LifeLong Learning

CE Course: Treatment Considerations for Post-Traumatic Stress Disorder Dental Patient

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Course Objectives:

After taking this self-instructed course the oral health care professional will be able to:

- Recognize the signs and symptoms of Post-traumatic Stress Disorder (PTSD).
- Delineate the disorder considerations and treatment options for the dental setting for patients experiencing PTSD.
- Develop an oral treatment plan for patients who are dealing with the impact of PTSD.
- Describe the dental treatment modalities available for the treatment of Post-traumatic Stress Disorder and the health care providers roles.

Abstract: Post-traumatic Stress Disorder is an intense physical and emotional response to triggers the patient might not understand or recognize. It is a mental health disorder and has been identified as one of the contributing factors to oral diseases. Dental professionals are in a pivotal position to identify the disorder's signs and symptoms and to assist a medical team guiding patients through dental treatment in a safe, supportive environment. As PTSD patients show a high propensity for poor compliance with medical and dental treatment, understanding how to individualize treatment and resources to help improve their medical, dental and mental wellbeing.

Sherri's Memories – notes from the operatory

"Sherri' always came to the office in the afternoon, usually late. This afternoon was a particularly hot summer day and she was even more wound up, anxious and hyperactive than usual. I had cared for her many times and knew each time we would have to stop frequently, often so she could get out of the chair to stand or walk around. Each time the appointment ran overtime. Each time we were both stressed.

She hated to have anyone work in her mouth and would often state she needed to stop, putting her hands over her face. After many deep breaths she would grudgingly be ready to proceed. I had tried many times to ask questions about her fears and offer insights into what the dental community knew and what I had learned over the years to help fearful patients. As she sat in the chair, I dimmed the operatory lights and, as was my custom with anxious patients, I spoke more slowly and softly – hoping she would have to focus more to hear me and less on her anxieties – a technique that had been successful at previous appointments.

In chatting with her during her procedure, we discussed summer topics and compared fun things we had done during hot summers as children. She seemed relaxed and talked about playing with friends and siblings in her yard.

Suddenly she bolted upright in the chair – shocking me as I quickly removed my sharp scaler. Now, sitting straight up in the chair, her eyes enormous and chest heaving as she pulled in deep breaths, she stared straight ahead and quietly said, "I remember." I sat very quietly as she remained frozen. She repeated, "I remember." "Can you tell me what you remember?" I asked. She turned to me, riveting me with her eyes and said, "I was molested."

We put aside dentistry and I encouraged her to let her story flow. She described a hot summer day and the man living next door had offered cool drinks and a place to play.

She sat, becoming calmer as she told her tale – it was heartbreaking to hear. I never felt so helpless, fearing I would say the wrong thing and pull her from this small comfort zone she'd found with me.

I asked if she could put those memories and her fear of dentistry together with the fear of having anyone touch her mouth? She said she could now. Her memories were vague at first – but they were still awful, a direct result of this man. She had innocently gone to his cool house many times, as he assured her this was normal "play." Her parents knew and trusted him. Today experts would say he had, over time, groomed her to be his victim.

We talked quietly, it was as though she was talking to herself as the memories tumbled out. The words poured out and I watched her change in front of me. I knew she'd been seeing a therapist and urged her to speak to her as soon as possible. Assuring myself she felt safe, had a safe place to go to and was calm enough to drive, I wished her well and said I'd be anxious to see her again soon.

It was about 9 months before I saw her again, and she was truly a new person. So much of her life had changed and we were able to move forward with normal dental prophylaxis appointments from that point onward.

Today I can guess that she was suffering from PTSD – Post-traumatic Stress Syndrome, but in the 1980's that was a brand new term that was not widely used, especially not in dentistry….*Liz Moore, RDH, MSED, Editor*

Understanding PTSD

Post-traumatic Stress Disorder is not new. References to this disorder are found in ancient Egyptian writings.[1] Events that can lead up to this disorder include sexual abuse, war exposure, mental abuse and even dental trauma. Any occurrence that results in feeling out of control, powerless or betrayed can lead to PTSD and the key is in the perception of the victim.[2] The National Center for PTSD estimates that 7.8% of Americans will be affected in their lifetime and women are twice as likely as men to develop the disorder. According to the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V), females experience PTSD for a longer duration than males. PTSD is not just a psychological stress disorder, it is also a complex neurological, biological, biochemical and psychological disorder.[2]

The Center for Disease Control (CDC) describes PTSD as, "an intense physical and emotional response to thoughts and reminders of the event that last for many weeks or months after the traumatic event. The symptoms of PTSD fall into three broad types: re-living, avoidance and increased arousal."[3]

It is not unusual for people to experience symptoms of PTSD even years after the traumatic event, yet they can also start within days. Psychological symptoms include nightmares, flashbacks, detachment, poor concentration and inappropriate feelings of danger. Physical symptoms include sleep disturbances, shakiness, racing heartbeat, TMD, chronic pain, breathlessness, and agitation. [5]

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What Is PTSD?

