



## The Special Nature of Nightmares After Trauma

By Deirdre Barrett, PhD, and Gloria Sturzenacker

When people experience a sudden traumatic experience, the nervous system is over-activated: hormones associated with fight or flight responses are released at unprecedented levels. The brain often does not process the experience in the manner most long-term memories are stored – as abstracted new information – but rather maintains a “snapshot” narrative of it more typical of short-term memory storage. There, memories may replay as daytime “flashbacks,” but a common outlet for them is nightmares. Ordinary, non-trauma-linked nightmares occur when the brain is in rapid eye movement (REM) sleep, which is also when most pleasant and neutral dreams occur. But post-traumatic nightmares occur in all stages of the sleep cycle.

Across many cultures, people experiencing trauma have similar nightmares, in that they typically repeat the most terrifying moment of a trauma. A Gulf War vet crouches over a buddy blown to bits by a check-point bomb. A firestorm survivor looks out the window and sees hundred-foot flames rushing toward her.

There are two main variations on exact reenactments in post-traumatic nightmares. First, horrors only threatened in waking life materialize in dreams. A World Trade Center survivor dreams of barely escaping, as in real life, but then seeing – among the dead in the street – his wife. She actually worked in the building, but they’d been safely reunited within the hour. The other variation is that the real trauma becomes more surreal or dreamlike – a human attacker becomes a literal monster in the dream re-creation.

The frequency of nightmares in quieter times has a high correlation to overall dream recall. During war and disasters, however, it is a more specific group who has nightmares: those whom the horrors most directly victimize. The 2001 multi-author book *Trauma and Dreams* reported

one study of children on intensive care burn units and another of kidnapping survivors, finding that 100% of both groups had horrible dreams repeating the event. During the worst battles of Northern Ireland, half of the children with fathers fighting on either side and living near the battles suffered nightmares about the war. But 10% did elsewhere in the country where their own homes, schools, and family were safe. Ireland's media covered that war with the intensity America did the horrors of 9/11. Research finds that people with milder traumatic exposure are especially vulnerable to nightmares and other post-traumatic symptoms if they have either a biological disposition to anxiety disorders or early childhood traumas that the later ones reactivate.

When people are recovering successfully from a traumatic experience, the most typical evolution of dreams is that they begin with frequent recreations of the trauma, but then fewer of these dreams occur or they are milder versions: someone who has barely escaped a burning house may have dreams that scale down to trash bin fires breaking out. It is also common for dreams to move toward better outcomes – being rescued, fires being put out, mastery over attackers – as the person recovers. However, people with full-blown post-traumatic stress disorder (PTSD) often don't find their nightmares or other symptoms naturally resolving.

When nightmares are not evolving on their own, interventions can aid the process. Using image rehearsal therapy (IRT) for recurring nightmares involves plotting an alternate ending and rehearsing it with vivid waking imagery. As people fall asleep at night, they can remind themselves, "Tonight if I have the dream of (the fire, Iraq, the rape...), I want to (find a fire hose, shrink the terrorist to the size of a bug, freeze the action and tell off my attacker...)." Resulting dreams may be transcendent dialogues with those one has been brutalized by. But less lofty goals serve to break the cycle also – many traumatized dreamers choose revenge scripts.

Image rehearsal techniques not only reduce or stop nightmares, they often produce mastery dreams. In 2001, researcher Barry Krakow documented, in carefully controlled studies with rape victims, that this type of intervention with the nightmare also reduces other, daytime PTSD symptoms without any direct attention to these. Just as repetitive nightmares make people more afraid during the day, mastery dreams carry over into a waking sense of strength or comfort.

There's also some indication that IRT's effect can be enhanced. In 2015, Gilbert Seda and colleagues analyzed the results of 15 studies to compare the effectiveness of IRT with that of prazosin, a medication that reduces the excess adrenalin that accompanies PTSD. They found that IRT and prazosin work about equally well against nightmares. But adding cognitive behavioral therapy (CBT) – a method for changing dysfunctional thoughts and behaviors – can help. A handful of the studies Seda's group looked at aimed CBT at insomnia while also using IRT for nightmares, and the combination lessened both nightmares and daytime PTSD symptoms more effectively than either prazosin alone or IRT alone.

At a Veterans Affairs hospital in Philadelphia, researchers used the same combination of CBT for insomnia and IRT for nightmares, in a 2016 study of lucid dreaming (LD) and PTSD. (In a lucid dream, the dreamer is aware of dreaming.) Gerlinde Harb, Janeese Brownlow, and Richard Ross wrote that "individuals with PTSD and recurrent nightmares appear to demonstrate a particular LD profile, namely increased awareness of ongoing dreams coupled

with low control over dream content. The combination of conscious awareness of dreaming and inability to control dream content may contribute to the particularly distressing nature of posttraumatic nightmares...that is, patients may feel trapped in reliving a traumatic event in their dreams.” There’s plenty of evidence, however, that control in lucid dreams can be taught, and these researchers concluded that the central element of image rehearsal might help to achieve that.

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