

## CASE 1

### Panic Disorder

Table 1-1

**Dx Checklist****Panic Attack**

1. Persons experience a sudden outburst of profound fear or discomfort that rises and peaks within minutes.
2. The attack includes at least 4 of the following:
  - (a) Increased heart rate or palpitations.
  - (b) Perspiration.
  - (c) Trembling.
  - (d) Shortness of breath.
  - (e) Choking sensations.
  - (f) Discomfort or pain in the chest.
  - (g) Nausea or other abdominal upset.
  - (h) Dizziness or lightheadedness.
  - (i) Feeling significantly chilled or hot.
  - (j) Sensations of tingling or numbness.
  - (k) Sense of unreality or separation from the self or others.
  - (l) Dread of losing control.
  - (m) Dread of dying.

(Based on APA, 2013.)

Table 1-2

**Dx Checklist****Panic Disorder**

1. Unforeseen panic attacks occur repeatedly.
2. One or more of the attacks precedes either of the following symptoms:
  - (a) At least a month of continual concern about having additional attacks.
  - (b) At least a month of dysfunctional behavior changes associated with the attacks (for example, avoiding new experiences).

(Based on APA, 2013.)



Table 1-3

**Dx Checklist****Agoraphobia**

1. Pronounced, disproportionate, and repeated fear about being in at least 2 of the following situations: public transportation (e.g., auto or plane travel) • Parking lots, bridges, or other open spaces • Shops, theaters, or other confined places • Lines or crowds • Away from home unaccompanied.
2. Fear of such agoraphobic situations derives from a concern that it would be hard to escape or get help if panic, embarrassment, or disabling symptoms were to occur.
3. Avoidance of the agoraphobic situations.
4. Symptoms usually continue for at least 6 months.
5. Significant distress or impairment.

(Based on APA, 2013.)

Joe's childhood was a basically happy one. At the same time, it was steeped in financial hardship, as his Hungarian immigrant parents struggled to keep the family afloat in the United States during World War II. Joe's father, after a series of jobs as a laborer, ultimately scraped together enough money to start a small hardware store, which survived, but Joe had to quit school in the ninth grade to help run the business. He put in 9 years at the store before being drafted for the Vietnam War at age 23.

Panic disorder is twice as common among women as men.

**Joe An American Success Story**

When Joe returned from the army, he took more of an interest in the store, and with some far-sighted marketing strategies turned it into a successful enterprise that ultimately employed 6 full-time workers. Joe was proud of what he had accomplished but harbored lifelong shame and regret over his shortened education, especially as he had been an outstanding student. The store was thus both the boon and the bane of his existence.

Joe met Florence at age 45, after he took over the store from his father and established himself as a respectable neighborhood businessman. Before meeting Florence, the energetic businessman's social life was spare; his goal of making a success of himself was his overriding concern. Florence was a 40-year-old college-educated administrator for an insurance company when they met. She was



impressed with Joe's intelligence and wisdom and would never have suspected that his education stopped at the ninth grade. As their relationship progressed, Joe revealed his lack of education to her as though making a grave confession. Far from being repelled, Florence was all the more impressed with Joe's accomplishments. The couple married within a year.

Joe and Florence worked hard, raised a daughter, saved what they earned, and eventually enjoyed the fruits of their labor in the form of a comfortable retirement when he was 70. The couple continued to live in the neighborhood where Joe grew up and had his business. They spent much of their time with friends at a public country club that was popular among local retirees. Joe also enjoyed tinkering daily with the couple's modest investments.

Six years into Joe's retirement, when he was 76, Joe and Florence were returning from a Florida vacation when catastrophe struck. The catastrophe was not an airplane accident or anything like that. It was a more private event, not apparent to anyone but Joe. Nevertheless, it had a profound and expanding effect on the retired veteran, and it began a journey that Joe feared would never end.

Unlike Joe's case, panic disorder usually begins between late adolescence and the mid-30s, with the median age of onset being 20 to 24 years (APA, 2013).