Post-traumatic stress disorder (PTSD) is an intense physical and emotional response to thoughts and reminders of the event that last for many weeks or months after the traumatic event. The Center for Disease Control states, "the symptoms of PTSD fall into three broad types: re-living, avoidance and increased arousal.

- Symptoms of re-living include flashbacks, nightmares, and extreme emotional and physical reactions to reminders of the event. Emotional reactions can include feeling guilty, extreme fear of harm, and numbing of emotions. Physical reactions can include uncontrollable shaking, chills or heart palpitations, and tension headaches.
- Symptoms of avoidance include staying away from activities, places, thoughts, or feelings related to the trauma or feeling detached or estranged from others.
- Symptoms of increased arousal include being overly alert or easily startled, difficulty sleeping, irritability or outbursts of anger, and lack of concentration.

Other symptoms linked with PTSD include: panic attacks, depression, suicidal thought and feelings, drug abuse, feelings of being estranged and isolated, and not being able to complete daily tasks."

CDC: www.cdc.gov/masstrauma/factsheets/public/coping.pdf

According to the National Institute of Mental Health (NIMH), when a person is in danger, it is natural to feel afraid. Fear triggers many split-second changes in the body to avoid or defend against the danger. This normal fight-or-flight response reaction is meant to protect a person from harm. With patients dealing with PTSD, this reaction can be triggered without a true danger present, even in a dental office chair.[6]

Signs and Symptoms of PTSD

According to the DSM-V the clinical presentation of PTSD can vary widely. While for some individuals fear-based re-experiencing, emotional and behavioral symptoms may predominate, to others anhedonic (inability to feel pleasure) or dysphoric (state of unease) mood states and negative cognitions may be most distressing. In still other individuals, arousal and reactive-externalizing symptoms are predominant and some individuals exhibit combinations of these behavior patterns.[2]

The characteristics of PTSD fall into three distinct symptom clusters: 1) Intrusive memories or re-experiencing events, 2) avoidance behaviors, and 3.) persistent elevated arousal.[8] Other symptoms may include mood disturbances, memory problems and cognitive difficulties.[9] PTSD is associated with high levels of social, occupational, and physical disability, as well as considerable economic costs and high levels of medical utilization.[9]

According to the DSM-V, individuals with PTSD are 80% more likely than those without PTSD to have symptoms that meet diagnostic criteria for at least one other mental disorder. Co-morbid substance use disorder and conduct disorder are more common among males than females. Among U.S. military personnel and combat veterans who have been deployed to recent wars in Afghanistan and Iraq, co-occurrence of PTSD and mild Traumatic Brain Injury is 48%. Although most young children with PTSD also have at least one other diagnosis, the patterns of co-morbidity are different than in adults, with oppositional defiant disorder and separation anxiety disorder predominating. Finally, there is considerable co-morbidity between PTSD and major neurological disorder and some overlapping symptoms among these disorders.[2]

Oral Indications of PTSD

- Bruxing and associated symptoms (abfractions, occlusal wear facets, recession, muscle spasms, TMD)
- Tooth sensitivity and/or oral pain for which the cause may not be evident
- Xerostomia
- High levels of biofilm
- Periodontitis and gingivitis
- Excess caries
- Tooth loss
- Anesthesia complications (delays in either sedation or recovery from sedation, other adverse reactions)
- Trouble swallowing or a lump in the throat

Mark's struggles in the dental office – a case study

With the addition of PTSD to the third edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* in 1980, the ability of the dental practitioner to identify and more effectively provide oral healthcare treatment to the patient was greatly enhanced.[2]

Mark's case demonstrates how knowing the signs, symptoms and strategies can help the patient cope with the incoming stimuli to create a successful dental appointment and treatment.

Case Study: Mark, age 45, presented to the dental office with intermittent pain in #2 and #31, generalized sensitivity and a "rough spot" on #18. He had a lapse of 3 years in dental care after an extreme episode of PTSD in a dental office. He reported that during his last visit to the dental office he had a racing heart and cold sweats and was unable to complete treatment. With motivational interviewing the dental team was able to assess Mark's trigger points.

