Anxiety disorders: Dental implications

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Anxiety disorders are the most frequently found psychiatric problem in the general population. The most common anxiety disorders are phobias, panic attack, generalized anxiety disorder, post-traumatic stress disorder and acute stress disorder. Recent terrorist attacks in the U.S. have had a marked impact on the mental health status of individuals directly affected by the attacks as well as those who were far from the scenes of destruction. To provide effective dental care, the dentist must be able to identify anxious patients and deal with their anxiety. This process may involve referring the patient for medical evaluation and treatment of very severe cases of anxiety. In most cases, the dentist can manage the patient by using behavioral and/or pharmacologic means.

Epidemiology: Incidence and prevalence

Anxiety disorders constitute the psychiatric problem diagnosed most frequently in the general population. Simple phobia is the most common anxiety disorder, although panic disorder is the most common among people seeking medical treatment. Approximately 9.0% of the population experiences at least one panic attack during their lives and approximately 3.0% have recurrent panic attacks.1

A phobia is defined as an irrational fear that interferes with normal behavior. Phobias are fears of specific objects, situations, or experiences that have taken on a symbolic meaning for the patient; both unconscious wishes and fears have been displaced from an original goal onto an external object.1

A panic disorder consists of a sudden, unexpected, overwhelming feeling of terror with symptoms of dyspnea, palpitations, dizziness, faintness, trembling, sweating, choking, flushes or chills, numbness or tingling sensations, and chest pains. The panic attack peaks after approximately 10 minutes and usually lasts for a total of 20–30 minutes.1

Panic disorder, phobic disorders, and obsessive-compulsive disorders occur more frequently among first-degree relatives of people with these disorders than among the general population.1,2 The prevalence of panic disorder among cardiac patients is approximately 9.0%. Generalized anxiety disorder has a community prevalence of 2.5–5.0%; the prevalence of post-traumatic stress disorder (PTSD) among the general population is 4.0–7.0%.1,3,4

Etiology

Anxiety represents the possible emergence of painful, unacceptable thoughts, impulses, or desires into consciousness. It may result from past and present psychological conflicts; these conflicts or feelings stimulate physiologic changes that lead to clinical manifestations of anxiety.1,5 Anxiety disorders may occur among persons under emotional stress or those with certain systemic illnesses; they also may appear as a component of various psychiatric disorders. Panic disorders tend to be found in families: if one first-degree relative has a panic disorder, the chance that other relatives will develop panic disorders is approximately 18%.1,15

No single theory fully explains all anxiety disorders and there is no single biologic or psychological cause for anxiety. Anxiety might be explained as a combination of psychosocial and biological processes. The locus coeruleus is a brain stem structure that contains the majority of noradrenergic neurons in the central nervous system (CNS); it appears to be involved in panic attacks and anxiety. Panic and anxiety may correlate to the dysregulated firing of the locus coeruleus, resulting from multiple sources of input, including peripheral autonomic afferents, medullary afferents, and serotoninergic fibers.1

Other neurobiologic theories for explaining panic attacks and anxiety include lactate infusion, benzodiazepine receptors, the amygdala, and synaptic responses from the brain. Lactate infusion causes peripheral somatic sensations resembling those of natural panic attacks. Dysfunction in the benzodiazepine receptor may be responsible for some components of anxiety. The amygdala, a brain structure that influences fear, vigilance, and rage, may play a role in anxiety by interacting with various hypothalamic and brain stem structures.1

Another theory suggests that stressors induce protein c-fos, a class of immediate early proteins that act near the beginning of the neural process and can induce long-lasting biochemical and neurobiologic changes through cascades.1 States of anxiety also may be associated with other psychiatric disorders, organic diseases, the use of certain drugs, hyperthyroidism, mitral valve prolapse, and mood disorders, schizophrenia, or personality disorders.1,3,5,6

Clinical presentation and medical management

From a psychological aspect, anxiety can be defined as an emotional pain or a feeling that all is not well—a feeling of impending disaster. The source of the problem usually is not apparent to the person with anxiety. Patients with fear experience a similar feeling but they are aware of the problem and why it affects them.

