Chapter 7

Anxiety Disorders

Key Messages

- An anxiety disorder[a] is a psychological condition indicated by frequent, intense, and excessive worry, occurring for at least six months, and substantially affecting daily functioning and causing significant distress. It includes feeling nervous, anxious, or on edge, and not being able to stop or control these feelings.
- Moderate-to-severe anxiety symptoms, an indication of an anxiety disorder, affect one in five people with insulin-treated type 2 diabetes, type 1 diabetes, or non-insulin-treated type 2 diabetes; this is 20% more likely than the general population.
- Elevated anxiety symptoms in people with diabetes:
  - are associated with suboptimal diabetes self-management and metabolic outcomes, diabetes complications, depressive symptoms, and impaired quality of life
  - and can be difficult to recognize, as severe anxiety and panic attacks share some similar physical symptoms to hypoglycemia (e.g., sweating, increased heart rate, shaking, and nausea).
- A brief questionnaire, such as the Generalized Anxiety Disorder Seven (GAD-7), can be used for identifying people with elevated anxiety symptoms. However, a clinical interview is needed to confirm an anxiety disorder.
- Anxiety disorders can be treated effectively (e.g., with psychological therapies and medications).

Practice Points

- Assess people with diabetes for elevated anxiety symptoms using a brief validated questionnaire; remember that anxiety disorders need to be confirmed by a clinical interview.
- Treatment of an anxiety disorder will depend on severity, context, and the preferences of the individual. Helping people with an anxiety disorder to access suitable treatment may require a collaborative care approach beginning with the person's PCP.
- Remain mindful that elevated anxiety symptoms also need attention, as they can develop into an anxiety disorder.

a In this chapter, the term "anxiety disorder" is used when diagnosis is confirmed by a clinical interview according to DSM-5 or ICD-11 criteria. The term "elevated anxiety symptoms" is used where self-report is not confirmed by a clinical interview. An anxiety disorder is different from a diabetes-specific anxiety (e.g., fear of hypoglycemia, hyperglycemia, injections, or complications), which are discussed in Chapter 4.

How Common Are Elevated Symptoms of Anxiety?

Type 1 diabetes[b,1,2] Type 2 diabetes (insulin)[b,1] Type 2 diabetes (no insulin)[b,1]

WHAT IS an Anxiety Disorder?

An anxiety disorder is a psychological condition characterized by persistent and excessive anxiety and worry.[3] This is also known as clinical anxiety. The worry is accompanied by a variety of symptoms:[4]

- emotional (feeling uneasy, worried, irritable, or panicked, including experiencing panic attacks)
- cognitive (thinking that one cannot cope or having difficulty concentrating)
- behavioral (aggression, restlessness, fidgeting, or avoidance)
- and physical (a rapid heartbeat, trembling, dizziness, sweating, or nausea).

In contrast to non-clinical anxiety, which is a normal response to a perceived threat or stressful situation, an anxiety disorder is problematic as it affects day-to-day functioning and causes significant distress.[3] It cannot be attributed to the effects of a substance (e.g., medication), a medical condition (e.g., hyperthyroidism), or another mental health problem (e.g., depression).

Anxiety disorders can take many forms, including:[5,6]

- generalized anxiety disorder: intense excessive and daily worries about multiple situations
- social anxiety disorder: intense excessive fear of being scrutinized by other people, resulting in avoidance of social situations
- panic disorder: recurrent, unpredictable, and severe panic attacks
- and specific phobia: intense irrational fear of specific everyday objects or situations (e.g., phobia of spiders, injections, or blood).

The "gold standard" for diagnosing an anxiety disorder is a standardized clinical diagnostic interview, for example the Structured Clinical Interview for DSM-5 (SCID-5; www.scid5.org). Comprehensive descriptions of anxiety disorders, symptoms and diagnostic criteria are included in the *Diagnostic and Statistical Manual of Mental Disorders,* 5th edition (DSM-5)[6] and the *International Statistical Classification of Diseases and Related Health Problems,* 11th revision (ICD-11).[5] For example, generalized anxiety disorder is indicated by persistent and excessive anxiety and worry that is difficult to control, occurring more days than not, in addition to three or more of the following symptoms being present on more days than not, for at least six months:[6]

- restlessness or feeling "on edge"
- being easily fatigued
- difficulty concentrating or mind going blank
- irritability
- muscle tension
- and sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).

People with an anxiety disorder may experience panic attacks, which are sudden surges of intense fear. The symptoms of panic attack vary from person to person but commonly include a combination of quickened heartbeat, heart palpitations, shortness of breath, dizziness, nausea, sweating, shaking, dry mouth, numbness sensations, hot flushes or cold chills, feelings of choking, derealization (feelings of detachment from one's surroundings), depersonalization (feeling detached from oneself), and fear of "going crazy," "losing control," fainting, or dying.[5,6]

A subthreshold anxiety disorder is characterized by the presence of elevated anxiety symptoms that do not meet the full diagnostic criteria for an anxiety disorder. Although less severe, such symptoms are typically persistent, can also cause significant burden and impairment,[7] and deserve attention in clinical practice.

Anxiety Disorders in People with Diabetes

There is evidence of a bi-directional association between anxiety and diabetes.[8,9] However, this has not been confirmed, as most studies have been cross-

b 21%, 20%, and 18% respectively have moderate-to-severe anxiety symptoms (GAD-7 total score ≥10).

sectional.[10] Therefore, it is possible that people with elevated anxiety symptoms or an anxiety disorder may be at increased risk of developing type 2 diabetes, while having type 1 or type 2 diabetes may place people at increased risk of developing elevated anxiety symptoms or an anxiety disorder.