### Joe The Attack

After their plane took off from the Miami airport and Joe settled back in his seat, he noticed that it was getting difficult to breathe. It felt as if all the air had been sucked out of the plane. As Joe's breathing became increasingly labored, he began staring at the plane's sealed door, contemplating the fresh air on the other side. Then, suddenly, he had another thought, which frightened him. He wondered if he might feel so deprived of oxygen that he would be tempted to make a mad dash for the door and open it in midflight. He struggled to banish this vision from his brain, but soon he became aware of his heart racing furiously in his chest cavity. The pounding became almost unbearable. He could feel every beat. The beating grew so strong that he thought he could actually hear it.

Joe looked over at his wife, Florence, in the seat next to his. She was peacefully immersed in a magazine, oblivious to his condition. He stared at her, wondering what he must look like in such a state. His spouse glanced up for a moment, gave Joe the briefest of smiles, and went back to her reading. She obviously hadn't a clue as to what he was going through. Joe felt as if he were about to die or lose his mind—he couldn't tell which at this point—and she continued reading as if nothing were happening. Finally Joe had to say something. He asked Florence if the air in the plane felt stuffy to her. She said it seemed fine but suggested that her husband open the valve overhead if he felt uncomfortable. He did so and felt only slightly better.

The rest of the plane ride was sheer torture. Joe spent the entire time trying to get the cool air to flow directly onto his face from the valve above. This activity sustained him until the plane landed. When the passengers were finally permitted



to disembark, Joe couldn't get to the door fast enough. As he emerged from the plane, he felt released from a horrible confinement.

After arriving home at his apartment in the city, the retired store owner felt better. He was still shaky, but he said nothing to Florence, who remained unaware of what had happened. Joe slept well that night and by the next morning felt like his old self. He decided to put the whole episode behind him.

Joe continued to feel fine for the next few days. Then one night he awoke at 2:00 A.M. in a cold sweat. His heart felt as though it were about to leap out of his chest; his lungs seemed incapable of drawing any oxygen from the air. His first thought was to open the bedroom window to make it easier for him to breathe. But as Joe got out of bed, he suddenly drew back in alarm. He recalled the airplane door and what had seemed like an almost uncontrollable urge to force it open in midflight. He wondered if this meant he had an unconscious desire to commit suicide. Joe concluded he should stay away from the window. Instead, he sat motionless on the edge of the bed while his thoughts raced along with his heart toward some unreachable finish line. The man was frightened and confused. He was also gasping loudly enough to awaken Florence. She asked him what was wrong, and he told her his physical symptoms: he couldn't breathe and his heart was pounding so hard that his chest ached. Florence immediately concluded that her husband was having a heart attack and called an ambulance.

The ambulance workers arrived, administered oxygen, and rushed Joe to the emergency room. By the time the patient got there, however, he was feeling much better. A cardiologist examined him, performed a battery of tests, and eventually informed Joe that he had not had a heart attack. In fact, there was nothing obviously wrong with him. The doctor told Joe he could go home, that the episodes were probably "just anxiety attacks."

Joe felt relieved that his heart seemed to be okay but was confused as to exactly what was wrong with him. He wanted nothing more than to forget the whole matter. However, as time passed, that became increasingly difficult. In fact, over the course of the next few weeks, he had 2 more attacks in the middle of the night. In both cases, he just lay in bed motionless, praying that the symptoms would go away.

Then there was a new development. One morning, Joe was walking down a busy street in his neighborhood, on a routine trip to the store, when he was overcome by the same symptoms he had previously had at night. Out of the blue, his heart started pounding, his breathing became labored, and he felt dizzy; also, he couldn't stop trembling. He looked around for a safe haven—a store or restaurant where he could sit down—but he felt as if he were in a kind of dream world. Everything around him—the people, the traffic, the stores—seemed unreal. He felt bombarded by sights and sounds and found it impossible to focus on anything. The overwhelmed man then recalled the cardiologist's mention of the term *anxiety attack* and came to the sickening realization that the doctor must

Many people (and their physicians) mistake their first panic attack for a general medical problem.



have detected that he had mental problems. Joe feared that he was on the verge of a nervous breakdown.