562 General Dentistry www.agd.org
The physiologic reaction to anxiety and fear is the same. The reaction is mediated through the autonomic nervous system and may involve both sympathetic and parasympathetic components. Symptoms of anxiety resulting from an overactivated sympathetic nervous system include an increased heart rate, sweating, dilated pupils, and muscle tension; symptoms of anxiety resulting from stimulation of the parasympathetic system include urination and diarrhea.

Most individuals experience some anxiety. Low levels of anxiety can increase attention and improve performance. Anxiety leads to dysfunction when it either is constant or results in episodes of extreme vigilance, excessive motor tension, autonomic hyperactivity, or impaired concentration. For many patients with psychiatric disorders, anxiety is part of the clinical picture; patients with mood disorders, dementia, psychosis, panic disorder, adjustment disorders, and toxic and withdrawal states often complain of anxiety.

Phobias

There are three major groups of phobias: agoraphobia, social phobias, and simple phobias. Agoraphobia is a fear of displaying distressful or embarrassing symptoms outside of the home; it often accompanies panic disorder. Social phobias may be specific (for example, a fear of public speaking) or general (for example, a fear of being embarrassed in front of other people). Simple phobias include the fear of snakes, heights, flying, darkness and needles. Needle phobia and claustrophobia during MRI or radiation therapy may affect medical/dental care.

Panic attack

Nearly 15% of cardiology patients visit a doctor because of symptoms associated with a panic attack. The onset can occur at any age but usually does so between a patient’s late adolescence and their mid-30s. The adrenergic surge is a key feature of panic and results in an exaggerated sympathetic response known as the fight or flight response.

Panic attacks may be cued or uncued. A fear of flying is an example of a cued attack. Many patients report that they are unaware of any life stressors prior to the onset of panic disorder; such attacks would be classified as uncued. The major complication of repeated panic attacks involves adopting a restricted lifestyle to avoid situations that might trigger an attack. Some patients develop agoraphobia, an irrational fear of being alone in public places that can result in patients becoming housebound for years. A sudden loss of social supports or a disruption of important interpersonal relationships appear to predispose an individual to develop a panic disorder. It has been reported that patients with a history of panic attacks have an increased incidence of mitral valve prolapse.

Generalized anxiety disorder

Some patients develop a persistent, diffuse form of anxiety with symptoms of motor tension, autonomic hyperactivity, and apprehension. No familial or genetic basis for the disorder exists. Patients with generalized anxiety disorder respond more favorably to treatment than those with panic disorder, although generalized anxiety disorder can lead to depression and substance abuse.

Post-traumatic stress disorder

PTSD is a syndrome of psychophysiologic signs and symptoms resulting from exposure to a traumatic event outside of the usual range of human experience, such as a serious threat to one’s life or physical integrity; a serious threat to one’s children, spouse, or other loved ones; the sudden destruction of one’s home or community; or the witnessing of an accident or act of physical violence that seriously injures or kills another person(s). Most men with PTSD have been in combat; most women give a history of sexual or physical abuse. The three cardinal features of PTSD are hyperarousal, intrusive symptoms or flashbacks of the initial trauma, and psychic numbing. PTSD may follow traumatic events that are anticipated or not anticipated, constant or repetitive, natural or malevolent; it is diagnosed when the onset of symptoms occurs at least six months after a trauma or when the symptoms have been present for longer than three months.

Diagnostic criteria for PTSD include a history of traumatic experience; re-experiencing the event through intrusive memories; disturbing dreams; “flashbacks”; psychologic or physical distress resulting from the reminders of the event; and the avoidance of people, places, and objects associated with the trauma. PTSD symptoms include sleep problems; irritability; an inability to concentrate; hypervigilance; startle responses; psychic numbing, consisting of detachment from others; a diminished capacity for intimacy; and a decreased interest in sex.

Recent terrorist attacks in the U.S. have affected the mental health status of individuals involved directly in the attacks, as well as others who were far away from the actual scene. In a national survey of 560 adults conducted three to five days after the 2001 attacks on the World Trade Center and the Pentagon, Schuster et al found that 44% of them displayed one or more substantial symptoms of stress. In a survey of 2,273 adults performed one to two months after the attack, Schlinger et al found that individuals in New York City displayed a prevalence for PTSD nearly three times greater than respondents from the rest of the country.

