Specific phobia in adults: Cognitive-behavioral therapy

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INTRODUCTION

Specific phobia is an anxiety disorder characterized by clinically significant fear of a particular object or situation that typically leads to avoidance behavior. Phobic fears include animals, insects, heights, water, enclosed places, driving, flying, and choking or vomiting. Some specific phobias involve responses to medical procedures, such as injections, dental work, or blood. (See "Acute procedural anxiety and specific phobia of clinical procedures in adults: Treatment overview".)

Specific phobias are among the most common mental disorders and can be highly disabling [1,2]. However, they are also among the most treatable mental disorders [3-6]. Despite availability of efficacious treatments, the majority of individuals with specific phobias are hesitant to seek treatment [7]. This may be due to lack of knowledge that the phobia is treatable, embarrassment to disclose the phobia to a health professional, accommodation of the phobia through avoidance, or fear of increased anxiety or discomfort in the course of treatment [5].

Cognitive-behavioral therapy for specific phobia in adults is discussed here. The epidemiology, pathogenesis, clinical manifestations, course, and diagnosis of specific phobia in adults are reviewed separately. Management decisions and pharmacotherapy in the treatment of specific phobia in adults, specific phobias in adults undergoing clinical procedures, and specific phobias in children are discussed separately.

- (See "Specific phobia in adults: Epidemiology, clinical manifestations, course, and diagnosis" and "Approach to treating social anxiety disorder in adults" and "Acute procedural anxiety in adults: Epidemiology, clinical features, assessment, and diagnosis".)
- (See "Specific phobia in adults: Treatment overview".)
- (See "Specific phobia in adults: Epidemiology, clinical manifestations, course, and diagnosis" and "Approach to treating social anxiety disorder in adults" and "Acute procedural anxiety in adults: Epidemiology, clinical features, assessment, and diagnosis".)
- (See "Specific phobia in adults: Epidemiology, clinical manifestations, course, and diagnosis" and "Approach to treating social anxiety disorder in adults" and "Acute procedural anxiety in adults: Epidemiology, clinical features, assessment, and diagnosis".)
- (See "Acute procedural anxiety and specific phobia of clinical procedures in adults: Treatment overview".)
- (See "Overview of fears and phobias in children and adolescents".)

INITIAL MANAGEMENT

We use shared decision making in formulating the treatment plan, including whether to treat the specific phobia. (See "Specific phobia in adults: Treatment overview", section on 'To treat or not to treat'.)

For individuals with co-occurring anxiety disorders, we prioritize the treatment of the comorbid disorder as successful treatment of comorbid anxiety disorders such as generalized anxiety disorder or panic disorder may improve the presenting symptoms and overall quality of life of the patient. (See "Specific phobia in adults: Treatment overview", section on 'Addressing co-occurring anxiety disorders'.)

Cognitive-behavioral therapy with exposure as first line for most — For most patients with specific phobia, our preference is first-line treatment with cognitive-behavioral therapy (CBT) with exposure. (See "Specific phobia in adults: Treatment overview", section on 'Cognitive-behavioral therapy with exposure: First line for most'.)

CBT for specific phobia consists primarily of behavioral strategies (ie, exposure therapy) that may or may not be combined with cognitive strategies that are used to alter maladaptive thoughts and behaviors that maintain emotional distress [8]. (See "Overview of psychotherapies", section on 'Cognitive and behavioral therapies' and 'For inadequate response to exposure therapy' below.)

Pharmacologic management is used as an alternative first-line treatment in specific situations. For example, in cases where the phobic stimulus is infrequently encountered and unavoidable (eg, rare airline flights for work) and in cases where exposure therapy is unavailable or will not be effective over the short term (eg, patient presents one week prior to scheduled flight for work or patient needs to undergo a necessary medical procedure that is avoided due to the phobia).

Pharmacologic management of specific phobia is discussed elsewhere. (See "Specific phobia in adults: Treatment overview", section on 'Treatment'.)