He was several blocks from home but discovered, to his relief, that he could make his way back to the apartment with less difficulty than he anticipated. Once inside, Joe sat down on the living room sofa and closed his eyes. He felt certain he was losing his mind; it was just a matter of time before the next attack sent him off the deep end. As he became caught up in his private terror, he heard a sound at the front door. It was Florence returning home from her shopping.

Once again, Florence appeared to have no inkling that anything was amiss. She cheerfully related the details of her shopping trip: the neighbors she met at the store, the things she bought, and the like. Joe could barely follow what she was saying, further proof, in his mind, that he was rapidly losing his grip. Finally, his wife suggested that they go out for a walk. At this, Joe realized that the very thought of leaving the apartment was terrifying to him. What if he had an attack in the middle of the street and could no longer function, physically or mentally? He felt as if he had a time bomb inside him. In response to Florence's suggestion, he simply broke down in tears.

Florence begged her husband to tell her what was wrong. Joe confessed that he had just had another one of his attacks, this time on the way to the store, and that this one was so bad he was forced to return home. Now he dreaded going outside.

Florence could see that Joe was extremely upset, but at the same time she was puzzled. There didn't seem to be anything wrong with him. He was in no obvious physical pain, and he appeared vigorous and alert. She insisted they make an appointment with their primary care physician.

In the week before the appointment, Joe made a few tentative forays onto the street in Florence's company. He felt some symptoms while outside but did not have as intense an attack as he had that one time when he was alone. His nighttime episodes increased in frequency, however—to the point that he could count on waking up with an attack almost every time he went to bed.

### **The Family Doctor Armed with New Knowledge**

At the doctor's office, Joe recounted his repeated attacks of racing heart, breathlessness, and tremulousness. He didn't know quite how to describe his fear of losing his mind, nor did he really want to, so he left that part out. He did convey, however, that he had now become so apprehensive about the attacks that he was reluctant to venture outside for fear of being overwhelmed. In describing his symptoms, Joe noticed that he was actually starting to have some of them.

As he continued, his physician became increasingly confident that the patient had panic disorder. The doctor marveled to himself at how far medicine had come

Around 2.8 percent of people in the United States have panic disorder in a given year; 5 percent develop the disorder at some point in their lives (Kessler et al., 2010).



since he started practicing. Years ago, a patient like Joe would have been hospitalized for weeks with a suspected heart problem and subjected to dozens of tests. If no major disease turned up, he would be released, but even then the suspicion would linger that he was on the verge of a major cardiac problem, and the patient would be advised to cut back on his activities and keep on the lookout for further symptoms. Far from being reassured, the person would feel like a ticking time bomb.

Now physicians were very aware of the power of panic attacks and of how their symptoms mimicked those of a heart attack. As soon as cardiac and other physical conditions were ruled out, practitioners usually turned their attention to the possibility of panic attacks. Indeed, Joe's was the fourth case of probable panic disorder that the doctor had seen this month alone. Even more gratifying, very effective treatments for panic disorder were available, with many patients benefiting from only 5 therapy sessions (Otto et al., 2012). Now he could offer patients 2 forms of good news: one, that their heart was fine; and 2, that their condition was fully treatable.

After examining Joe, the doctor informed him that other than a slightly elevated heart rate, everything seemed normal. He told his patient that his symptoms were by no means imaginary; rather, he had a well-known condition known as panic disorder. He suggested that Joe see Dr. Barbara Geller, a professor of clinical psychology at the nearby university, who also saw clients 2 evenings each week in private practice. Dr. Geller specialized in panic-related problems.

Joe was encouraged by his doctor's pronouncement that his condition could be helped, but he was leery of the idea of seeing a "shrink." He had never had any psychological treatment of any kind, and the whole idea fueled his secret fear, not yet expressed to anyone, that he was on the brink of insanity.

When they returned home, Florence urged Joe to call Dr. Geller, but he continued to put it off for a few more days. Florence, growing increasingly impatient, said she would call the psychologist herself to arrange the appointment, and Joe reluctantly agreed.

