

# Treating posttraumatic stress in motor vehicle accident survivors

## Lessen anxiety's impact with proven CBT techniques

Stopped at a red light, Mr. O glances in the rearview mirror and sees headlights coming up fast. The sport utility vehicle behind him is not slowing down. He braces himself as the SUV plows into the back of his car, snapping his head back and forth violently.

As white smoke fills his eyes and lungs, Mr. O realizes he has been pushed into the intersection, and for a moment thinks about never seeing his wife and children again. As he hears tires screeching, his car is struck by a truck.

Mr. O does not die, as he feared, but 6 months later he is "just not ready" to return to work. The doctor who is treating his whiplash injury refers him for evaluation of lingering anxiety.

Posttraumatic stress disorder (PTSD) resulting from a motor vehicle accident (MVA) can have a persistent disabling effect. To help you effectively treat patients such as Mr. O, this article examines:

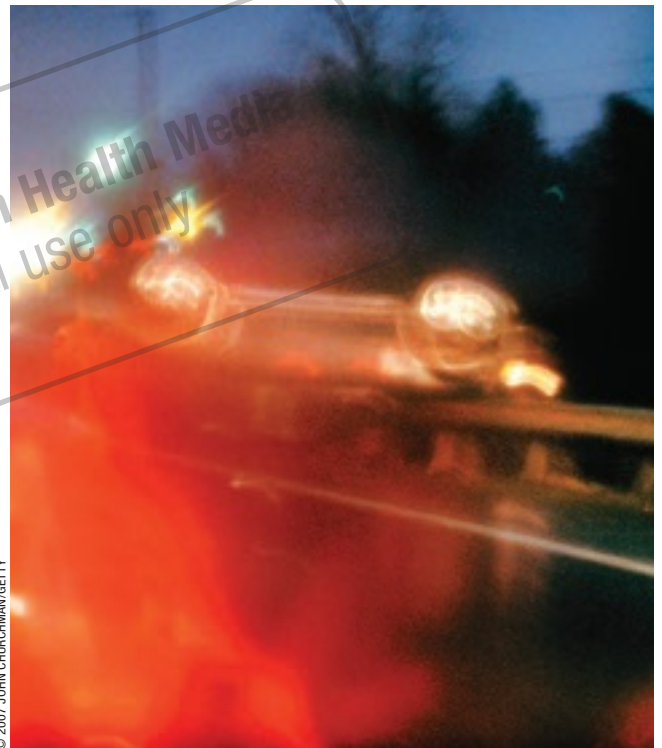
- common PTSD symptoms in accident survivors
- recommended diagnostic interviews and assessment tools
- techniques for using psychotherapy to overcome residual PTSD symptoms.

### CASE CONTINUED

#### Lingering impairment

In the 6 months since the accident, Mr. O's sleep is disrupted by pain and worry; when he can sleep, he frequently has nightmares about the accident. Mr. O feels anxious and irritable, and thoughts of that evening play over and over in his mind.

continued



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## MVA-related PTSD

### Clinical Point

Use a combination of structured and unstructured interviews and self-report measures to diagnose MVA-related PTSD

Table 1

## Patients experience 3 'clusters' of PTSD symptoms

Symptom cluster	Symptoms
Reexperiencing (≥1 required)	<ul style="list-style-type: none"> <li>• Distressing recollections of the trauma</li> <li>• Distressing dreams of the trauma</li> <li>• Acting/feeling as if the trauma were recurring</li> <li>• Psychological distress upon confronting trauma cues</li> <li>• Physiologic reactivity upon confronting trauma cues</li> </ul>
Avoidance/numbing (≥3 required)	<ul style="list-style-type: none"> <li>• Avoiding trauma-related thoughts, feelings, or conversations</li> <li>• Avoiding activities, places, or people reminiscent of the trauma</li> <li>• Inability to recall an important aspect of the trauma</li> <li>• Diminished interest or participation in significant activities</li> <li>• Feeling of detachment or estrangement from others</li> <li>• Restricted range of affect</li> <li>• Sense of foreshortened future</li> </ul>
Hyperarousal (≥2 required)	<ul style="list-style-type: none"> <li>• Sleep difficulties</li> <li>• Irritability or outbursts of anger</li> <li>• Difficulty concentrating</li> <li>• Hypervigilance</li> <li>• Exaggerated startle response</li> </ul>

Note: In addition to having the minimum number of symptoms from each cluster as indicated above, for a patient to meet PTSD criteria, symptoms must cause clinically significant distress and impairment in functioning.

