatry – a task force on eating disorders – systematically reviewed all studies for the pharmacological treatment of ED published 1977-2010 Olanzapine: Grade B evidence (limited positive evidence from controlled studies)

Other second-generation antipsychotics: Grade C evidence
 (positive evidence from uncontrolled studies/case reports/expert opinion)

# Olanzapine

- 2007 Dunican and DelDotto: Literature search for any and all studies related to olanzapine for anorexia nervosa
  - · Case reports and clinical trials
  - Preliminary evidence to support olanzapine can help with weight restoration and psychological symptoms
- 2008 Bissada et al: Double blind placebo-controlled trial
  - N=34, olanzapine plus day treatment vs placebo plus day treatment
  - · Faster weight restoration and improved obsessional thinking

# Olanzapine

- 2011 Kafantaris et al: Double blind placebo-controlled trial
  - N=20, olanzapine vs placebo, both receiving care in treatment setting
  - No difference in weight restoration, trend in metabolic side effects in olanzapine group
- 2019 Attia et al: Double blind placebo-controlled trial
  - N=152, olanzapine plus weekly sessions vs placebo plus weekly sessions
  - Improved weight restoration, no clear improvement in obsessions

### Mirtazapine

- Widely tried due to side effect profile
- No clear RCT supporting
- · Case reports and retrospective studies
- · Lack of evidence, yet widely attempted

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# Cyproheptadine

- 2019 Blanchet et al: Multidisciplinary overview of metaanalyses and systemic reviews
  - · Purported to stimulate appetite in children with asthma
  - 2 RCT's demonstrated no efficacy
- Seemed to worsen course for those with binge/purge behaviors

# Cannabinoids

- Can stimulate appetite
- 2019 Blanchet et al:
  - 2 RCT's
  - · Possible quicker weight restoration in one study
- Side effects of dysphoria and very limited evidence of efficacy
  preclude standard use

- 2011 Aigner et al: Task Force on Eating Disorders of the World Federation of Societies of Biological Psychiatry
  - Grade B evidence
- 2002 Su & Birmingham: review of literature
  - Evidence for zinc improving weight restoration, mood, anxiety
  - Low toxicity helps form recommendation despite limited evidence

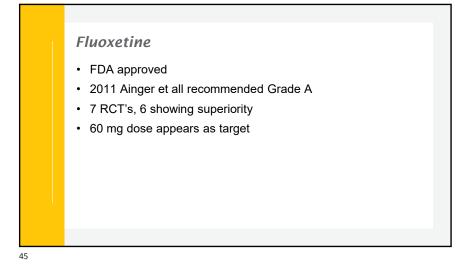
# Bulimia Nervosa

- Fluoxetine (FDA approved)
- Tricyclic antidepressants (off label)
- Topiramate (off label)
- Naltrexone (off label)



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# Tricyclic antidepressants

- 2011 Ainger et al recommended Grade A (with caution)
- 4 RCT's supporting imipramine
- 6 RCT's supporting desipramine
- Side effect profile challenging for those without bulimia
- Side effect profile more dangerous for those with bulimia
- QT prolongation, heart block, arrhythmias, constipation, orthostasis

## Other antidepressants

- Fluvoxamine: 3 RCTs, 2 showing efficacy
- Sertraline: 1 RCT showing efficacy
- Trazodone: 1 RCT showing efficacy
- Phenelzine: 3 RCT's showing efficacy, but caution due to side effects
- Bupropion: 1 RCT showing efficacy, but high incidence of seizures <u>Contraindicated</u>
- Citalopram: no clear efficacy in studies

### Topiramate

- 2011 Aigner et al suggested Grade A recommendation
- 2 RCTs showing efficacy
- 2003 Hoopes et al: Median dose 100 mg
- Side effects common at higher doses

## Naltrexone

- 1987 Jonas and Gold: RCT, n=10, of high dose naltrexone, showed efficacy
- 1995 Marazzi et al: RCT, n=19, 200 mg, showed efficacy
- Normal dosages did not seem to show efficacy

# Binge Eating Disorder

- Lisdexamfetamine dimesylate (Vyvanse)
- Topiramate
- Antidepressants
- Naltrexone