## Joe in Treatment Regaining Control over His Mind and Body

After Joe recounted his experiences of the past few weeks in minute and animated detail, Dr. Geller asked him if he could recall ever having had similar attacks or sensations prior to these. Upon reflection, Joe realized that he had had these sensations before, during the Florida vacation itself. He recalled that the day after arriving in Florida he fell as he was walking down some steps toward the outdoor pool. His injuries were not serious, but a cut on his chin was deep enough to require a couple of stitches from the house physician. For the remainder of the vacation, Joe had momentary jolts of anxiety—including heart palpitations and mild

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Today's physicians must also be careful to consider possible medical explanations before making a diagnosis of panic disorder. Certain medical problems, such as thyroid disease, seizure disorders, cardiac arrhythmias, and mitral valve prolapse (a cardiac malfunction marked by periodic episodes of palpitations) can cause panic attacks. Medical tests can rule out such causes.

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According to research, people who are prone to panic attacks typically have a high degree of anxiety sensitivity. That is, they generally are preoccupied with their bodily sensations and interpret them as potentially harmful. Research has shown that cognitive-behavioral therapy can decrease anxiety sensitivity, which leads to a decrease in symptoms of panic disorder (Gallagher et al., 2013).

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dizziness—at the slightest indication of physical imbalance. He also realized now that since falling, he had been very tentative in his walking.

Joe strained his memory to recall whether he had ever had similar attacks or sensations before the Florida incident. The only thing he recalled in this connection was an extremely upsetting experience he had had more than 50 years ago, when he was in his 20s. It was something that he had never discussed with anyone.

When he was in Vietnam, he and some buddies were driving a jeep back to base when they passed a local man walking along the side of the road. To demonstrate goodwill, Joe offered him a ride. The man was grateful for this kindness and took a seat in the open vehicle. After traveling only a few hundred yards, however, the jeep hit an enormous pothole, throwing the man onto the road, where his leg fell under the jeep's wheel. The soldiers quickly loaded him carefully back onto the jeep and raced to the nearest civilian hospital. They had to leave the injured man there and depart, however, as they were already close to being AWOL.

When Joe visited the hospital the next day to assure himself that their passenger would recover satisfactorily, he was shocked at what he saw. Due to lack of staffing or supplies, or some such difficulty, the hospital had done nothing more than provide a bed for the injured man. As Joe tried to talk to him, the man just lay there, obviously traumatized, gazing absently into space. Joe left the hospital even more shaken than when he had witnessed the actual accident. He was certain he had ruined the life of another human being. He drove back to the base in a trancelike state, with his heart pounding and his eyes barely able to focus on the road. That intensity of feeling was the closest he had ever experienced to what he was going through now.

After interviewing Joe and reviewing his medical reports, Dr. Geller concluded that his condition met the DSM-5 criteria for a diagnosis of both panic disorder and agoraphobia. His panic attacks typically included several of the defining symptoms: breathlessness, heart palpitations, chest discomfort, tremulousness, sweating, and fear of losing control or going crazy. Moreover, he was almost constantly apprehensive about the possibility of further attacks. He was also diagnosed with agoraphobia, because he was beginning to avoid leaving the house except in Florence's company.

Dr. Geller's reading of psychological literature and her own research on panic disorders had convinced her, along with many other clinicians, that panic attacks and disorders can best be explained by a combination of biological and cognitive factors. On the biological side, she believed that panic attacks are similar to the so-called fight-or-flight response, the normal physiological arousal of humans and other animals in response to danger. The difference is that with a panic attack there is no external triggering event. From this standpoint, a panic attack can be considered a false alarm of sorts. The body produces its reaction to danger in

The *fight-or-flight* response is so named because it prepares an organism to cope with a dangerous predicament either by fighting or fleeing. It primes the organism for a rapid use of energy by increasing heart rate, breathing rate, perspiration, blood flow to large muscles, and mental alertness.



the absence of any objectively dangerous event. People whose bodies repeatedly have such false alarms are candidates for panic disorder.