PTSD: posttraumatic stress disorder

Source: DSM-IV-TR

Mr. O doesn't like to talk about the accident and has not resumed driving. He avoids all but required trips, such as to doctors' appointments, which he endures with extreme anxiety. Whenever his wife drives without him, he insists that she immediately call him when she reaches her destination. At the same time, he feels emotionally distant from her and the children. He shows little interest in hobbies he'd previously enjoyed.

people, places, activities, and reminders of the MVA that can trigger upsetting reactions, such as anxiety, tachycardia, and panic. They may be irritable, detached, or estranged from loved ones, or have difficulty sleeping or concentrating. These symptoms must persist for ≥30 days and cause clinically significant distress and impaired functioning for a person to meet the criteria for chronic PTSD.

### 3 symptom clusters of PTSD

To meet DSM-IV-TR criteria for PTSD, a person must have experienced, witnessed, or been confronted by an event that involved actual or threatened death or serious injury, to which he responded with intense fear, helplessness, or horror.<sup>1</sup> PTSD's 3 symptom clusters—reexperiencing, avoidance/numbing, and hyperarousal—encompass 17 core symptoms, and a patient must exhibit at least the minimum number of symptoms from each cluster (Table 1).

MVA survivors with PTSD often have intrusive memories and nightmares. They might avoid talking about the accident and resist or abstain from driving or traveling by car. They often fear and avoid

### CASE CONTINUED

#### Reaching a diagnosis

Using a combination of interviews and self-report measures, the psychiatrist diagnoses Mr. O with chronic PTSD. Since the MVA, Mr. O has developed the required number of reexperiencing, avoidance/numbing, and hyperarousal symptoms. These symptoms have persisted for >30 days and significantly impair his functioning.

### Use multiple assessment tools

To assess an MVA survivor for PTSD and related problems, we advocate using a combination of:

- unstructured clinical interviews
- structured clinical interviews
- self-report measures.

Also collect information from collateral sources, such as patients' spouses or significant others, when appropriate and available.

**In an unstructured interview**, obtain:

- a thorough, detailed description of the MVA, including what occurred and the patient's thoughts and feelings during and since the accident
- a description of physical injuries, medical treatments, and medication use.

This information can rule out physical causes of PTSD-like symptoms, such as a traumatic brain injury that results in concentration difficulties and irritability. Also assess the MVA's effect on travel behavior because this information will help inform treatment.

**Structured diagnostic interviews** are straightforward and easy to administer with minimal training. We prefer the 30-question Clinician Administered PTSD Scale (CAPS) because evidence supports its reliability and validity.<sup>2,3</sup> Use the CAPS to rate intensity and frequency of the 17 core PTSD symptoms over the past week, month, or lifetime. The CAPS can be scored for a PTSD diagnosis and for symptom severity. This tool's drawback is that it takes 30 to 60 minutes to administer and a few more minutes to score.

**Self-report measures** are quick to administer and score and provide valuable information about symptom presence and severity.<sup>4</sup> We recommend the PTSD Checklist (PCL), a widely used measure that has been shown to reliably and validly assess MVA-related PTSD.<sup>5,6</sup> Consisting of 17 items corresponding to the DSM-IV-TR PTSD symptoms, the PCL takes about 5 minutes to complete and 1 or 2 minutes to score. A score  $\geq 44$  is a highly accurate indication of PTSD.<sup>6</sup>

Patients with MVA-related PTSD often have psychiatric comorbidities.<sup>7</sup> The most frequently diagnosed are:

- major depressive disorder (in about one-half of persons with MVA-related PTSD)
- anxiety disorders, such as generalized anxiety disorder (in about one-third)
- chronic pain
- alcohol or other substance abuse.