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A study following the 1995 Oklahoma City bombing examined 182 survivors six months after the bombing and 141 survivors 12 months later. Of the survivors, 33% were diagnosed with PTSD six months following the bombing; all of the cases evaluated after 18 months were chronic.

Although women generally are diagnosed with PTSD more often than men, the rate of PTSD is higher in male veterans than in female veterans, although it is likely that female veterans are under-diagnosed. In 2002, Pereira reported that men experienced higher levels of combat stress. In addition, Pereira found that increased PTSD symptomology was associated with increased exposure to...
stress and that men and women exposed to similar levels of stress were equally likely to have PTSD symptoms, although men were more likely to be diagnosed with PTSD. Drug treatment for men and combat trauma-induced PTSD (among both men and women) is less effective than it is for other women veterans or for women with civilian trauma-induced PTSD. There is little data regarding the effectiveness of drug treatment among children with either acute stress reaction or PTSD.

Acute stress disorder
Acute stress disorder is a new DSM-IV category of anxiety disorder that results when a patient is exposed to a traumatic event and has specific signs and symptoms that resemble those of PTSD. The symptoms of acute stress disorder are shorter in duration; in addition, onset follows the trauma more rapidly and symptomatic reaction is limited to the occurrence of the stressful event and its immediate aftermath.

Treatment of anxiety disorders
Psychologic, behavioral, and drug modalities are used to treat anxiety disorders. Psychologic treatment involves psychotherapy, which generally is used for more severe cases. Behavioral treatment includes cognitive therapy for dealing with distorted perceptions and interpretations of fear-producing stimuli, biofeedback, hypnosis, relaxation imaging, desensitization, and flooding. Drug treatment includes the use of tricyclic antidepressants, selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase (MAO) inhibitors, beta-adrenoreceptor antagonists, and benzodiazepines, the most commonly used drugs (see Table 1).

Treatment options for phobias include systemic desensitization, in which a patient is exposed to the feared situation gradually, and flooding, in which the patient is exposed to the anxiety-provoking stimulus directly. MRI-associated claustrophobia can be managed with a low dose of benzodiazepines and behavioral therapy. Sertraline was the first and only FDA-approved medication for treating PTSD, although paroxetine, fluoxetine, and nefazodone have displayed either well-controlled or replicated open-label evidence of efficacy for treating PTSD. Phenerazine has been effective for symptoms of nightmares and flashbacks. Early intervention in patients with PTSD can shorten the duration and severity of anxiety.

Antianxiety (anxiolytic) drugs
Benzodiazepines are used to treat the various anxiety states. These drugs enhance gamma-aminobutyric acid neurotransmission selectively but indirectly; the possible result of their ability to increase neuronal receptor sensitivity to gamma-aminobutyric acid. The benzodiazepines are the drugs of choice for generalized anxiety disorders and are very effective for treating short-lived reactive states of tension and anxiety, anticipatory anxiety and other forms of anxiety associated with panic disorders, and anxiety symptoms found in patients with phobic disorders. Tricyclics and MAO inhibitors also are effective in phobic states and panic disorders. The disadvantages of these drugs include their slow rate of onset, the possibility that anxiety symptoms will be exacerbated initially, and the fact that some are toxic in overdose; even when administered in therapeutic doses, these drugs have many adverse side effects.