On the cognitive side, Dr. Geller believed that a full-blown disorder affects those who repeatedly interpret their attacks as something more than false alarms. They typically identify the physiological reactions as a real source of danger. They may conclude that they are suffocating or having a heart attack or stroke; or they may believe they are going crazy or out of control. Such interpretations produce still more alarm and further arousal of the sympathetic nervous system. As the nervous system becomes further aroused, the person's sense of alarm increases, and a vicious cycle unfolds in which anxious thoughts and the sympathetic nervous system feed on each other.

For many people with panic disorder, the panic experience is aggravated by hyperventilation. As part of their sympathetic nervous system arousal, they breathe more rapidly and deeply, ultimately causing a significant drop in their blood's level of carbon dioxide. This physiological change results in feelings of breathlessness, light-headedness, blurred vision, dizziness, or faintness—sensations that lead many people to conclude there is something physically or mentally wrong with them.

Even if people with panic disorder eventually come to recognize that their attacks are false alarms set off by their nervous system, they may live in a heightened state of anxiety over what their sympathetic nervous system might do. Many also develop anxieties about situations in which they feel a panic attack would be especially unwelcome (in crowds, closed spaces, airplanes, trains, or the like). Because of such anticipatory anxiety, their sympathetic nervous system becomes aroused whenever those situations are approached, and the likelihood of a panic attack in such situations is increased.

Given this integrated view of panic attacks, panic disorder, and agoraphobia, Dr. Geller used a combination of cognitive and behavioral techniques, each chosen to help eliminate the client's anxiety reaction to his or her sympathetic nervous system arousal. The cognitive techniques were designed to change the individual's faulty interpretations of sympathetic arousal. The behavioral component of treatment involved repeated exposure to both internal (bodily sensations) and external triggers of the person's panic attacks.

**Session 1** To begin treatment, Dr. Geller showed Joe a list of typical symptoms associated with panic attacks, including the mental symptoms "sense of unreality" and "fear of going crazy or losing control." She asked the client which symptoms he had personally had. Joe was astonished to see his most feared symptoms actually listed on paper, and he seized the opportunity to discuss them openly at long last.

Dr. Geller explained to Joe that fears of going crazy were very common among panic sufferers; indeed, many people found them to be the most disturbing aspect

Panic disorder is similar to a phobia. However, rather than fearing an external object or situation, those who have it come to distrust and fear the power and arousal of their own autonomic nervous system.

About 80 percent of those who receive cognitive-behavioral treatment for their panic disorder fully overcome their disorder (Clark & Wells, 1997).



of the disorder. She emphasized, however, that the fear of losing one's mind on account of the panic disorder, although common, was completely unfounded. There was no chance of Joe's going insane. Although visibly relieved to hear this, he wondered aloud why it seemed as if he were coming apart mentally.

The psychologist gave him a quick sketch of the workings of the autonomic nervous system and the fight-or-flight response. She explained that Joe's disorientation on the street was due to extreme arousal of his central nervous system, a useful feature in an actual emergency but confusing when there is no concrete danger. This hyperarousal, Dr. Geller indicated, made it hard—but not impossible—for Joe to focus his thoughts, leading to the feeling of disorientation. As for Joe's thoughts about rushing for the door of the airplane (and, later, the window at home), the psychologist emphasized that these were simply ideas: fleeting thoughts associated with the fight-or-flight response, but not actions that he was ever close to carrying out. And as far as Joe's disorientation on the street was concerned, she noted that in spite of it all, he had made it home satisfactorily and was in complete command of his faculties at all times. Increasingly, Joe seemed ready to entertain the possibility that his condition was not as dire as he originally believed.

Dr. Geller further outlined for him the steps that would be taken to treat his panic disorder and the rationale behind them. There would be 4 basic components of treatment: (a) training in relaxation and breathing techniques, (b) changing his cognitive misinterpretations of panic sensations, (c) repeated exposure to sensations of panic under controlled conditions, and (d) repeated practice in situations that Joe was avoiding or apprehensive about. For the coming week though, he was instructed only to monitor his anxiety and panic attacks.