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# Lisdexamfetamine dimesylate

- FDA approval for adults (2015)
- Phase II: RCT, n=260, doses of 50 mg and 70 mg showed efficacy
- Phase III: 2 RCT's, n=374 and n=350, 50 mg and 70 mg showed efficacy
- Meta-analysis of Phase II and Phase III showed number needed to treat for response was 3; for remission was 4; while number needed to treat to harm was 44

# Topiramate

- 2011 Aigner et al: Grade A recommendation
- 3 RCT's showing efficacy
- 2017 McElroy points out side effects and high discontinuation rates

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#### Antidepressants • Imipramine: 2 RCT's showing Fluvoxamine: Mixed results efficacy · Atomoxetine: 1 RCT showing • Citalopram/escitalopram: 2 RCT's efficacy showing efficacy • Venlafaxine: 1 case series • Sertraline: 2 RCT's showing showing efficacy efficacy Bupropion: 1 RCT failed to show • · Fluoxetine: Mixed results efficacy, but commonly utilized due to lack of weight gain side effects

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## ARFID

- · Very little consensus in treatment approaches in literature
- 2017 Brewerton and D'Agostino: Retrospective chart review
  - N=9
  - Suggests olanzapine may help
- 2018 Gray et al: retrospective chart review of mirtazapine
  - N=14
  - Suggests mirtazapine may help speed up weight restoration

# Naltrexone

- 2017 McElroy review of literature
- 1 RCT, 88 BED, 60 BN from 1991 (Alger et al)
- Efficacy of naltrexone for reducing binge duration and frequency
- Combined with bupropion for weight loss medication

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# EDs and psychiatric comorbidities

- Anxiety disorders
- OCD
- Mood disorders
- PTSD
- · Substance use disorders
- · Personality disorders

# **Common psychiatric medications** (based on comorbid diagnoses)

- Selective serotonin reuptake inhibitors (SSRI's)
- · Serotonin-norepinephrine reuptake inhibitors (SNRI's)
- Tricyclic antidepressants (TCA's)
- Other antidepressants
- Mood stabilizers (lithium, lamotrigine, divalproex, carbamazepine, oxcarbamazepine)
- Antipsychotics
- · Stimulants
- Benzodiazepines

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# Psychiatric symptom management

Anxiety: Acute anxiety reduction before meals/snacks

- Benzodiazepines
- Antihistamines (hydroxyzine FDA approved, cyproheptadine off label)
- Gabapentin, pregabalin (off label)
- Antipsychotics (off label)

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#### Common medical issues strategies: · Gastroparesis: metoclopramide, · Edema: diuretics Medications which can erythromycin Osteopenia/Osteoporosis: assist with exposure • Constipation: polyethylene estrogen, bisphosphonates therapy glycol, docusate sodium • Diabetes: insulin. metformin or • **GERD:** proton pump inhibitors, other oral medications H-2 blockers, antacids · Vitamins/minerals/electrolytes: · Other GI: ondansetron, supplements promethazine, probiotics

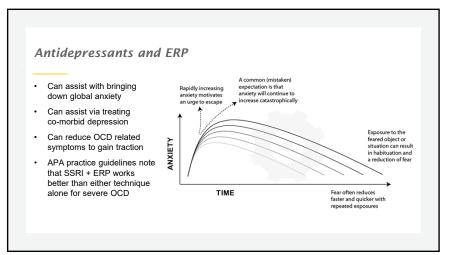
# **D**-cycloserine

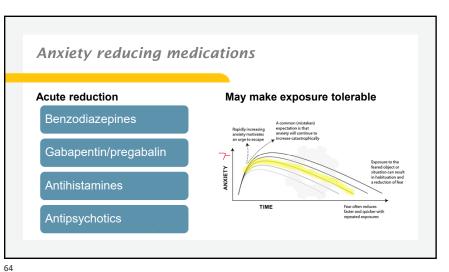
- · N-methyl-D-aspartate (NMDA) receptor modulator
- Augments glutamatergic function increases efficiency of fear extinction
- 2008 Norberg et al: meta-analysis from 1998-2007
  - D-cycloserine enhances fear extinction/exposure therapy in animals and humans
  - · Increases speed and efficiency of improvement
  - · Effects decrease over time and repetition