Dental management
Anxiety
The dentist may detect anxiety in patients based on physical appearance, speech, dress, and the presence of certain signs and symptoms. Anxious patients display symptoms that may include sitting forward in a chair; moving fingers, arms, or legs; getting up and moving; pacing around the room; checking certain parts of clothing; and straightening ties or scarves. Conversely, they also may display sloppy dress habits and other signs that suggest the opposite of perfectionism. Anxious patients may appear intent on trying to keep their possessions in sight at all times. They may respond to questions quickly, often preventing the dentist from finishing a question; they also may speak mechanically and rapidly and may fail to block out or connect thoughts. These patients may complain of an inability to sleep or may wake at an early hour and be unable to go back

<table>
<thead>
<tr>
<th>Table 1. Commonly used benzodiazepines.</th>
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<tbody>
<tr>
<td><strong>Anxiolytics</strong></td>
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<tr>
<td>Chlorzepoxide</td>
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<tr>
<td>Diazepam</td>
</tr>
<tr>
<td>Lorazepam</td>
</tr>
<tr>
<td>Oxazepam</td>
</tr>
<tr>
<td>Alprazolam</td>
</tr>
<tr>
<td><strong>Sedative-hypnotics</strong></td>
</tr>
<tr>
<td>Flurazepam</td>
</tr>
<tr>
<td>Temazepam</td>
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<tr>
<td>Trizolam</td>
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</tbody>
</table>

Diazepam is the standard for antianxiety therapy, as it has demonstrated better efficacy against anxiety than any other anxiolytic drug. These drugs often are administered for 7-10 days, followed by a period of two to three days without the drug to avoid the development of drug tolerance. Antianxiety drug treatment should continue for no more than four weeks. An early sign of drug tolerance occurs when increased dosage is required. Symptoms of drug withdrawal include muscle aches, agitation, restlessness, insomnia, confusion, delirium, and, on rare occasions, grand mal seizures. Some patients may experience rebound anxiety after the drug treatment has been stopped.

A number of tricyclic and other anti-depressants have additional sedative or anxiolytic effects. They appear to be as effective as benzodiazepines when treating generalized anxiety and superior to benzodiazepines for treating panic disorder and agoraphobia. SSRIs and MAO inhibitors also are effective in phobic states and panic disorders. The disadvantages of these drugs include their slow rate of onset, the possibility that anxiety symptoms will be exacerbated initially, and the fact that some are toxic in overdose; even when administered in therapeutic doses, these drugs have many adverse side effects.

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to sleep. Other signs include attacks of diarrhea, increased frequency of urination, sweating, muscle tension, increased breathing, and a rapid heart rate.

Overall, anxious persons are overalert and tense, feel apprehensive, and have a sense of impending disaster with no apparent cause. Insomnia, tension, and apprehension lead to fatigue, making it even more difficult for the individual to deal with anxiety.9

The dentist should talk with the patient and demonstrate a personal interest; verbal and nonverbal communication must be consistent. The dentist should confront the patient with the observation that he or she appears anxious and ask if the individual would like to talk about his or her feelings; this can include the patient's attitude toward the dentist. During these discussions, the dentist should allow natural pauses to deal with anxiety.

Anxiety or a history of panic attacks also may be associated with mitral valve prolapse.1,2,17 Patients with mitral valve prolapse and valvular regurgitation require antibiotic prophylaxis for any dental procedures that produce significant bleeding.1,2,17,28 Based on 1997 guidelines provided by the American Heart Association, antibiotic prophylaxis is not indicated if no regurgitation is associated with the mitral valve prolapse.28 If the patient is unaware of his or her status regarding valvular regurgitation, a medical referral is indicated.3

Patients with uncontrolled hyperthyroidism also may have associated anxiety; these patients must avoid epinephrine, including even the small amounts used in local anesthetics.13 Patients who display signs and symptoms of hyperthyroidism should be referred for medical evaluation and treatment.3

Management of PTSD patients
Veterans with PTSD may view the dentist as an authority figure, similar to those who sent them to war.29 Veterans may associate dental treatment with a loss of control; as a result, the dentist must attempt to establish communication and trust with these patients. Patients with intravenous drug habits may carry the hepatitis B virus (HBsAg positive) or HIV, while those who drink heavily may have liver and bone marrow involvement and could be at an increased risk for infection, excessive bleeding, delayed healing, and altered drug metabolism.1,29 During the depressive stage of PTSD, patients often show a total disregard for oral hygiene procedures and are at an increased risk for dental caries, periodontal disease, and pericoronitis; these patients may complain of glossodynia, temporomandibular joint (TMJ) disorder, and bruxism.3,29