Overall, the prevalence of elevated anxiety symptoms and anxiety disorders in people with diabetes is within the range of general population estimates.[10] Further research is needed regarding the specific types of anxiety disorders associated with type 1 and type 2 diabetes.[10]

Many factors may contribute to the development of elevated anxiety symptoms or an anxiety disorder. These include: personal or family history, personality, stressful life circumstances, substance use, and physical illness.[11] Diabetes may be completely unrelated for some people, while for others, it may be a contributing factor. As various factors can contribute, the exact cause will be different for every person.[11]

In people with diabetes, elevated anxiety symptoms are associated with adverse medical and psychological outcomes, including:

- suboptimal self-management and unhealthy behaviors (e.g., reduced physical activity, smoking, or heavy use of alcohol)[12–18]
- elevated A1C[12,19–21] 11,18–20 and other suboptimal metabolic indicators (e.g., higher BMI, waist-hip ratio, waist circumference, triglycerides, or blood pressure; lower HDL cholesterol)[12,13,15,22]
- increased prevalence of diabetes-related complications and comorbidities[14,18,23,24]
- and the presence of depressive symptoms[c,18,21] and impaired quality of life.[21,24,25]

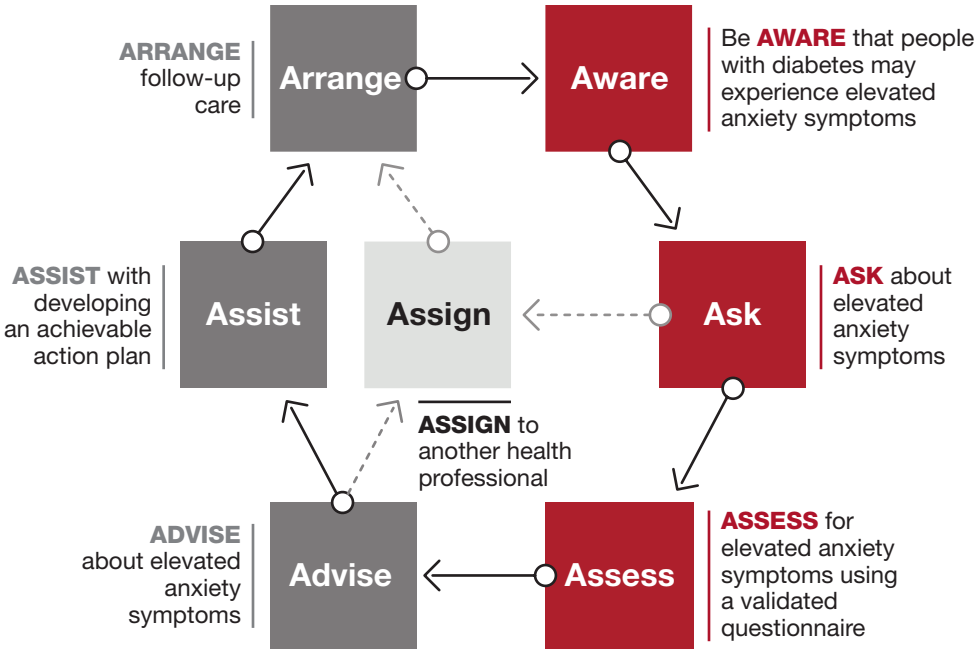
People with a coexisting anxiety disorder and depressive symptoms are likely to experience greater emotional impairment, take longer to recover, and have lower engagement with diabetes self-care.[26,27]

7 A's Model: Anxiety Disorders

This dynamic model describes a seven-step process that can be applied in clinical practice. The model consists of two phases:

- How can I identify elevated anxiety symptoms?
- How can I support a person with elevated anxiety symptoms?

Apply the model flexibly as part of a person-centered approach to care.



c Evidence is currently only available for type 2 diabetes.

HOW CAN I IDENTIFY Elevated Anxiety Symptoms?

Be **AWARE**

Anxiety disorders have emotional, cognitive, behavioral, and physical symptoms. Some common signs to look for include: excessive and persistent worry, panic attacks, and irritability. Also, look for signs that the person is not coping, such as disturbed sleep. Each person will experience different symptoms of an anxiety disorder.

Two classification systems are commonly used for diagnosing anxiety disorders: DSM-5[6] and ICD-11.[5] Consult these for a full list of symptoms and the specific diagnostic criteria for each type of anxiety disorder.

Anxiety symptoms may be mistaken for symptoms of hypoglycemia (and vice versa). For example, pounding heart, confusion, shaking, sweating, dizziness, headache, and nausea are symptoms of both hypoglycemia and panic attacks.[28,29] Consequently, elevated anxiety symptoms may be overlooked or misinterpreted (e.g., as a physical health condition) by people with diabetes and health professionals, and anxiety disorders may go unidentified and undiagnosed.[28,29]

ASK

You may choose to ask about elevated anxiety symptoms:

- when the person reports symptoms or you have noted signs (e.g., changes in mood/behaviors)
- at times when the risk of developing an anxiety disorder is higher, such as:
  - during or after stressful life events (e.g., bereavement, traumatic experience, diagnosis of life-threatening, or long-term illness)
  - periods of significant diabetes-related challenge or adjustment (e.g., following diagnosis of diabetes or complications, hospitalization, or severe hypoglycemia with loss of consciousness)
- if the individual has a history of anxiety disorder(s) or other mental health problems
- and in line with clinical practice guidelines (see Introduction, Box 1 on page viii).

Take the time to ASK about well-being at every appointment. It is a good way to create a supportive environment and build rapport. It may also help you gain some insight into things that may be affecting their diabetes self-management and outcomes that may not arise through discussion specifically about the physical or medical aspects of diabetes. For more information about having conversations about the emotional aspects of diabetes, see Chapter 1.

There are various ways to ask about elevated anxiety symptoms. You may choose to use open-ended questions, a brief structured questionnaire, or a combination of both.