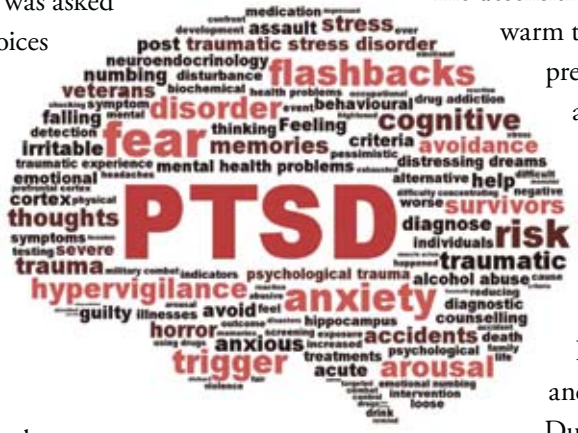
Previously, when a rubber dam was placed in preparation for a crown, he swung his arm out and hit the dentist. He started trembling, and reported his mouth felt dry and he felt he couldn't swallow. His mind had taken him back to a traumatic experience he had 20 years previously in military service that included being captive in a prisoner of war camp.

Mark had been unable to complete treatment and had not entered a dental office again until he was forced to by pain, the urging of his spouse (who accompanied him to the appointment) and a strong referral from his physician.

Mark frequently brought his grandchildren to the dental office for their appointments but always paced outside while he waited for them. When he was required to enter the room to hear about them, he would remain silent, tremble, seem agitated and have difficulty communicating.

Visit 1 Assessment: During his initial interview Mark was unable to recline in the chair. Persons dealing with PTSD who present as hyperaroused are prone to a high level of sensory sensitivity and Mark had difficulty when a loud sound came from another room. Mark revealed his history of PTSD, saying no one in a dental setting had ever asked him about it so he had not shared the condition. When the rubber dam placement aroused his perceived risk of injury and fight or fight response, the stop signal of raising his left hand and/or repeatedly blinking his eyes was developed.

During the assessment Mark was taken to a quiet, separate room with limited stimuli. He was asked questions that allowed him to make choices and feel in control such as "would you prefer to sit up or recline?" "Head phones can limit noises that might trigger anxieties, would you prefer to have head phones or no head phones." Mark shared that he needed to stand up and the first appointment ended there. After his first visit he gave the dentist permission to work with his medical team. Mark's therapist confirmed his PTSD diagnosis and helped develop a plan for desensitization. When antianxiety premedication was discussed Mark declined, stating he had a history of "self medication" and did not want to use drugs.



Visit 2 Assessment and Examination: At the next visit Mark gave permission for desensitization therapy in the dental setting. He brought headphones and a blanket from home to limit stimuli and help him feel safe with familiar items. He declined aromatherapy, explaining that odors from encampment mimicked many of the smells. Mark was slowly shown the equipment and exposed to the sounds that would occur in the dental environment during treatment to help desensitize him. The sound of the drill caused Mark to become reactive and he asked to have a drink of water. After sitting up and having the drink, he agreed to allow the dentist to evaluate his condition. Mark put on his headphones and the dentist did the examination standing up. The assistant was then able to take x-rays using a distraction technique of rinsing with salt water between each x-ray. Due to short term memory issues with PTSD, all instructions were given to Mark and his spouse both orally and in writing.

Clinical findings included deep wear facets on the occlusal of #2 and #31 but no active dental decay. Moderate periodontitis with generalized recession averaging 2 - 3 mm was observed with #31 being the most involved area at 4 mm. Abfractions were present on all posterior teeth and #18 had extensive caries with a distal wall fracture that necessitated a crown.

Mark complained of dental sensitivity on inhalation of cold air and allowed the dentist to paint on a desensitizer. The desensitizer container was warmed under warm tap water before application to prevent cold sensitivity during application and Mark reported immediate relief in the area.

Mark's anxiety was managed but still apparent as he got up from the chair for frequent breaks and paced the front of the office. He used the restroom frequently and requested several drinks of water. During this visit Mark's wife reported that he ground his teeth at night and clenched during the day. A night guard was recommended, the process was explained, the equipment was shown to Mark and the process was reviewed. Having discussed the option with his therapist, Mark asked about antianxiety drugs that could be used during treatment. An appointment with a visiting periodontist who used the same facility was made. The appointment ended and Mark had tolerated the dental environment for a total of 28 minutes.