Table 2. Dental management of the anxious patient.3

<table>
<thead>
<tr>
<th>Preoperative</th>
<th>Behavioral management</th>
<th>Pharmaceutical management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Establish effective communication with the patient</td>
<td>Oral sedation (benzodiazepines)</td>
</tr>
<tr>
<td></td>
<td>Be open and honest; let the patient see who you are</td>
<td>May be administered the night before an appointment (to help the patient fall asleep) or the day of an appointment (to reduce patient anxiety); select a fast-acting drug and prescribe the lowest possible effective dosage</td>
</tr>
<tr>
<td></td>
<td>Consistent verbal and nonverbal communication</td>
<td>Establish effective communication with the patient</td>
</tr>
<tr>
<td></td>
<td>Explain procedures and answer any questions (explain when there may be discomfort with a procedure and what you will do to make procedures “pain-free”)</td>
<td>Oral sedation (benzodiazepines); inhalation sedation (nitrous oxide); intramuscular sedation (midazolam, promethazine, meperidine); intravenous sedation (diazepam, midazolam, fentanyl)</td>
</tr>
<tr>
<td></td>
<td>Talk to the patient if he or she displays signs of anxiety (for example, “You seem tense today—Would you like to talk about it?”)</td>
<td>Effective local anesthesia: oral sedation (benzodiazepines); inhalation sedation (nitrous oxide); intramuscular sedation (midazolam, promethazine, meperidine); intravenous sedation (diazepam, midazolam, fentanyl)</td>
</tr>
<tr>
<td>Operative</td>
<td>Allow patient to ask questions about the procedure</td>
<td>Select the most appropriate medication for pain control:</td>
</tr>
<tr>
<td></td>
<td>Keep patient informed to expect any discomfort</td>
<td>Select the most appropriate medication for pain control:</td>
</tr>
<tr>
<td></td>
<td>Reassure patient that the procedure is going well</td>
<td>Oral analgesics (including NSAIDs, salicylates, acetaminophen, codeine, oxycodone, fentanyl, morphine); adjunctive medications (antidepressants, muscle relaxants, steroids, anticonvulsants, and antibiotics)</td>
</tr>
<tr>
<td>Postoperative</td>
<td>Explain what usually occurs after the procedure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explain what the patient needs to do and what he/she needs to avoid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Describe complications that can occur (for example, pain, bleeding, infection, and allergic reaction to medication)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tell patient to inform you if any complications develop</td>
<td></td>
</tr>
</tbody>
</table>

Drug interactions and side effects
Antianxiety drugs
Important interactions can occur between benzodiazepines and barbiturates, opioids, psychotropic agents, cimetidine, and erythromycin. These agents generally will potentiate the depressive effects of benzodiazepines on the CNS. Barbiturates and opioids used for dental sedation or pain control must...
Antidepressant drugs used to treat anxiety states (see Table 3) can result in important side effects and potentially significant drug interactions with agents used in dentistry. Tables 4-7 present side effects and drug interactions of heterocyclic antidepressants and SSRIs. Epinephrine must be used with caution in patients taking heterocyclic antidepressant drugs to avoid a hypertensive episode. While it is safe to use small amounts (1:100,000) in local anesthetics, stronger concentrations of epinephrine must be avoided. Antipsychotic medications may be used to treat certain patients with anxiety (see Table 8). The significant side effects and drug interactions of these medications are listed in Table 9. These drugs should be administered in reduced dosages. Epinephrine must be used with care when given to patients taking antipsychotic medications, as severe hypotension can result, compared to hypertension resulting from the heterocyclic antidepressants.