Option 1: Ask Open-Ended Questions

The following open-ended questions can be integrated easily into a routine consultation:

- *"I haven't seen you for quite a while; tell me about how you have been?"*
- *"I know we've talked mainly about your diabetes management today but how have you been feeling lately? Tell me about how you have been feeling emotionally."*

If something during the conversation makes you think that the person may be experiencing elevated anxiety symptoms, ask more specific questions, such as:

- *"You seem to be worrying about many different things in your life at the moment; how is this affecting you?"*
- *"You mention that you've been [very tired, feeling 'on edge'/tense/stressed] lately. There's a lot we can do to help you with this, so perhaps we could talk more about it?"*

If the conversation suggests the person is experiencing elevated anxiety symptoms, further investigation is warranted (see **ASSESS**).

Option 2: Use a Brief Questionnaire

Alternatively, you can use a brief questionnaire to ask about elevated anxiety symptoms in a systematic way. Collectively, the following two questions are referred to as the Generalized Anxiety Disorder Two (GAD-2) questionnaire.[30] They are the core symptoms required for a diagnosis of generalized anxiety disorder.

Over the last two weeks, how often have you been bothered by the following problems?	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
Feeling nervous, anxious, or on edge	☐ 0	☐ 1	☐ 2	☐ 3
Not being able to stop or control worrying	☐ 0	☐ 1	☐ 2	☐ 3

GAD-2: www.phqscreeners.com

Instead of administering this as a questionnaire, you could integrate these questions into your conversation.

Add the responses to the two questions to form a total score. A total score of 3 or more indicates elevated anxiety symptoms,[30] further assessment is warranted.

At this stage, it is advisable to ask whether they have a current diagnosis of an anxiety disorder and, if so, whether and how it is being treated.

If the total score is 3 or more, and the person is not currently receiving treatment for an anxiety disorder, you might say something like, "*You seem to be experiencing some anxiety symptoms, which can be a normal reaction to […]. There are several effective treatment options for anxiety, but first we need to find out more about your symptoms. So, I'd like to ask you some more questions, if that's okay with you.*"

You may then decide to assess for an anxiety disorder using a more comprehensive questionnaire (see **ASSESS**). For information about using questionnaires in clinical practice, see pages 10 and 11.

If the total score is less than 3 but you suspect a problem, consider whether the person may be experiencing diabetes distress (see Chapter 3), depression (see Chapter 6), or another mental health problem.

ASSESS

Validated Questionnaire

The seven-item Generalized Anxiety Disorder questionnaire (GAD-7)[31] was designed to identify symptoms of generalized anxiety disorder. It is also a helpful indicator of panic attack and social anxiety.[30,32] A copy is included on page 123. It is quick to administer and freely available online (www.phqscreeners.com). Each item is measured on a four-point scale, from 0 (not at all) to 3 (nearly every day). Scores are added to form a total score ranging 0–21.

In the general population, GAD-7 scores are interpreted as follows:[33]

- 0–4 indicates no anxiety symptoms (or a minimal level)
- 5–9 indicates mild anxiety symptoms
- and 10–21 indicates moderate-to-severe anxiety symptoms.

Asking the person to complete the GAD-7 can be a useful way to start a dialogue about anxiety symptoms and the effect they may have on the person's life and/or diabetes management. It can also be useful for systematically monitoring anxiety symptoms (e.g., whether the symptoms are constant or changing over a period of time).

Remember that anxiety symptoms can overlap with hypoglycemia symptoms (e.g., sweating, shaking). Therefore, take care to consider the context of somatic symptoms, as the GAD-7 items assess symptoms but cannot attribute the cause of the symptoms.

A GAD-7 total score of 10 or more must be followed by a clinical interview using DSM-5[5] or ICD-11[4] criteria to confirm an anxiety disorder.

Additional Considerations

What type of anxiety disorder is it and how severe is it? If the GAD-7 indicates a possible anxiety disorder, confirm this through discussion about the symptoms and a clinical interview. For example, is it generalized anxiety disorder, social anxiety disorder, or panic disorder?[34] It is important to consider whether the person has multiple comorbid anxiety disorders.[35]

What is the context of the elevated anxiety symptoms? Are there any (temporary or ongoing) life circumstances that may be underlying the elevated anxiety symptoms (e.g., a traumatic event, chronic stress, changing/loss of employment, financial concerns, or family/relationship problems)? What social support do they have? What role do diabetes-specific factors play (e.g., fear of hypoglycemia; see Chapter 4)?

Are there any factors (psychological, physiological, or behavioral) that are coexisting or may be causing/contributing to the elevated anxiety symptoms? This may involve taking a detailed medical history, for example:

- Do they have a history (or family history) of anxiety or another psychological problem? For example, depression (see Chapter 6), past trauma, bipolar disorder, alcohol or substance abuse, or somatic symptom disorder.[29,34] These conditions must also be considered and discussed where applicable (e.g., when and how it was treated, whether they thought this treatment was effective, and how long it took them to recover).
- Is there an underlying medical cause for the symptoms? For example, hypoglycemia; hyperthyroidism or hypothyroidism; an inner ear, cardiac, or respiratory condition; vitamin B deficiency; or medication side-effects.[29,34]
- Explore other potential contributors. For example, what medications (including any complementary therapies) are they currently using? Do they use illicit drugs and/or consume alcohol?

Is this person at risk of suicide?[35] See Box 6.3 (in Chapter 6) for information about suicide risk assessment.

No elevated anxiety symptoms—what else might be going on? If the person's responses to the questionnaire do not indicate the presence of elevated anxiety symptoms:

- they may be reluctant to open up or may feel uncomfortable disclosing to you that they are anxious
- so consider whether the person may be experiencing another psychological problem (e.g., diabetes distress [see Chapter 3], depression [see Chapter 6], or a diabetes-specific fear [see Chapter 4]).

If any of these assessments are outside your expertise, you need to refer the person to another health professional (see ASSIGN).

HOW CAN I SUPPORT A PERSON with Elevated Anxiety Symptoms?

ADVISE

Now that you have identified that the person is experiencing elevated anxiety symptoms, you can advise them on the options for next steps and then, together, decide what to do next.