**Session 2** At the next session, the psychologist reviewed the records Joe had kept during the week. It turned out that he had not had any panic attacks during the day—he was still avoiding going out except with Florence—but that he was waking up almost every night with breathlessness, palpitations, a feeling of unreality, and fear of losing control. Dr. Geller asked Joe what he did when these symptoms occurred, and the client explained that he simply lay in bed, fervently hoping that the symptoms would subside. To help him recognize some of his cognitive misinterpretations and to begin changing them, Dr. Geller had the following exchange with Joe:

**Dr. Geller:** You said that when you got those attacks in the middle of night, you just lay in bed. Why is that?

**Joe:** Well, it could be dangerous if I got up.

**Dr. Geller:** Why would it be dangerous?

**Joe:** I might have a heart attack, or something else serious might happen.

**Dr. Geller:** What did the cardiologist say about your heart?

Panic disorder can also be treated by medications that lower the arousal of a person's sympathetic nervous system. About 40 percent to 60 percent of those who receive the antianxiety drug alprazolam or certain antidepressant medications fully overcome their disorder (Cuijpers et al., 2013; Lecrubier et al., 1997). Selective serotonin reuptake inhibitors (SSRIs) are now the first line of defense, and regular use of benzodiazepines is discouraged because of the risks associated with their chronic use (Bystritsky, Khalsa, Camerson, & Schiffman, 2013).



**Joe:** He said it was fine; all the tests were normal. But my heart is pounding so hard, and it's so hard to breathe, I can't think of any other explanation.

**Dr. Geller:** Let's review what we discussed last time about the physiology of panic attacks and why people get certain symptoms with these attacks.

Dr. Geller described in greater detail the fight-or-flight response, the physiological changes it produces in various organ systems, and the role of hyperventilation. In addition, she gave Joe a written summary of this material for him to study at his leisure. She explained that the most important conclusion to be drawn from this material was that his panic attacks, although extremely unpleasant, were ultimately harmless, to both his physical and his mental well-being. Then the psychologist resumed the discussion with Joe about his nightly panic attacks.

**Dr. Geller:** In light of what we just discussed, how might you respond differently to the attacks you're getting at night?

**Joe:** Well, according to what you say, there would be no danger in my getting up. After all, the cardiologist did say my heart was fine. But I wonder if I might keel over just from the panic attack.

**Dr. Geller:** What has happened on other occasions when you had panic attacks and were sitting or standing up?

**Joe:** I certainly never keeled over. In fact, when I had the big one out in the street, I even managed to walk several blocks to get back home.

**Dr. Geller:** So it seems that your fear of keeling over might be unfounded. Do you think you would prefer to get up for a while when you wake up with an attack, rather than lie in bed?

**Joe:** I suppose it would make more sense. When I have trouble falling asleep under normal conditions I certainly don't just lie in bed doing nothing. I usually get up and putter around or do a little paperwork at my desk.

**Dr. Geller:** From now on, why don't you try getting up when you awaken with a panic attack and do the things you would normally do. We'll discuss how this works out next time.

In the remainder of the session, the psychologist had Joe carry out a standard progressive muscle relaxation exercise. Under her direction, he alternately tensed and relaxed various muscle groups, with the goal of achieving complete relaxation in all muscle groups by the end of a 20-minute training session. This widely used exercise teaches clients to recognize excess muscle tension and to relax the tension at will. Dr. Geller felt that Joe could benefit from the relaxed feelings that the exercise produces and that the relaxation training might also lay the groundwork for an additional exercise in breathing control.

The close biological relatives of people with panic disorder are up to 8 times more likely than the general population to develop the disorder.



At least 10 percent of people with panic disorder also experience major depressive disorder. In one-third of such cases, the panic disorder precedes the onset of depression (APA, 2013).