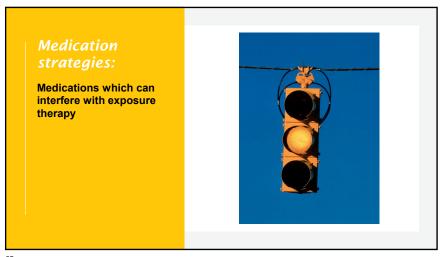
## D-cycloserine for ED ERP

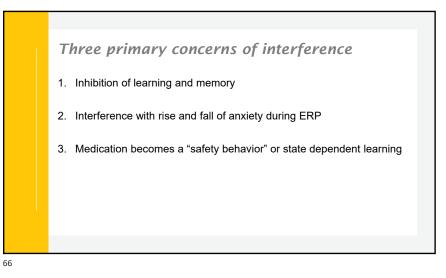
- 2007 Steinglass et al, n=11
  - Double blind placebo-controlled study with inpatients with AN
  - · Exposure therapy effective at improving intake
  - · D-cycloserine failed to demonstrate additional benefit
- 2015 Levinson et al, n=36
  - · RCT with PHP patients
  - · Exposure therapy effective
  - · D-cycloserine demonstrated additional benefit

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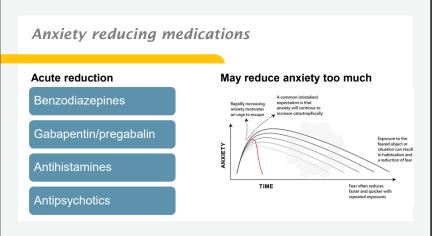


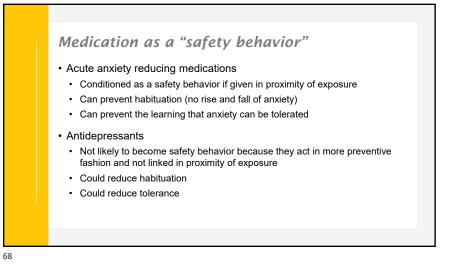












### **Benzodiazepines**

Usual side effects/risks: Dependence, addiction, cognitive slowing, memory problems

- 1999 Kilic et al: 3.5 year follow-up
  - · Alprazolam appeared to interfere with memory and learning
- 2007 Watanabe et al: Systemic review of combination of psychotherapy and benzo's
  - Noted combination may be better for initial stages, and therapy alone better longer term
  - Relative paucity of good studies to substantiate the concerns related to benzo's interfering with psychotherapy

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# Benzodiazepines (cont'd)

- 2020 Melani et al: Systematic review of RCT's
  - 12 RCT's of exposure-based interventions in anxiety and PTSD
  - 9 studies showed benzo's did not interfere
  - 2 studies showed benzo's

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- · 1 study showed benzo's interfered
- 11 studies had follow up after benzo's stopped
  - 6 showed benzo's had not interfered with long term gains
- 5 showed benzo's did interfere with long term gains

#### .



### Case example

- 24-year-old African-American transgender female
- · Diagnoses: Anorexia Nervosa, restricting type; OCD
- Panic attacks at each meal, some snacks; restriction anxiety based on body image and contamination fears; intake only a few hundred calories/day
- Current medications: Fluoxetine 10 mg (2 months), estradiol, spironolactone
- Options as ERP is started??

RP for eating disorders	Medications for eating disorders
Exposure therapy can be a helpful adjunct	Stay cognizant of how ERP works
treatment for eating disorders	Consider co-morbid psychiatric conditions
Do a thorough functional assessment to help guide creation of exposure hierarchy and ensure targeting core fear	<ul> <li>Consider antidepressants and augmentation medications for preventative treatment of anxiety and mood symptoms, especially for</li> </ul>
Include focus on resisting safety behaviors	severe symptoms
<ul><li>in approach to exposure with EDs</li><li>Utilize components of inhibitory learning model to maximize exposure effectiveness</li></ul>	Consider acute anxiety reducing medications
	to make ERP possible in early stages – "challenging but manageable"
	<ul> <li>Stay cognizant of risks of interference of ERP</li> </ul>