Overcoming reluctance to treatment — Treatment with CBT with exposure may be emotionally taxing. Patients may be reluctant to pursue exposure therapy for a number of reasons. For example, individuals with a specific phobia typically avoid their feared stimulus and may not be able to fathom purposely practicing contact and engaging their fear therapeutically. They may believe they will not be able to cope, could be in danger, could lose control in some way, or they may believe that exposure will not work (eg, they may have tried approaching the feared stimulus in the past and had an extreme fear reaction). Individuals may also want to avoid feeling the anxiety symptoms themselves because it causes them extreme distress and discomfort. Additionally, exposure therapy requires individuals to practice being in situations that are associated with distress and discomfort and thus requires a degree of motivation to engage in the session and complete practices between sessions. The time required to practice exposure in between treatment sessions can also be an obstacle and requires individuals to prioritize their schedules to make time.

We believe that the way the rationale for the exposure-based therapy is presented and the quality of the clinician-patient relationship play a role in treatment acceptance, engagement, and completion. We use the additional components such as gradual reduction of safety behaviors, psychoeducation, and cognitive strategies to overcome this reluctance. (See 'Additional components of treatment' below.)

- Ensuring the patient has a good understanding of the rationale for CBT and exposure strategies specifically so that they are on board with the chosen intervention (eg, avoidance reduces fear in the short term but maintains fear and erodes confidence to manage the feared situation and can also lead to further generalization of the fear).

- Underscoring that control for generating exposure practices and progress in exposure (ie, how quickly one progresses with regard to the hierarchy of feared situations) is fully in the hands of the patient. We have the patient set the pace for exposure based on their level of

comfort and their ability to tolerate challenging situations so that they feel they are in charge of the treatment.

- Engaging in a thorough discussion of the costs and benefits of living with the specific phobia versus engaging in treatment with the idea that short-term distress (mild to moderate discomfort during exposure) is worth the effort for the long-term gain (increase in freedom due to the elimination of the specific phobia).

- Discussion of the efficacy of exposure for specific phobia. (See "Specific phobia in adults: Treatment overview", section on 'Efficacy of exposure therapy'.)

TREATMENT WITH COGNITIVE-BEHAVIORAL THERAPY WITH EXPOSURE

Exposure-based strategies involve repeated, systematic confrontation of the feared stimulus. This facilitates fear reduction through extinction learning (the gradual decrease in response to a stimulus that occurs when the stimulus is presented without reinforcement) and inhibitory learning (learning that aversive events do not always occur when the stimulus is encountered) [9,10].

The key therapeutic component of exposure therapy is the learning that transpires from confronting a feared situation. The individual learns that their feared predictions did not come true and their confidence for managing the situation is increased. For example, during the exposure session and following its completion, we discuss the patient's observations and evidence gathered in relation to their fearful predictions regarding the feared stimulus (eg, "the snake will bite me"). This process leads to the development of new, more adaptive beliefs about the feared stimulus (eg, "the snake is actually scared of me"). (See 'Additional components of treatment' below.)

Administering exposure therapy

Session lengths, treatment duration — The length of each treatment session is determined, in part, by the patient's level of anxiety in session, the exposure type and the number of exposures planned. Individuals with higher levels of anxiety may only be able to tolerate exposure for short periods of time while those with less anxiety tolerate the stimulus for longer periods and may progress towards the desired goal more quickly. Additionally, the type of exposure plays a role in the parameters of administration. For example, an individual with fear of heights may tolerate imaginal exposure for longer periods than in vivo exposure.

We tailor the treatment duration based on the progress towards reaching the goal of fear reduction. One-session exposure treatment typically consists of a single two- to three-hour session of prolonged exposure. Multisession treatment sessions are typically 60 to 90 minutes in length.