The breathing control exercise trains clients both to prevent hyperventilation and to cope effectively when hyperventilation occurs. For this exercise, patients practice breathing using the diaphragm as opposed to the chest. Use of the chest is discouraged because it fosters pressured breathing, promotes hyperventilation, and can produce chest pain or discomfort when employed regularly. With diaphragm breathing (the so-called natural way to breathe), the chest is almost immobile; only the abdomen moves, ballooning out as the person inhales and collapsing as the person exhales. Use of the diaphragm promotes slow, unpressured breathing of the sort necessary to prevent or counteract hyperventilation.

Dr. Geller recommended an app that Joe could put on his phone or tablet that had progressive muscle relaxation and breathing control exercises. He was to practice his relaxation and breathing once a day and record his level of physical and mental stress before and after his practice session.

**Session 3** Joe and Dr. Geller again reviewed the records he kept during the preceding week. As advised, Joe had changed his response during the nightly panic attacks. Rather than lying in bed, he got up and did minor chores, reminding himself as he did so that the sensations he was experiencing were not dangerous. After following this practice every night, Joe noted that the nightly attacks were getting shorter; one attack subsided after only 5 minutes, as opposed to the 20 minutes or so that the attacks used to last.

Dr. Geller took this result as an opportunity to point out the cognitive component of panic, specifically how overestimating the danger of panic sensations fuels the attacks, whereas assessing the sensations realistically allows the sensations to subside. Joe's more realistic mind-set about the nightly attacks this past week had resulted in shorter and less intense attacks by the end of the week.

**Session 4** When Joe returned the following week, he reported that he still was waking every night with his panic symptoms; but as instructed, he was trying to appraise the sensations realistically and function normally, regardless. As a result, the symptoms seemed to be getting weaker and not lasting as long; in most cases now, it was only a matter of minutes before they subsided, aided, he felt, by his use of slow diaphragm breathing. Still, he was leery of venturing outside on his own.

Dr. Geller gave Joe several instructions for the coming week. First, he was to continue with his current strategy for handling the nightly attacks and to continue practicing the diaphragm breathing exercise daily. In addition, he was to venture out at least 3 times on his own, if only to walk to the end of the block and back. If he had any panic sensations, he was to handle them as he did the nightly sensations: breathe slowly and with his diaphragm, appraise the sensations rationally, and behave normally.

Panic disorder frequently precedes the onset of agoraphobia. According to the DSM-5, agoraphobia is diagnosed separately (APA, 2013).



**Session 5** Joe reported that he had slept through the night 3 times this week, and on the nights when he was awakened, his symptoms had subsided within a few minutes. As instructed, he had gone out 3 times to the end of his block and back. In so doing, he had typical panic symptoms: heart palpitations, breathlessness, light-headedness, and unreality. The first time he did this exercise, Joe felt so fearful he almost returned home before completing it. However, he followed the psychologist's instruction to complete the assignment regardless of any symptoms. The second and third times, Joe also had symptoms but was better prepared for them and carried out the assignment without any thoughts of abandoning it.

Next, Dr. Geller proceeded with the interoceptive exposure exercises—repeated exposures to panic sensations under controlled conditions. She explained that he would do several exercises designed to produce sensations similar to those arising from autonomic arousal and that therefore might trigger panic symptoms. The goal was to progressively extinguish his anxiety reactions to these sensations, to give Joe opportunities to practice more accurate cognitive appraisals of such sensations, and to help him develop behavioral coping skills. The specific exercises that were carried out are listed in Table 1-4.

After each exercise, Joe reported his specific physical symptoms and rated the symptoms with respect to (a) intensity, (b) resemblance to panic, and (c) level of anxiety provoked. Dr. Geller instructed Joe to practice the mildest of the 3

Procedures that are used by researchers or therapists to induce hyperventilation or other panic sensations are called biological challenge tests.