- Explain that their responses to the GAD-7 indicate they are experiencing elevated anxiety symptoms, and also that:
  - they may have an anxiety disorder, which will need to be confirmed with a clinical interview
  - and anxiety symptoms fluctuate dependent on life stressors and that it may be necessary to reassess later (e.g., once the stressor has passed or is less intense).
- Elicit feedback from the person about their score (i.e., whether the score represents their current mood).
- Explain what an anxiety disorder is and how it might impact on their life overall, as well as on their diabetes management.
- Advise that anxiety disorders are common and that help and support are available; anxiety disorders are treatable and can be managed effectively.
- Recognize that identification and advice alone are not enough; explain that treatment will be necessary and can help to improve their life overall, as well as their diabetes management.
- Offer the person opportunities to ask questions.
- Make a joint plan about the "next steps" (e.g., what needs to be achieved to reduce anxiety symptoms and the support they may need).

If the person confirms elevated anxiety symptoms in recent weeks, explore whether it is related to a specific temporary stressor (such as public speaking) or a continuous stress (such as ongoing work or financial problems), as this will help to inform the action plan.

NEXT STEPS: ASSIST OR ASSIGN?

- The decision about whether you support the person yourself or involve other health professionals will depend on:
  - the severity of the anxiety symptoms, and the context of the problem(s)
  - your scope of practice, and whether you have the time and resources to offer an appropriate level of support
  - your qualifications, knowledge, skills, and confidence to address elevated anxiety symptoms
  - whether other psychological problems are also present, such as diabetes distress (see Chapter 3) or depression (see Chapter 6)
  - and the needs and preferences of the person with diabetes.
- If you believe referral to another health professional is needed:
  - explain your reasons (e.g., what the other health professional can offer that you cannot)
  - ask the person how they feel about your suggestion
  - and discuss what they want to gain from the referral, as this will influence to whom the referral would be made.

ASSIST

Neither elevated anxiety symptoms or anxiety disorders are likely to improve spontaneously,[36] so intervention is important. The stepped care approach provides guidance on how to address elevated anxiety symptoms and anxiety disorders in clinical practice.[37–39]

Once an anxiety disorder has been confirmed by a clinical interview, and if you believe you can assist the person:

- Explain the appropriate treatment options (see Box 7.1), discussing the pros and cons for each option, and taking into account:

- the context and severity of the anxiety disorder
- the most recent evidence about effective treatments (e.g., a collaborative and/or a stepped care approach)
- and the person's knowledge about, motivation, and preferences for, each option.

› Offer them opportunities to ask questions.

› Agree on an action plan together and set achievable goals for managing their anxiety disorder and their diabetes. This may include adapting the diabetes management plan if the anxiety disorder has impeded their self-care.

› Provide support and treatment approaches appropriate to your qualifications, knowledge, skills and confidence. For example, you may be able to prescribe medication but not undertake psychological interventionm or vice versa.

› Make sure the person is comfortable with this approach.

› At the end of the conversation, consider giving them some information to read at home but remember that it is best not to overwhelm them with too much information.

Some people will not want to proceed with treatment, at first. For these people, provide ongoing support and counseling about anxiety disorders to keep it on their agenda. This will reinforce the message that support is available and will allow them to make an informed decision to start treatment in their own time.

BOX 7.1 Treating Anxiety Disorders

It is not within the scope of this guide to recommend specific pharmacological or psychological treatments for anxiety disorders in people with diabetes. Here are some general considerations based upon the evidence available[d] at the time this guide was published:

› First-line pharmacological treatment for generalized anxiety disorder, social anxiety disorder, and panic disorder is usually selective serotonin re-uptake inhibitors (SSRIs).[26,40] Pharmacological treatment is not standard first-line treatment for specific phobias.[26]

› First-line psychological intervention for generalized anxiety disorder, social phobia, panic disorder, and specific phobia is usually cognitive behavioral therapy (CBT).[26,40] Where avoidance behavior is present, CBT should be combined with exposure.[40]

› The current evidence base does not support combining pharmacological and psychological approaches for generalized anxiety disorder or social anxiety disorder.[26,40] Combined psychological intervention and pharmacological treatments can be beneficial for panic disorder.[26,40]

› Some medications used to treat mental health problems (e.g., antidepressants, anxiolytics, and neuroleptics) can have adverse side effects, such as weight gain and metabolic abnormalities, and are associated with insulin resistance.[41] Benzodiazepines are generally not recommended as a first-line treatment due to the risk of addiction.[26,29] Before prescribing such medications, consider the risks and benefits and their appropriateness for the individual.

› There is evidence for applying stepped care and collaborative care models for anxiety disorders in the general population.[37,38,42,43] A recent trial found a stepped care approach to be effective for reducing anxiety symptoms in people with diabetes.[39]

› Early intervention is likely to benefit people with subthreshold anxiety disorder.[7] A stepwise approach has been proposed, beginning with watchful waiting and gradually increasing the intensity of intervention as symptoms persist or increase.[7,44]

d Diabetes-specific references have been cited where available.

ASSIGN

If a decision is made to refer, consider the following health professionals:[45–48]

- **A primary care physician (PCP)** to make a referral to an appropriate mental health professional and prescribe and monitor medications. An extended appointment is recommended.
- **A clinical psychologist or clinical social worker** to conduct a clinical interview, make a diagnosis, and provide psychological therapy (e.g., cognitive behavioral therapy [CBT] or exposure-based therapy).
- **A psychiatrist** to conduct a clinical interview, provide psychological therapy (e.g., CBT or exposure-based therapy), and prescribe and monitor medications.

See Chapter 9 for guidance about preparing mental health referrals and what to say to the person with diabetes about why you are making the referral.