We use the Structured Clinical Interview for DSM-IV (SCID) to diagnose comorbid conditions.<sup>8</sup> If you do not have time to administer a structured clinical interview, we recommend using psychometrically sound self-report measures, such as the Beck Depression Inventory<sup>9</sup> and the State Trait Anxiety Inventory.<sup>10</sup>

Length of time since the MVA gives a good indication of how likely PTSD is to remit without intervention. Longitudinal studies have found that within 1 year, PTSD will remit without intervention in nearly two-thirds of those diagnosed within 1 to 4 months of the MVA. PTSD that persists after 1 year is much less likely to resolve without treatment.<sup>11</sup> Other predictors of PTSD persistence include:

- lack of physical recovery
- major depression within the first 2 months of the MVA
- current major depression
- alcohol abuse before the MVA
- perceived vulnerability during the MVA
- poor family relationships after the MVA.<sup>11</sup>

PTSD symptoms that initially do not meet diagnostic criteria (subsyndromal PTSD) can worsen in the first year post-MVA and lead to a diagnosis of delayed-onset PTSD.<sup>12</sup> Having less social support and experiencing additional life stressors—such as another accident, worsening physical health, or change in job—can contribute to delayed-onset PTSD.

**CASE CONTINUED**

**Overcoming fears with psychotherapy**

As part of cognitive-behavioral therapy (CBT), the therapist teaches Mr. O a simple breathing exercise to reduce anxiety. He also leads Mr. O through a progression of imaginal and in vivo exposure exercises. The former involves having the patient think

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**Clinical Point**

**Lack of physical recovery and major depression within the first 2 months of the accident are predictors of persistent PTSD**





## MVA-related PTSD

### Clinical Point

Cultivate a strong therapeutic alliance before starting CBT because exposure exercises may be acutely distressing to MVA survivors

Table 2

## Cognitive-behavioral therapy: What's effective for MVA-related PTSD

Symptom cluster	CBT component that targets it
Reexperiencing	In vivo and imaginal exposure
Avoidance	In vivo exposure (for MVA reminders) Imaginal exposure (for MVA memories and related affect)
Numbing	Pleasant events scheduling
Hyperarousal	Anxiety management skills training
All symptom clusters	Psychoeducation about PTSD
All symptom clusters	Cognitive therapy

Note: Although listed as targeting specific symptom clusters, CBT components have an effect across all clusters.  
CBT: cognitive-behavior therapy; MVA: motor vehicle accident; PTSD: posttraumatic stress disorder  
Source: Reference 11

about provocative situations in a graded fashion, from easiest to most difficult, while in the psychiatrist's office. The latter involves having Mr. O seek out red lights—first as a passenger in a vehicle, then as a driver with a passenger, and then while driving alone—until they no longer cause distress.

The American Psychiatric Association,<sup>13</sup> Veterans Affairs/Department of Defense,<sup>14</sup> International Society of Traumatic Stress Studies,<sup>15</sup> and other organizations recommend CBT to treat PTSD.<sup>16</sup> Randomized, controlled trials and other evidence support CBT's efficacy for MVA-related PTSD.<sup>11,17</sup>

Before implementing CBT, cultivate a strong therapeutic relationship with MVA survivors. The exercises may be acutely distressing, and you will be asking them to complete between-session practice tasks.

CBT for MVA-related PTSD can be delivered to individuals or groups,<sup>18</sup> typically in 8 to 16 weekly or semi-weekly, 60- to 90-minute sessions. *Table 2* explains which elements of CBT address specific PTSD symptoms.<sup>11</sup>

Therapy usually begins with psychoeducation about PTSD symptoms and expected reactions to trauma (the "flight, fight, or freeze" response) to normalize these reactions and place them within the cognitive-behavioral conceptualization. Teach

your patients that avoiding memories and reminders of the trauma maintains PTSD and that they must overcome avoidance for treatment to be successful. Note that avoidance can be subtle, such as a patient going to a feared place but distracting himself while there.

CBT for PTSD often includes teaching an anxiety management skill (*Box, page 26*). Imaginal and in vivo exercises also are usually part of treatment.