Table 1-4

**Interoceptive Exposure Exercises and Individual Reactions\***

| Activity                                 | Duration (seconds) | Intensity of Symptoms | Resemblance to Panic | Anxiety Level |
|------------------------------------------|--------------------|-----------------------|----------------------|---------------|
| 1. Whole body tension                    | 60                 | 3                     | 0                    | 0             |
| 2. Breathe through straw                 | 120                | 1                     | 0                    | 0             |
| 3. Shake head from side to side          | 30                 | 6                     | 1                    | 1             |
| 4. Place head between legs and then lift | 30                 | 3                     | 2                    | 2             |
| 5. Stare at spot on wall                 | 90                 | 2                     | 2                    | 0             |
| 6. Hold breath                           | 30                 | 5                     | 5                    | 3             |
| 7. Run in place                          | 60                 | 6                     | 6                    | 4             |
| 8. Hyperventilate                        | 60                 | 7                     | 7                    | 5             |

Joe's ratings on a 0–10 scale. Exercises were derived from Craske & Barlow (1993).



panic-producing exercises—holding his breath for 30 seconds—3 times a day in the coming week. In addition, Joe was to continue taking short trips on his own, this week to a nearby store at least 3 times.

**Sessions 6 to 9** Joe continued to progress over the next few weeks. By Session 9, he was carrying out on a daily basis 3 interoceptive exposure exercises—shaking his head from side to side for 30 seconds, staring at a spot on the wall for 90 seconds, and hyperventilating for 60 seconds—and getting minimal panic effects. In addition, his nightly awakenings were becoming infrequent, and he was traveling farther and farther from home without Florence. For Session 9, he traveled to see Dr. Geller alone by subway for the first time. Although Joe arrived at that session with stronger panic sensations than he had had in weeks, he simply mentioned his symptoms to the psychologist and proceeded to describe the other details of his week as if the symptoms themselves were a minor annoyance. Within a few minutes, they subsided.

Joe's instructions for the coming week were to continue practicing the interoceptive exposure exercises 3 times a day, and to travel freely, without allowing fear of a panic attack to restrict his behavior. The next session was scheduled for 2 weeks away.

**Session 10** Joe reported that he had been panic-free for the entire 2 weeks. In addition, he was going wherever he needed to go on his own and without apprehension. He continued to perform the interoceptive exposure exercises, but at this stage they evoked no reaction; they mainly bored him.

Now he had a new concern. Florence was determined that they take a trip to Europe in the next couple of months. They would have to fly, of course, and the very idea revived painful memories of his experience on the plane from Florida, where his problem began. Joe had visions of reliving that terrible episode. Dr. Geller outlined a program of progressive exposure over the next couple of weeks to images and situations involving airplanes. This would include multiple viewings of movies involving airplanes and trips to the airport twice each week.

**Sessions 11 and 12** When Joe returned 2 weeks later for Session 11, he had spent the intervening time immersing himself in airplane-related images and situations. As anticipated, initially he was anxious while watching the airplane movies, but by the 2nd week he was watching them without emotional reaction; he and Florence had also made it out to the airport 3 times, and each time Joe felt more at ease. Two weeks later, Joe and Dr. Geller met for the last time before the trip to Europe. At this meeting, he was panic free but still apprehensive about the trip. His parting words were, "I'll see you in a month—if I survive."

Around half of people  
with panic disorder  
receive treatment for it  
(Narrow et al., 1993).



## Epilogue The Final Conquest

Joe returned triumphant from his trip to Europe. He had had no problems on the plane or anywhere else. He felt his problem was behind him now. Dr. Geller chatted with him for a while about the trip and said she was glad that things had turned out so well. She and Joe reviewed the treatment program, including strategies he would follow should he have any symptoms in the future. Joe was feeling better—enormously better than he had for many months. Most of all, he felt that he had regained control over his body and his mind.

## Assessment Questions

1. In the case of "Joe," what event precipitated his panic attack?
2. Why is Joe's case different from most panic attacks?
3. What are the symptoms of most panic attacks?
4. Why do individuals first suspect a general medical condition?
5. Why was Dr. Geller convinced that panic disorders are "best explained by a combination of biological and cognitive factors"?
6. Describe the 4 steps Dr. Geller decided to take to help Joe overcome his panic attacks. List each of the interoceptive exposure exercises that were part of Joe's treatment.
7. How did Joe's avoidance of going outside by himself contribute to his panic disorder?
8. What was the outcome for Joe?