If possible, consider referring the person to health professionals who have knowledge about, or experience in, diabetes. For example, if their diabetes management is affected by their anxiety disorder, they may need a new diabetes management plan that is better suited to their needs and circumstances at the time. This might require collaboration and ongoing communication between the PCP or diabetes specialist (e.g., an endocrinologist, diabetes educator, and/or dietitian) and the mental health clinician.

If you refer the person to another health professional, it is important:

- **that you continue to see them after they have been referred so they are assured that you remain interested in their ongoing care**
- **and to maintain ongoing communication with the health professional to ensure a coordinated approach.**

ARRANGE

If there is need and scope, consider including more frequent follow-up visits or extended consultations in the action plan. Encourage the person to book a follow-up appointment with you within an agreed timeframe to monitor progress and address any issues arising. Telephone/video conferencing may be a practical and useful way to provide support in addition to face-to-face appointments.

Mental health is important in its own right, but it is also likely to impact on the person's diabetes self-management and their physical health. Therefore, it is important to follow up to check that they have engaged with the agreed upon treatment.

At the follow-up appointment, revisit the plan and discuss any progress that has been made. For example, you might say something like, *"When I saw you last, you were feeling anxious. We made a plan together to help you with that and that you would make an appointment to see Tony, a psychologist I recommended. Have you had an opportunity to see him? How has it worked out for you?"*

CASE STUDY

Mary

37-year-old woman living with her partner, George
Type 1 diabetes (for 21 years)
Health professional: Dr. Ariadne Pappas (endocrinologist)

Be AWARE

Mary has not been feeling like herself lately. She finds herself worrying a lot about her diabetes and other aspects of her daily life. Often she feels irritable and tired for no reason, and wonders if this is related to her diabetes (e.g., lack of sleep due to late night hypoglycemia). She likes things in her life to be in order, so this change from the ordinary concerns her. Mary tells Dr. Pappas that she doesn't know what to do; she hopes that Dr. Pappas will have some answers for her. Dr. Pappas listens to Mary's concerns and acknowledges that some of the symptoms may be related to Mary's diabetes. However, Dr. Pappas does not want to rule out other causes yet because she is aware that irritability and tiredness are common symptoms of a range of conditions.

ASK

Through open-ended questions, Dr. Pappas learns more about Mary's symptoms. Sometimes Mary sweats or shakes, and when this happens her heart beats faster than usual. This has happened to Mary a few times on the train to work in the city. It is physically and mentally draining for Mary; it makes her feel "on edge." Sometimes a quick blood glucose check shows she is having a "hypo," which would explain her symptoms, but most of the time her glucose levels are in target. Her moods are affecting her relationship with her partner, George, and this causes her even more stress and worry.

ASSESS

Dr. Pappas decides further assessment is needed. She invites Mary to complete two screening questionnaires: for anxiety (GAD-7) and depression (PHQ-9). Mary scores 13 on the GAD-7, suggesting that she is experiencing moderate levels of anxiety symptoms. She also scores 6 on the PHQ-9, indicating mild depressive symptoms. Dr. Pappas checks the file for her most recent A1C and asks to look at Mary's recent blood glucose readings. These and other assessments reveal no physiological causes for the anxiety symptoms.

ADVISE

Dr. Pappas explains the questionnaire scores to Mary and asks her if this fits with how she has been feeling lately. She also explains to Mary the symptoms of anxiety and depression and reassures her that there are several treatment options. These include medication, psychological therapy, or a combination of these. Mary appears interested in seeking treatment and support. Dr. Pappas advises Mary to speak with her PCP as soon as possible to discuss treatment options for her under her current insurance coverage. She offers Mary plenty of opportunity to ask questions, and Mary agrees to see her PCP.

ASSIGN

With Mary's permission, Dr. Pappas writes a letter to Mary's PCP and includes the scores and interpretation of the GAD-7 and PHQ-9 questionnaires.

ARRANGE

Dr. Pappas and Mary agree that Mary will make an appointment with her PCP and a follow-up appointment with Dr. Pappas once she has seen her PCP. With agreement from Mary, Dr. Pappas telephones Mary's PCP to check that they will make an appointment available to her in a timely manner. Dr. Pappas encourages Mary to contact her via telephone if she has any difficulty getting an appointment with the PCP.

CASE STUDY

Ned

47-year-old man living with his wife Faye and their children

Type 2 diabetes (diagnosed 3 months ago), managed without medication; dyslexia

Health professional: Liza Cooper (certified diabetes educator and dietitian)

Be AWARE

Ned was recently diagnosed with type 2 diabetes, and his dyslexia is causing him some challenges with self-management. His PCP has referred him to Liza for diabetes education. Liza and Ned have met twice and have begun to build a good rapport. Liza senses that Ned has adjusted quite well to the diagnosis of diabetes but feels that he needs to build his confidence in managing the condition. They have been working on this together. Liza has observed Ned to be quite an anxious person, as he:

- fidgets during consultations
- gets visibly nervous (shaky hands, sweaty palms), particularly when practicing reading food labels; his nervousness seems to be related to reading and interpreting written information
- and expresses worries about whether he is getting his diabetes management "right."

Liza has started to develop concerns about Ned's level of anxiety symptoms, so when he mentions that he has not been sleeping well she decides to investigate further.

ASK

Liza enquires about why Ned has not been sleeping. He tells her, *"I can't switch my brain off… I worry about my dad—he's been really sick from his diabetes—I think it's his kidneys. I worry about my job and how the kids are doing in school, and now I have diabetes and I worry it'll be just like with my dad…and the little things worry me too—noises in my neighborhood at night, whether I locked the car… Faye says I worry too much. She won't say it, but it annoys her…I can't help it."* Lisa asks Ned whether his level of worry bothers him too, and he tells her that it does. He says he worries, *"during the day sometimes, but the nights are worse."*

ASSESS

Liza tells Ned that it is quite common for people with diabetes to develop problems with anxiety and worry. She asks Ned whether he will answer some questions to help better understand his worries. Ned agrees, so Liza:

- opens a copy of the GAD-7 on her computer screen
- and reads the questions and response options aloud to Ned and asks him to respond to each question.