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Visit 3 Assessment and Treatment: Mark came in with his spouse and was premedicated with ® as directed by his outpatient psychiatric medical provider. Mark stepped outside with his wife after the drug was administered and walked around the block. He brought a blanket, headphones and a "lucky rabbit foot" that he rubbed during treatment. Desensitization of sights and sounds were performed and a night guard impressions were taken. He was introduced to the periodontist who did motivational interviewing and desensitization therapy at the end of the visit. He requested a drink of water and got up 2 times to pace. All instructions were given to Mark and his spouse both orally and in writing. Mark was able to stay in the environment for 41 minutes.

Visit 4 Treatment Phase: Mark again was premedicated and brought his blanket, headphones and lucky rabbit foot. Mark was apprehensive to see the periodontist because there was an assistant he had not seen before. The general dentist's assistant replaced her and the periodontist was able to complete the examination with desensitization therapy using instruments and procedures. Because it is important to maintain the same staff with the patient if possible, the periodonist's assistant stayed in the room for the entire procedure so that Mark could become familiar with her. This simple action reassures patients and allows them to feel safe in the environment. Again, all instructions were given to Mark and his spouse both orally and in writing due to premedication and short term memory issues with PTSD.

Visits 5 through 11 Treatment Phase: For visits 5 through 9 Mark again came in with his spouse and was premedicated with Ativan® as directed by his outpatient psychiatric medical provider. In consultation with Mark's therapist, the periodontist determined that, due to the reactions PTSD patients often have to general anesthesia, Mark would not be sedated. Half hour appointments were made and the periodontal treatment was done in sextants. Mark came to feel safe in the environment and could tolerate many of the stimuli that had triggered him previously.

The restorative procedures were completed after the periodontal treatment. Durable materials were used due to bruxism and his history of not returning routinely to the dental setting. Appointments were short and due to Mark's reaction to the rubber dam it was not used during treatment.

At visit 10 Mark reported he wanted to try the next procedure without antianxiety premedication and was able to tolerate treatment although once he did request to stand and take a drink of water the during the procedure. Visit 11 also included a break but Mark was able to handle the treatment and asked to have treatment completed because he was able to tolerate a longer period of time even without antianxiety premedication. Visits averaged 30 minutes each.

Maintenance Phase: Mark worked with his the dental team to determine intervals for future care and preventive measures including periodontal maintenance visits every 3 months, routine examinations, treatment as needed and preventive care. For preventive measures he uses an interdental cleaner, an electric toothbrush and a product that reduces demineralization.

Although patients dealing with the impact of PTSD typically have a high propensity to avoid treatment after the initial visit, Mark has been able to return for treatment to maintain his oral health. His support system has enabled him to return to the dental setting with limited reaction and he has continued to successfully use coping techniques. This approach will not work with all patients.

Creating a Successful Dental Appointment for the Patients Dealing with the Impact of PTSD

Fight or Flight: When an individual encounters a stressor such as a traumatic event, the hypothalamic-pituitary-adrenal (HPA) axis becomes activated, resulting in higher levels of cortisol, nor-epinephrine, and epinephrine to help the individual respond to the stressor in an acute manner (i.e., the fight or flight response). Cortisol's role is to augment energy resources by reducing the activity of bodily systems, including the immune system, as well as elevating blood glucose levels. These mechanisms are protective if the stressor is acute; however, if the stressor is excessive or prolonged, adaptations can increase the risk of excessive inflammation.[10, 30]

Balance of Immune Function: The immune system is greatly affected by PTSD. Results may include excessive inflammation through insufficient regulation of immune function and this imbalance can be difficult to correct. This condition has been associated with immune and metabolic disturbances, including endothelial inflammation, altered

cytokine balance, hypercoagulation of the blood, carbohydrate intolerance, dyslipidemia, and insulin resistance. Chronic inflammation is associated with symptoms of chronic pain and increased risk for the development of arthritis, diabetes type II, myocardial infarctions and cardiovascular disease and Th1 autoimmune related disorders of rheumatoid arthritis, diabetes type 1, and multiple sclerosis.[10]

A study conducted by Geisinger Health System examined the health status of 4,462 male Vietnam era veterans 30 years after their military service. Researchers found that having PTSD indicated a person's health status just as well as did having an elevated white blood cell count, which can indicate a major infection or serious blood disorder, such as leukemia.[11]

The study also found that veterans with high erythrocyte sedimentation rate, which indicates inflammation, were also at risk. There was a similar finding for a possible indicator of serious neuroendocrine problems. The study showed that exposure to trauma has both psychological and biological risks, yet few health care providers screen for PTSD the same way they do for other chronic disease risk factors.[11]