We vary the exposure situations as treatment progresses to enhance the generalizability of fear reduction over different contexts. We try to do this with each type of exposure, if possible. Varying the exposure may reduce renewal of fear (eg, relapse as a result of an encounter in a different context). For example, a trial of 30 patients with spider phobia found that virtual reality exposure (VRE; also termed "in virtuo exposure") conducted in multiple contexts (eg, different sizes and types of spiders encountered in different places) was better at reducing renewal of fear compared with VRE in a single context [11].

Data regarding the most effective number of treatments and their length are mixed [5,12]. As examples, a meta-analysis of clinical trials among adults showed that multisession treatments slightly outperformed single-session treatments on measures of phobic dysfunction [5], suggesting that there may be some advantage to multiple-session over single-session exposure treatment. However, interpretation is limited due to small numbers of studies and participants. Furthermore, a noninferiority trial among 268 children and young people (up to age 16) with specific phobia found that one-session treatment was as effective as multisession cognitive-behavioral therapy (CBT) on behavioral avoidance (primary outcome) [12].

Graded exposure — Graded exposure is a process of repetitive exposure to progressively more feared stimuli based on the patient ratings of each situation. The individual is exposed to the feared stimulus until the fear rating is reduced before moving up to the next step of the hierarchy [13]. Often a target is for the individual to reduce their fear by half before ending the exposure practice. Subjective fear level is measured based on the individual's self-report, typically on a scale from 0 to 100, where 0 represents "no fear/anxiety at all" and 100 represents "extreme fear/anxiety." The specific amount of fear reduction needed to progress upward is variable and determined by clinical judgment and patient willingness. For example, an individual with a snake phobia whose initial fear rating is a 55 when looking at a picture of a snake may practice looking at the picture until their fear is reduced to a 25. They would then repeatedly practice this same exposure between the therapy sessions, ideally daily but at least three times. Exposures are designed to target avoidance behaviors, challenge anxious predictions (eg, a snake will always attack) and subjective fears, reduce and eliminate safety behaviors, and encourage learning new ways of responding to fear cues [10,14]. The more an individual practices exposure between sessions, the faster the fear reduction.

An example of a 13-step exposure hierarchy developed for a patient with fear of snakes (ophidiophobia) is shown on the associated table (table 1). The exposure practices start at the bottom of the hierarchy and then progress upwards towards the most feared situation. Therapy starts as high up on the hierarchy as the patient feels they can manage. Once a step is practiced repeatedly until the fear associated with it is substantially reduced, it is time to move up to the next step. Often the first practice of a step is done in session when possible.

Types of exposure — We use in vivo exposure most frequently. Imaginal and VRE have a role when the stimulus is infrequent, difficult to recreate, or as part of a hierarchy of exposure leading to in vivo exposure. The availability and cost of VRE limits it use. The efficacy of exposure therapy is discussed elsewhere. (See 'Efficacy of CBT with exposure' below and "Specific phobia in adults: Treatment overview", section on 'Efficacy of exposure therapy'.)

In vivo exposure — Through in vivo, or live exposure therapy, we assist the individual in confronting the feared stimulus in real world situations. In in vivo exposure, the clinician or mental health worker accompanies the individual to confront the feared stimulus such as holding a live animal, riding a crowded elevator, or driving a car on a highway. This exposure requires the individual to tolerate increased levels of anxiety in the actual feared situation and is the most taxing emotionally. As a consequence, it may not appeal to some individuals who may refuse the treatment or drop out prematurely.

The refusal rate for in vivo exposure has been reported to range from 14 to 27 percent [15]. Drop-out rates vary broadly (eg, 0 to 44 percent) and are dependent on methods [16-18].

Imaginal exposure — We prefer imaginal exposure when the stimulus is too costly or infrequent to recreate (eg, a fear of flying or a storm phobia). We also use imaginal exposure as part of a hierarchy leading to in vivo exposure if an individual is not ready to engage directly with the feared stimulus or when it is difficult to practice directly (eg, fear of vomiting, choking, or a medical procedure).

Imaginal exposure involves mentally confronting the feared stimulus using imagination. It is typically guided by a script or description of the feared scenario that is repeatedly reviewed by the patient in their imagination. We practice this exercise with the patient in session until fear reduction occurs.