Ned scores 17, indicating severe anxiety symptoms.

ADVISE

Liza explains that Ned's score is high and that this is more than just worry—it indicates a possible anxiety disorder. She explains what this is and asks him if this fits with how he has been feeling lately. To reassure him, she says, *"Now that we know that there is a problem, there are things we can do to help you. The first step is for you to see your doctor. If you do have an anxiety disorder, then he will confirm it. And he can help you to treat it, too, with medication or counseling, or both. Treatment will help to lower your worry and anxiety symptoms, which will help you to sleep better."*

Ned expresses concern about what people might think, especially at work on the building site. Liza tells him that anxiety is very common, with one in five men experiencing an anxiety disorder at some stage in their life.[12] Liza reassures Ned that it is his choice who he tells (or doesn't tell) about his anxiety. She suggests he talks initially just with the people he trusts, such as his wife and PCP.

ASSIGN

Liza explains that Ned can continue to see her for diabetes education, but he will also need to see his PCP to address the anxiety, as this is outside her expertise. She proposes that she share his questionnaire responses and scores with his PCP and Ned agrees to make an appointment. Liza suggests that he sees the PCP as soon as possible, and that he requests an extended appointment so that they have plenty of time.

ARRANGE

They agree that Ned will return to see Liza in one week. They would like to continue with the diabetes education, and Liza would like to check Ned's progress with his PCP regarding his anxiety symptoms. Due to the severity of Ned's symptoms, Liza calls his PCP to check that the test scores were received and that an appointment will be made available to him as soon as possible.

Questionnaire: Generalized Anxiety Disorder Seven (GAD-7)

Instructions: For each statement, please tick the box below that best corresponds to your experience in the last 2 weeks.

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1 Feeling nervous, anxious, or on edge	☐ 0	☐ 1	☐ 2	☐ 3
2 Not being able to stop or control worrying	☐ 0	☐ 1	☐ 2	☐ 3
3 Worrying too much about different things	☐ 0	☐ 1	☐ 2	☐ 3
4 Trouble relaxing	☐ 0	☐ 1	☐ 2	☐ 3
5 Being so restless that it is hard to sit still	☐ 0	☐ 1	☐ 2	☐ 3
6 Becoming easily annoyed or irritable	☐ 0	☐ 1	☐ 2	☐ 3
7 Feeling afraid, as if something awful might happen	☐ 0	☐ 1	☐ 2	☐ 3

(Office use only) Total score =

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	☐ 0	☐ 1	☐ 2	☐ 3

Background

The GAD-7[30–32] is a seven-item questionnaire for assessing anxiety symptoms and their severity. It has satisfactory psychometric properties for screening for generalized anxiety disorder, panic disorder, and social anxiety disorder.[30,32]

It is freely available online in more than 30 languages, quick to administer, and easy to score and interpret. Many of the translations are linguistically valid, though few have been psychometrically validated.[33]

How to Use the GAD-7 in Clinical Practice

Respondents are asked to indicate how frequently they are bothered by each of the seven items (each describing a different symptom of generalized anxiety disorder).[31,33] Items are scored on a scale from 0 (not at all) and 3 (nearly every day).[33]

An additional supplementary item (which does not contribute to the total score) can also be asked to evaluate the level of social or occupational difficulty caused by the anxiety symptoms. This question appears in the original GAD-7 publication[31] but not in the version on the website,[49] and has been included in the questionnaire.

For tips about using questionnaires, see "Using Questionnaires to Inform Appointments" (pages 10 and 11).

Interpretation of Scores

The scores for each item are added to generate a total score (range: 0–21).[33] Anxiety symptom severity is indicated by the GAD-7 total score.[33] Generally, a GAD-7 total score of 10 or more is an indicator of likely anxiety disorder,[32,33] and needs to be followed up with a clinical interview.

GAD-7 total score	Depressive symptom severity
0–4	None – minimal
5–9	Mild
10–14	Moderate
15–19	Moderately severe
20–27	Severe

Short Form—GAD-2

- The GAD-2[30,32] consists of two items from the GAD-7: item 1, "Feeling nervous, anxious, or on edge," and item 2, "Not being able to stop or control worrying."
- The timeframe and response options are the same as the GAD-7.
- The two item scores are summed to form a total score. Total scores of 3 or more warrant further assessment for anxiety disorder.[30,32]

Resources

For Health Professionals

Peer-Reviewed Literature

- **Association of diabetes with anxiety: a systematic review and meta-analysis**

  Description: Explores the relationship between diabetes and anxiety; in particular whether diabetes is associated with increased risk of anxiety disorders and symptoms.

  Source: Smith KJ, Beland M, et al. Journal of Psychosomatic Research. 2013;74:89-99.

- **Diabetes and anxiety symptoms: a systematic review and meta-analysis**

  Description: Another overview examining the relationship between anxiety and diabetes.

  Source: Amiri S, Behnazhad S. The International Journal of Psychiatry in Medicine. 2019.

- **Comorbid elevated symptoms of anxiety and depression in adults with type 1 or type 2 diabetes: results from the International Diabetes MILES Study**

  Description: An examination of the prevalence of symptoms of anxiety/depression, how these are correlated with demographics and clinical factors, and the associations with self-care behaviors by diabetes type.

  Source: Nefs G, Hendrieckx C, et al. Journal of Diabetes and Its Complications. 2019;33(8):523-529.

Books

- ***Management of Mental Disorders,* 5th edition**

  Description: A book that provides practical guidance for clinicians in recognizing and treating mental health problems, including generalized anxiety disorder, social phobia, and panic disorder. The book also includes worksheets and information pamphlets for people experiencing these problems and their families.

  Source: Andrews G, Dean K et al. Clinical Research Unit for Anxiety and Depression (CRUfAD). 2014.