### Table 3. Commonly used antidepressants

| Tricyclic derivatives | \n|-----------------------|\n| Amitriptyline |\n| Nortriptyline |\n| Imipramine |\n| Desipramine |\n| Doxepin |\n| MAO inhibitors |\n| Pheneizine |\n| Tranylcypromine |\n| Isocarboxazid |\n| Heterocyclic derivatives |\n| Clomipramine |\n| Ainoxapine |\n| Maproline |\n| SSRIs |\n| Fluoxetine |\n| Paroxetine |\n| Seitaline |\n| Serotonin and noradrenergic reuptake inhibitors (SNRIs) |\n| Nefazodone |\n| Venlafaxine |\n| Derivatives of other chemical classes |\n| Bupropion |\n| Trazodone |

### Table 4. Clinical considerations for heterocyclic antidepressant drugs

<table>
<thead>
<tr>
<th>Common side effects</th>
<th>Dry mouth; nausea and vomiting; constipation; urinary retention; postural hypotension; nervousness; insomnia; drowsiness; reflux; anorgasmia (women); erectile problems, loss of libido, gynecomastia (men)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious side effects</td>
<td>Mania, seizures, obstructive jaundice, leukopenia, tachycardia, arrhythmias, myocardial infarction, stroke</td>
</tr>
</tbody>
</table>

### Table 5. Drug interactions for heterocyclic antidepressant drugs

| Barbiturates | CNS depression |
| Benzodiazepines | CNS depression |
| Anticonvulsants | Interferes with the action of anticonvulsants |
| Antihistamines | CNS depression |
| Warfarin | Inhibits warfarin metabolism (can increase International Normalized Ratio (INR)) |
| Cimetidine | Inhibits clearance; can lead to toxicity of antidepressant |
| Erythromycin | Interferes with the action of the antibiotic |
| Epinephrine | Actions are enhanced; use with caution |

### Table 6. Clinical considerations for SSRIs

<table>
<thead>
<tr>
<th>Common side effects</th>
<th>Dry mouth, nausea and vomiting, diarrhea, anorexia, weight loss, blurred vision, insomnia, nervousness, sexual dysfunction, sweating, sedation, akathisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious side effects</td>
<td>Mania, seizures, hypotension, anemia, bleeding (platelet effect), hypothyroidism</td>
</tr>
</tbody>
</table>

### Table 7. Drug interactions involving SSRIs

| Benzodiazepines | CNS depression |
| Beta blockers | Bradycardia |
| Warfarin | Inhibits warfarin metabolism (can increase INR) |
| Cimetidine | Inhibits clearance; may lead to toxicity of SSRI |

Conclusion

Anxiety is found in many dental patients. The degree of anxiety is low for most patients. Dentists can manage such patients in the dental environment by showing a personal interest in them, displaying concern for their feelings, and allowing them to ask questions regarding their dental treatment. The
dentist should answer all questions in a direct and honest manner. Verbal and nonverbal communication must be consistent.

Hypnosis, oral/parenteral sedation agents, or nitrous oxide and oxygen can be used for patients who remain anxious during dental treatment. Patients should be referred to their physician if they display severe adverse drug reactions to agents used for treating anxiety disorders. The dentist must avoid drug interactions by reducing the dosage of certain sedative agents for patients being treated with benzodiazepines.

Patients being treated with antidepressant drugs are more sensitive to the effects of epinephrine, which must be used with caution to avoid a hypertensive episode; hypotension may result when patients being treated with antipsychotic medications receive epinephrine. In both of these cases 1:100,000 epinephrine can be used in the local anesthetic if no more than two or three cartridges are used.

Author information
Dr. Little is Professor Emeritus at the University of Minnesota in Minneapolis.

References

Table 8. Commonly used antipsychotic medications.¹

<table>
<thead>
<tr>
<th>Phenothiazines</th>
<th>Butyrophenones</th>
<th>Oxidoles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aliphatics</td>
<td>Haloperidol</td>
<td>Molindone</td>
</tr>
<tr>
<td>Chlorpromazine</td>
<td>Thiothixene</td>
<td>Loxapine</td>
</tr>
</tbody>
</table>

Table 9. Side effects and drug interactions of antipsychotic drugs.³

**Significant side effects**
- Agranulocytosis
- Visual impairment
- Cholestatic jaundice
- Excessive or abnormal involuntary movements
- Dystonia, akathisia
- Parkinson-like symptoms
- Dyskinesia, tardive dyskinesia
- Xerostomia
- Hypotension—Orthostatic hypotension
- Tachycardia
- Seizures
- Neuroleptic malignant syndrome