Virtual reality exposure — When available, we use VRE on its own or as a treatment component prior to conduction of in vivo exposure. Through computer simulation, VRE enables individuals to experience situations that may be difficult or expensive to produce in a live situation (eg, exposure to an airplane for fear of flying) or exposure to a lightning storm [19].

VRE has been studied as a treatment for phobias of spiders, driving fears, storms, and heights, dental procedures, as well as blood-injection-injury phobia [20-22]. Exposure in a flight simulator has been proposed for treating people with a fear of flying; however, access is very limited [23]. Flight simulators, used in pilot training, are motion generating platforms that simulate the effects of flight, including turbulence, gravitational force, and the sounds of landing gear and flap movements.

Exposure via virtual reality (eg, computer programs, video game-like mobile applications) have shown some evidence of effectiveness in specific phobia, though some data suggest a high drop-out rate among participants [24-26]. Availability is limited due to the expense of the technology [24,27].

Additional components of treatment — We typically use one or more of the following treatment components simultaneously with exposure treatment for most individuals particularly those with difficulty engaging in exposure therapy due to high levels of anxiety, irrational fears, or maladaptive beliefs. Additionally, we often use these techniques for individuals who have tolerated exposure but have had inadequate response to the treatment [8]. While the evidence in support of these treatments on their own is limited, in our clinical experience, the addition of one or more of these interventions may increase the tolerance and effectiveness of exposure treatment. (See 'For inadequate response to exposure therapy' below.)

Cognitive therapy — We help the individual to identify maladaptive thoughts and appraisals that may be triggering or maintaining the phobic fear. We help the individual to promote more realistic thoughts or appraisals. As an example, an individual with a specific phobia of elevators may believe that the chances of getting stuck in an elevator are very high (ie, 90 percent likelihood per elevator ride) when in fact the likelihood of getting stuck in an elevator is extremely low. They may also believe that when they do get stuck, they will not be able to manage. We address these maladaptive thoughts through discussing the individuals experience with elevators (eg, the individual's experience having had hundreds of elevator rides but only been stuck a small handful of times with a focus on how they coped successfully). Addressing maladaptive thoughts is associated with anxiety reduction [28].

The benefit of adding cognitive components to in exposure therapy has shown mixed results and may also depend on the type of phobia [13,29] and the type of exposure. Cognitive therapy, for example, appears to enhance the effects of in vivo exposure for claustrophobia [30] but not for animal phobia [31]. In a meta-analysis of five trials comparing treatment for specific phobia, the addition of a cognitive component to exposure treatment offered no advantage over the exposure treatment alone [5]. Considerable heterogeneity limits interpretation and further

research is needed. Although the data on the addition of cognitive therapy are mixed in research trials, it is our experience in clinical practice that the addition of cognitive therapy can assist in engaging the patient in the more effective exposure therapy. The decision to add cognitive strategies and the amount of therapy focused on this phase is guided by the characteristics of the individual patient and their treatment history (eg, reluctance to engage in exposure therapy, level of distress, etc).

Psychoeducation — We provide background information on the nature of specific phobia including etiology, maintaining factors, the CBT model, and treatment strategies. Numerous self-help workbooks provide a detailed background on the nature of various phobias as well as treatment strategies. These resources can be used by patients in either a self-directed or clinician-assisted exposure treatment [32]. In addition, it can be helpful for the patient to learn about the feared stimulus to correct inaccurate beliefs that may be maintaining the fear. As an example, individuals with animal phobias often hold the belief that the animal wants to hurt or attack them. Assigning reading to increase the knowledge of the feared stimulus is useful and can be referenced during exposure practices when the spontaneous thoughts are identified (eg, the snake sticks its tongue out because it wants to eat me versus the snake uses its tongue to gather sensory information in the air).