  Additional information: Sections of this book (e.g. treatment manuals and worksheets) are freely available to download from the "For Clinicians" section of the CRUfAD website.

  URL: www.crufad.org

- ***Treatments that Work* (Series)**

  Description: The *Treatments that Work* book series describes evidence-based psychological interventions for a variety of mental health conditions. They have a wide array of therapist guides with accompanying patient workbooks. The resources for anxiety disorders are especially comprehensive.

  Source: Oxford University Press

  URL: www.oxfordclinicalpsych.com/page/ttwseries/treatments-that-work-series

Websites

- **American Diabetes Association (ADA)**

  Description: ADA and the American Psychological Association partnered to create an educational program for mental health professionals interested in emotional issues specific to people with type 1 and type 2 diabetes. Clinicians who have completed this training can be found on the ADA website in their Mental Health Provider Directory Listing.

  URL: https://professional.diabetes.org/mhp_listing

- **Behavioral Diabetes Institute (BDI)**

  Description: BDI is an educational nonprofit organization dedicated to better identify, understand, and treat emotional issues related to diabetes. It provides direct clinical care and other programming for people with diabetes and their families, educational programs for health professionals, and conducts research on behavioral health issues in diabetes.

  URL: www.behavioraldiabetes.org

- **American Psychological Association (APA)**

  Description: APA is the largest scientific and professional organization of psychologists in the U.S. APA Press offers academic publications for health professionals and books on mental health topics for adults and children. Its Psychology Help Center provides educational information about mental health issues and also offers confidential telephone counseling.

  URL: www.apa.org

- **Anxiety and Depression Association of America (ADAA)**

  Description: ADAA is an international nonprofit organization of mental health professionals

dedicated to the prevention and treatment of anxiety, depression, and other co-occurring disorders through education, practice, and research.

URL: www.adaa.org

For People with Diabetes

Support

› **Mental Health America**

Description: The website for Mental Health America has a number of good resources for those dealing with anxiety.

URL: https://mhanational.org/conditions/anxiety

Information

› **Diabetes and Anxiety**

Description: A handout for people with diabetes about anxiety created along with this practical guide.

Source: National Diabetes Services Scheme and the American Diabetes Association, 2021.

URL: https://professional.diabetes.org/meetings/mentalhealthworkbook

References

1. Centers for Disease Control and Prevention. Diabetes and Mental Health. Updated 7 May 2021 [cited 27 May 2021]. Available from: https://www.cdc.gov/diabetes/managing/mental-health.html.
2. Rechenberg K, Whittemore R, Grey M. Anxiety in youth with type 1 diabetes. J Pediatr Nurs. 2017;32:64-71.
3. SANE Australia. Fact sheet 12: anxiety disorders. 2014 [cited 12 January 2015]. Available from: www.sane.org/information/factsheets-podcasts/158-anxiety-disorders.
4. Australian Psychological Society. Understanding and managing anxiety [cited 12 January 2015]. Available from: www.psychology.org.au/publications/tip_sheets/anxiety.
5. World Health Organization (WHO). International Statistical Classification of Diseases and Related Health Problems (ICD-11). 11th Revision: Version 2018 ed. Geneva: WHO; 2018.
6. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5). 5th ed. Arlington, VA: American Psychiatric Association; 2013.
7. Haller H, Cramer H, et al. The prevalence and burden of subthreshold generalized anxiety disorder: a systematic review. BioMed Central Psychiatry. 2014;14(1):128.
8. Smith KJ, Béland M, et al. Association of diabetes with anxiety: a systematic review and meta-analysis. Journal of Psychosomatic Research. 2013;74(2):89-99.
9. Amiri S, Behnazhad S. Diabetes and anxiety symptoms: A systematic review and meta-analysis. The International Journal of Psychiatry in Medicine. 2019.
10. Smith KJ, Béland M, et al. Association of diabetes with anxiety: a systematic review and meta-analysis. Journal of Psychosomatic Research. 2013;74(2):89-99.
11. beyondblue. Fact sheet 21: understanding anxiety [cited 23 November 2015]. Available from: www.beyondblue.org.au/the-facts/anxiety.
12. Balhara YPS, Sagar R. Correlates of anxiety and depression among patients with type 2 diabetes mellitus. Indian Journal of Endocrinology and Metabolism. 2011;15(Suppl 1):S50-4.
13. Engum A, Mykletun A, et al. Depression and diabetes: A large population-based study of sociodemographic, lifestyle, and clinical factors associated with depression in type 1 and type 2 diabetes. Diabetes Care. 2005;28(8):1904-9.
14. Collins M, Corcoran P, et al. Anxiety and depression symptoms in patients with diabetes. Diabetic Medicine. 2009;26(2):153-61.
15. Bener A, Al-Hamaq A, et al. High prevalence of depression, anxiety and stress symptoms among diabetes mellitus patients. Open Psychiatry Journal. 2011;5:5-12.
16. Lipscombe C, Smith KJ, et al. Gender differences in the relationship between anxiety symptoms and physical inactivity in a community-based sample of adults with type 2 diabetes. Canadian Journal of Diabetes. 2014;38(6):444-50.
17. Lloyd C, Dyer P, et al. Prevalence of symptoms of depression and anxiety in a diabetes clinic population. Diabetic Medicine. 2000;17(3):198-202.
18. Wu S-FV, Huang Y-C, et al. Relationships among depression, anxiety, self-care behavior and diabetes education difficulties in patients with type-2 diabetes: a cross-sectional questionnaire survey. International Journal of Nursing Studies. 2011;48(11):1376-83.
19. Ludman E, Katon W, et al. Panic episodes among patients with diabetes. General Hospital Psychiatry. 2006;28(6):475-81.
20. Anderson RJ, de Groot M, et al. Anxiety and poor glycemic control: a meta-analytic review of the literature. The International Journal of Psychiatry in Medicine. 2002;32(3):235-47.
21. Labad J, Price J, et al. Symptoms of depression but not anxiety are associated with central obesity and cardiovascular disease in people with type 2 diabetes: the Edinburgh type 2 diabetes study. Diabetologia. 2010;53(3):467-71.
22. Khuwaja AK, Lalani S, et al. Anxiety and depression among outpatients with type 2 diabetes: A multi-centre study of prevalence and associated factors. Diabetology & Metabolic Syndrome. 2010;2:72.