**In imaginal exposure,** patients repeatedly and fully confront their frightening memories within session by recounting as much detail about the MVA as possible, including what they were sensing, feeling, and thinking. This description of the MVA can be recorded during the session or written outside of therapy and read aloud by the patient during sessions.

Either way, assign your patients to review the written or recorded account 2 to 3 times per day between sessions. Repeating this exercise results in habituation to these memories, and the thoughts will evoke progressively less distress.

**In vivo exposure** is designed to extinguish the conditioned associations patients formed during the MVA. Travel-related anxiety is the primary focus of in vivo exposure because almost all patients experience it.<sup>11</sup>

This type of exposure therapy uses a fear hierarchy—a list of feared MVA reminders. Patients rate each reminder using a distress scale, such as the Subjective Units of Discomfort Scale (SUDS). Together the therapist and patient agree on a situation in the fear hierarchy that the patient feels able to confront in person without escaping. Patients confront the situation until their distress scale score declines by at least half, repeatedly addressing each item on the hierarchy until they have overcome the most frightening

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## MVA-related PTSD

### Clinical Point

Have patients confront feared situations repeatedly until their distress scale scores decline by at least half

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#### Box

### Manage anxiety with easy-to-use skills

Typically taught early in the course of cognitive-behavioral therapy, an anxiety management skill gives the patient an easy-to-use, effective way to reduce hyperarousal symptoms.

Anxiety management skills range from simple paced diaphragmatic breathing—where the patient learns to breathe from the abdomen, inhaling and exhaling to a count of 3—to more involved techniques, such as progressive muscle relaxation, when patients systemically tense and relax designated muscle groups in a sequential, articulated fashion.

The patient can use an anxiety management skill to lower basal physical arousal and acute arousal brought on by a stressful experience, such as confronting a reminder of the motor vehicle accident.

reminders. Consider recruiting patients' family or friends to help complete these homework exercises.

**Cognitive therapy** typically is conducted simultaneously with the other therapeutic components. Early in therapy, the clinician assesses patients' beliefs related to the accident (such as "The world is very dangerous" or "I have no control over what happens on the road") and their psychological experiences ("I will lose control of my emotions if I think about it") and challenges the veracity of these assumptions by bringing up these distortions and statements as they occur within the treatment session. By using forms designed to identify thoughts and beliefs that produce anxiety, patients learn to monitor and challenge their maladaptive thoughts, in essence becoming their own cognitive therapists.

**Scheduling pleasant events**—assigning patients to participate in activities they previously enjoyed but have discontinued—has been used effectively to treat depression.<sup>19</sup> For MVA survivors, this therapy is designed to target PTSD's numbing symptoms by increasing patients' social support and resilience.

Patients initially may need some cajoling, but once they begin pleasant activities they often find the experience reinforcing and mood-enhancing, which increases their future participation.

Although pharmacologic therapy for PTSD is beyond the scope of this article, antidepressants—including selective serotonin reuptake inhibitors (such as paroxetine and sertraline), tricyclics, and monoamine oxidase inhibitors—have been shown to effectively treat PTSD.<sup>20</sup> For some patients, a combination of medication and psychotherapy may be best.

Patients with MVA-related PTSD often present other problems, including chronic pain, sleep problems, and generalized anxiety. How—and even if—to address these problems in therapy for PTSD is a matter of clinical judgment. Some evidence suggests that CBT can help improve comorbid conditions.<sup>7,21</sup>

#### CASE CONTINUED

### Getting back on the road

After 4 months of CBT, Mr. O's symptoms have resolved to the point where he is able to drive and return to work. When confronted with situations that had been problematic, Mr. O uses the CBT tools he learned to monitor thoughts and reactions that previously led to distress. With each change and improvement he feels a growing sense of confidence.

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## Related Resources

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### Drug Brand Names

Paroxetine • Paxil  
Sertraline • Zoloft

### Disclosure

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## Bottom Line

Assess motor vehicle accident (MVA) survivors for PTSD using clinical interviews and self-report tools. CBT for these patients includes psychoeducation and exposure therapy to overcome distressing reminders of the MVA. Cognitive therapy helps patients reshape maladaptive thoughts.

### Clinical Point

To target numbing, assign patients to participate in activities they previously enjoyed but have discontinued