**Significant drug interactions**
- Prolong and intensify effects of the following drugs, which may result in severe respiratory depression
- Sedatives
- Hypnotics
- Opioids
- Antihistamines

**Produce hypotensive crisis (epinephrine)**
- No more than two cartridges of 2.0% lidocaine with 1:100,000 epinephrine
- Avoid more concentrated forms of epinephrine

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1. Anxiety can be a purely psychological or purely physical experience. Which of the following symptoms is a physical manifestation of anxiety?  
   A. Tachycardia  
   B. Agoraphobia  
   C. Post-traumatic stress disorder (PTSD)  
   D. Panic disorder

2. What psychiatric problem is found most frequently in the general population?  
   A. Bipolar disorder  
   B. Anxiety disorders  
   C. Schizophrenia  
   D. Depression

3. A phobia is an irrational fear that interferes with normal behavior. A panic attack is a sudden, unexpected, overwhelming feeling of terror which peaks in approximately 10 minutes and usually lasts for 50–60 minutes.  
   A. Both statements are true.  
   B. The first is true; the second is false.  
   C. The first is false; the second is true.  
   D. Both statements are false.

4. What is the approximate prevalence of panic disorder in cardiac patients?  
   A. 2.5%  
   B. 5.0%  
   C. 7.0%  
   D. 9.0%

5. What percentage of a community is likely to experience an anxiety disorder?  
   A. 1.0–3.5  
   B. 3.0–6.0  
   C. 2.5–5.0  
   D. 4.0–7.0

6. Panic disorders, phobic disorders, and obsessive compulsive disorders occur more frequently among first-degree relatives of people with these disorders than among the general population. If one first-degree relative has a panic disorder, other relatives have approximately a 25% chance of developing a panic disorder.  
   A. Both statements are true.  
   B. The first is true; the second is false.  
   C. The first is false; the second is true.  
   D. Both statements are false.

7. Approximately what percentage of cardiac patients see a doctor because of symptoms associated with panic disorder?  
   A. 10  
   B. 15  
   C. 20  
   D. 25

8. Patients with a history of panic attacks have been reported to have an increased incidence of  
   A. reflex sympathetic dystrophy.  
   B. chronic obstructive pulmonary disease.  
   C. mitral valve prolapse.  
   D. coronary artery disease.

9. Which symptoms are considered the cardinal features of PTSD?  
   1. Hyperarousal  
   2. Intrusive symptoms or flashbacks  
   3. Agoraphobia  
   4. Psychotic numbing  
   A. 1, 2, and 3 only  
   B. 1, 2, and 4 only  
   C. 1, 3, and 4 only  
   D. 2, 3, and 4 only

10. Which three modalities are used most commonly to treat anxiety disorders?  
    1. Pharmacologic  
    2. Behavioral  
    3. Physiologic  
    4. Psychologic  
    A. 1, 2, and 3 only  
    B. 2, 3, and 4 only  
    C. 1, 2, and 4 only  
    D. 1, 3, and 4 only

11. What is the only drug approved by the FDA for treating PTSD?  
    A. Sertraline hydrochloride  
    B. Paroxetine hydrochloride  
    C. Fluoxetine  
    D. Nefazodone hydrochloride

12. In which case is diazepam contraindicated?  
    A. Moderate-to-heavy smokers  
    B. Patients taking clindamycin  
    C. Children  
    D. Driving or operating machinery

13. Which statement is true regarding tricyclic antidepressants?  
    A. They interact negatively with cimetidine and erythromycin.  
    B. They exhibit a slow rate of onset.  
    C. They initially exacerbate anxiety symptoms.  
    D. They are superior to benzodiazepines in treating panic disorder and agoraphobia.

14. Management of the anxious patient could include all but which of the following modalities?  
    A. Hypnosis  
    B. Oral or parenteral sedation  
    C. Avoiding direct eye contact with the patient  
    D. Confronting the patient about appearing anxious

15. Important side effects of antipsychotic drugs include all but which of the following?  
    A. Tardive dyskinesia  
    B. Hypertension  
    C. Agranulocytosis  
    D. Neuroleptic malignant syndrome