Safety behaviors — When individuals are limited in their ability to engage in exposure therapy due to reluctance and/or high fear levels, we can utilize their safety behaviors to increase their willingness to practice being in the feared situation. Safety behaviors are a series of behaviors used by individuals with specific phobia to reduce their anxiety related to the phobic stimulus. The safety behaviors can be incorporated into the exposure hierarchy and then faded out as the individual becomes more comfortable practicing each situation [33].

Safety behaviors include:

- Cognitive distraction (eg, an individual with a fear of heights sings a song to avoid thinking about the bridge they are driving over)
- Thought suppression (eg, an individual with a fear of medical procedures purposely tries to avoid thinking about an upcoming medical test)
- Checking (an individual with a fear of spiders checks all the corners of a room they enter to see if there are spiders)
- Carrying an item that increases feelings of safety (eg, carrying an antinausea medication for an individual with vomiting phobia)

Of note, carrying benzodiazepines can also be considered as a safety behavior.

Clinical trials of the effects of safety behaviors on outcomes of exposure treatment have shown mixed findings. Some trials suggested safety behaviors may hinder therapeutic outcome [34,35], possibly by enabling avoidance of feared outcomes in anxiety-provoking situations. However, other trials have found that safety behaviors may not interfere with treatment outcome and may actually improve willingness to encounter the feared stimulus at a closer distance [33]. Additionally, the effects of safety behaviors on exposure treatment may be dependent on the type of phobia.

Trials of dog phobia and claustrophobia found that safety behaviors reduced treatment efficacy. A trial of spider phobia found safety behaviors to increase treatment efficacy.

Anxiety management — We use anxiety management techniques that promote arousal reduction in combination with exposure for individuals who present with high levels of distress that interfere with their ability to fully engage in treatment [5]. Anxiety management techniques include breathing retraining, progressive muscle relaxation and imaginal relaxation. (See "Overview of complementary, alternative, and integrative medicine practices in oncology care, and potential risks and harm" and "Overview of complementary, alternative, and integrative medicine practices in oncology care, and potential risks and harm", section on 'CIM practices that require specialized training'.)

There is a lack of data comparing exposure with or without anxiety management techniques in specific phobia but data from other anxiety disorders suggest that anxiety management is not an essential treatment component [36].

Anxiety management techniques are not generally considered to be effective treatments when delivered in the absence of exposure treatment [5] but may be necessary in a small proportion of cases if the individual is not able to engage in either exposure treatment or cognitive therapy due to high levels of distress.

Applied tension — This strategy is specifically used for individuals whose phobia is associated with a fainting response. We train patients to use muscle tension during in vivo exposure to increase their blood pressure and counteract the vasovagal fainting response [37-39]. This combination is effective for blood-injection-injury phobia, and other phobias that involve fainting. The efficacy and administration of applied tension for blood-injection-injury phobia are described separately. (See "Acute procedural anxiety and specific phobia of clinical procedures in adults: Treatment overview", section on 'Blood-injection-injury phobia'.)

Efficacy of CBT with exposure — CBT with exposure is an effective treatment for specific phobia. Among psychosocial interventions tested in specific phobia, CBT with exposure has been the most extensively studied in clinical trials [5].

Among exposure treatments for specific phobia, in vivo exposure appears to be more effective than other forms of exposure; however, this advantage was not found at follow-up. Further studies are warranted. Efficacy of exposure therapies in the treatment of specific phobia is discussed elsewhere. (See "Specific phobia in adults: Treatment overview", section on 'Efficacy of exposure therapy'.)

SUBSEQUENT TREATMENT

For robust treatment response and maintenance of gains — We suggest continued self-exposure on a regular basis to maintain treatment gains [17]. As an example, a person treated for a snake phobia could post a picture of a snake on the fridge to maintain daily self-exposure to snakes. Continued exposure would optimally be almost daily and at a minimum on a weekly basis.

Treatment gains from exposure therapy appear to be maintained for at least one year [31,40,41]. There is a lack of data on longer-term outcomes.