23. Fisher L, Skaff MM, et al. A longitudinal study of affective and anxiety disorders, depressive affect and diabetes distress in adults with type 2 diabetes. Diabetic Medicine. 2008;25:1096-101.
24. Peyrot M, Rubin RR. Levels and risks of depression and anxiety symptomatology among diabetic adults. Diabetes Care. 1997;20(4):585-90.
25. Kohen D, Burgess A, et al. The role of anxiety and depression in quality of life and symptom reporting in people with diabetes mellitus. Quality of Life Research. 1998;7(3):197-204.
26. Baldwin DS, Anderson IM, et al. Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder: a revision of the 2005 guidelines from the British Association for Psychopharmacology. Journal of Psychopharmacology. 2014;28(5):403-39.
27. Nefs G, Hendrieckx C, et al. Comorbid elevated symptoms of anxiety and depression in adults with type 1 or type 2 diabetes: Results from the International Diabetes MILES Study. Journal of Diabetes and Its Complications. 2019;33(8):523-9.
28. McDade-Montez EA, Watson D. Examining the potential influence of diabetes on depression and anxiety symptoms via multiple sample confirmatory factor analysis. Annals of Behavioral Medicine. 2011;42(3):341-51.
29. Conn JJ, Silberberg CL, et al. Enhancing your consulting skills – supporting self-management and optimising mental health in people with type 1 diabetes. Canberra: National Diabetes Services Scheme; 2014.
30. Kroenke K, Spitzer RL, et al. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. Annals of Internal Medicine. 2007;146(5):317-25.
31. Spitzer RL, Kroenke K, et al. A brief measure for assessing generalized anxiety disorder: the GAD-7. Archives of Internal Medicine. 2006;166(10):1092-7.
32. Kroenke K, Spitzer RL, et al. The patient health questionnaire somatic, anxiety, and depressive symptom scales: a systematic review. General Hospital Psychiatry. 2010;32(4):345-59.
33. Spitzer RL, Williams JBW, et al. Instruction manual: instructions for Patient Health Questionnaire (PHQ) and GAD-7 measures. [cited 5 February 2015]. Available from: www.phqscreeners.com.
34. Kyrios M, Mouding R, et al. Anxiety disorders: assessment and management in general practice. Australian Family Physician. 2011;40(6):370-4.
35. Katzman MA, Bleau P, et al. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress and obsessive-compulsive disorders. BioMed Central Psychiatry. 2014;14(Suppl 1):S1.
36. Dixon A, Kozlowska K. Distinct developmental presentations. In: Boyce P, Harris A, et al., editors. The Sydney Handbook of Anxiety Disorders: a guide to the symptoms, causes and treatments of anxiety disorders. Sydney: Sydney Medical School, The University of Sydney; 2015.
37. National Institute for Health and Care Excellence (NICE). Common mental health disorders: Identification and pathways to care. London: 2011.
38. Muntingh A, van der Feltz-Cornelis C, et al. Effectiveness of collaborative stepped care for anxiety disorders in primary care: a pragmatic cluster randomised controlled trial. Psychotherapy and Psychosomatics. 2014;83(1):37-44.
39. Stoop C, Nefs G, et al. Effectiveness of a stepped care intervention for anxiety and depression in people with diabetes, asthma or COPD in primary care: A randomized controlled trial. Journal of Affective Disorders. 2015;184:269-76.
40. Bandelow B, Lichte T, et al. The diagnosis of and treatment recommendations for anxiety disorders. Deutsches Ärzteblatt International. 2014;111(27-28):473-80.
41. Bystritsky A, Danial J, et al. Interactions between diabetes and anxiety and depression: implications for treatment. Endocrinology and Metabolism Clinics of North America. 2014;43(1):269-83.
42. Archer J, Bower P, et al. Collaborative care for depression and anxiety problems. Cochrane Database of Systematic Reviews. 2012;10:CD006525.
43. Goorden M, Muntingh A, et al. Cost utility analysis of a collaborative stepped care intervention for panic and generalized anxiety disorders in primary care. Journal of Psychosomatic Research. 2014;77(1):57-63.
44. Helmchen H, Linden M. Subthreshold disorders in psychiatry: clinical reality, methodological artifact, and the double-threshold problem. Comprehensive Psychiatry. 2000;41(2):1-7.
45. Australian Government Department of Health (DoH). Better access to mental health care: fact sheet for patients. 2012 [cited 27 January 2015]. Available from: www.health.gov.au/internet/main/publishing.nsf/Content/mental-ba-fact-pat.
46. Blashki G. How much does treatment really cost? [cited 29 May 2019]. Available from: www.beyondblue.org.au/personal-best/pillar/in-focus/how-much-does-treatment-really-cost.
47. Australian Government Department of Health (DoH). Access to Allied Psychological Services (ATAPS). 2014 [cited 28 January 2015]. Available from: www.health.gov.au/internet/main/publishing.nsf/Content/mental-boimhc-ataps.
48. Australian Association of Social Workers. Mental health social workers. [cited 18 June 2015]. Available from: www.aasw.asn.au/information-for-the-community/mental-health-social-workers.
49. Pfizer. Patient Health Questionnaire (PHQ) Screeners. [cited 15 May 2014]. Available from: www.phqscreeners.com.

“I used to think that if I had to go on insulin I would have felt like a failure, it would have meant that I wasn’t looking after myself properly. But peer support really helped me, because listening to other people talking about using insulin and reading about it helped me to change my view. I started to think of needing insulin as a natural progression.”

—Person with type 2 diabetes