For inadequate response to exposure therapy — For individuals who can tolerate exposure therapy but who have inadequate response to treatment, we first confirm that the patient is not engaging in a behavior that might hinder the efficacy of the exposure (eg, taking benzodiazepine, or drinking alcohol before the exposure session). After confirming this, we add one or more of the cognitive components discussed above (if not already done) to enhance response to treatment [8]. (See 'Additional components of treatment' above.)

Refractory cases — If no improvement is seen after the addition of these strategies, we consider pharmacologic management when appropriate. (See "Specific phobia in adults: Treatment overview", section on 'Subsequent treatment'.)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Anxiety and anxiety disorders in adults".)

SUMMARY AND RECOMMENDATIONS

- **Cognitive-behavioral therapy (CBT) with exposure as first line for most** – For most patients with specific phobia, our preference is first-line treatment with CBT with exposure. (See 'Initial management' above.)

- **Reluctance to treatment with exposure** – Treatment with CBT with exposure may be emotionally taxing. To help overcome reluctance to treatment, we make sure the patient has a good understanding of the rationale for the chosen intervention, underscore the control that the patient has in the exposure process, and discuss the efficacy of exposure treatment for specific phobia. (See 'Overcoming reluctance to treatment' above.)

- **Treatment with CBT with exposure** – Exposure-based strategies involve repeated, systematic confrontation of the feared stimulus. This facilitates fear reduction through extinction learning and inhibitory learning. (See 'Treatment with cognitive-behavioral therapy with exposure' above.)

- **Graded exposure** – Graded exposure is a process of repetitive exposure to progressively more feared stimuli. The individual is exposed to the feared stimulus until the fear rating is reduced before moving up to the next step of the hierarchy. (See 'Graded exposure' above.)

- **Types of exposure** – We use in vivo exposure most frequently. Imaginal and virtual reality exposure (VRE; also termed “in virtuo exposure”) have a role when the stimulus is infrequent, difficult to recreate, or as part of a hierarchy of exposure leading to in vivo exposure. The availability and cost of VRE limits it use. (See 'Types of exposure' above.)

  - **In vivo exposure** – Using in vivo, or live exposure therapy, we assist the individual to confront the feared stimulus in real world situations. This exposure requires the individual to tolerate increased levels of anxiety in the actual feared situation and is the most taxing emotionally. (See 'In vivo exposure' above.)

  - **Imaginal exposure** – Imaginal exposure involves mentally confronting the feared stimulus using imagination. It is typically guided by a script or description of the feared scenario that is repeatedly reviewed by the patient in their imagination. (See 'Imaginal exposure' above.)

  - **VRE** – When available, we use VRE on its own or as a treatment component prior to conduction in vivo exposure. Through computer simulation, VRE enables individuals to

experience situations that may be difficult or expensive to produce in a live situation. (See 'Virtual reality exposure' above.)

- **Additional cognitive components** – We typically use one or more of the following CBT components simultaneously with exposure treatment for most individuals particularly those with difficulty engaging in exposure therapy due to high levels of anxiety, irrational fears, or maladaptive beliefs. (See 'Additional components of treatment' above.)

  - **Cognitive therapy** – Using cognitive strategies, we help the individual to identify maladaptive thoughts that are triggering the phobic fear. We also help the individual promote more realistic appraisals of the feared object or situation. (See 'Cognitive therapy' above.)

  - **Psychoeducation** – We provide background information to correct faulty beliefs regarding the feared stimulus as well as information on the nature of the phobia and CBT. (See 'Psychoeducation' above.)

  - **Safety behaviors** – We incorporate safety behaviors in the treatment for individuals who present with fears or anxieties that limit or prevent engagement in exposure therapy. (See 'Safety behaviors' above.)

  - **Anxiety management techniques** – In some instances, such as when high levels of distress interfere with the patients' ability to fully engage in treatment, we use anxiety management techniques that promote arousal reduction in combination with exposure. Anxiety management techniques include breathing retraining, progressive muscle relaxation and imaginal relaxation. (See 'Anxiety management' above.)

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