***Common dental concerns*:** Studies have shown that PTSD can also lead to dental diseases. Dr. Sebastian Ciancio studied the teeth of 40 people with PTSD and compared their oral health to 40 people who were not dealing with the disorder. "What we see is that the wear patterns are mainly along the necks of the teeth, and there's loss of tooth structure near the gum line," Ciancio said. "They look like grooves, but there's no pattern to them."[12]

These results were significant with increased wear of tooth surfaces in three dimensions near the gum line -- vertical, horizontal and depth -- in those with PTSD compared to controls. Erosion vertically was more than three times greater, horizontally more than four times greater and more than ten times greater in depth than controls. Ciancio concluded that these results were consistent with document-ation of habitual tooth grinding and clenching among persons with PTSD.[12] "Dental patients with PTSD need additional treatment planning to prevent further loss of tooth surfaces," he said, "and need to work with their dentist to rehabilitate the damaged teeth."[12]

The study also revealed plaque and gingivitis scores of 183 percent and 140 percent higher, respectively, in the people with PTSD.[12] It is well documented that PTSD could also lead to periodontal, abfraction and occlusal wear problems from bruxism.[13]

Periodontal disease is a known inflammatory response and in a healthy patient the immune system is well regulated. Psychological stress can exert an excessive demand on regulatory functions, particularly if the stressor is excessive or prolonged, resulting in the risk of excessive inflammation.[14] The hypothesis is that PTSD can impact the occurrence of periodontal disease because it is an inflammatory disease.

Pain (even oral pain) can serve as a traumatic stimulus for the onset of PTSD symptoms such as hyperarousal, stress intolerance, selective attention, and acute pain. It was found that individuals with a lifetime of PTSD reported significantly greater current bodily pain than those without a lifetime of PTSD, even after adjusting for demographic features, as well as major depression and psychosocial factors often correlated with chronic pain.[5] PTSD, associated with higher levels of pain and affective distress, can complicate clinical management.[17] Dental issues may include orofacial and TMJ pain.

This is a difficult medical situation as patients dealing with PTSD have difficulty describing or even being aware of their feelings, emotions or mood.[15] Patients may also demonstrate a diminished capacity to employ adaptive and coping strategies to manage pain.[16]

According to research by Delahanty et al, PTSD was associated with smaller changes in cortisol levels throughout the day and higher CD4 cell counts. It was also noted that this patient group had low levels of medication compliance.[19] They reported higher levels of tinnitus, sudden onset and difficulty with sound tolerance and sound-triggered tinnitus; even when compared with patients who had tinnitus without PTSD.[19, 20] Keeping this in mind, the practitioner should be aware of symptoms and complaints of auditory stressors as they may negatively affect treatment outcomes if not addressed. It has also been shown that patients with PTSD have higher levels of avoidance of treatment and lower levels of medication compliance.[19]

Startle response, anxiety and misperceptions of danger are behaviors observed and reported by these patients.[19, 20] Many of the clients reported auditory sensitivity.[20] Asking questions

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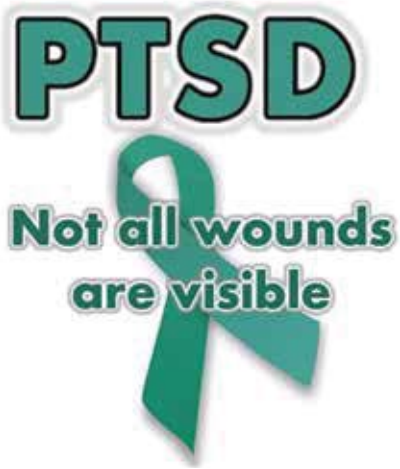
in the intake as a follow up to confirm PTSD such as, "do you have any auditory or visual triggers or sensitivities" may reduce symptomology. These assessments should be of particular importance in the dental office with its' distinctive and high pitched sounds.

Oral Treatment Plan: Patients who develop PTSD may initially seek help for physical symptoms before the psychological symptoms; the first symptoms may occur in the dental setting. PTSD can be a direct result of dental care and dental treatment can exacerbate PTSD.[21] Patients with PTSD may react way out of proportion to the treatment being done as the dental treatment may trigger memories of the traumatic event. In these cases, it is vital that the patient be referred to a mental health care professional for behavior assessment.[22]

Dental treatment has been identified as a trigger for PTSD. Psychological symptoms include nightmares, flash-backs, detachment, poor concentration and inappropriate feelings of danger. Physical symptoms include sleep disturb-ances, shakiness, racing heartbeat, TMD, chronic pain, breathlessness, and agitation. Despite the risks of possible triggering events during dental treatment or any form of surgery, exposure to possible triggers in a safe environment, otherwise known as exposure therapy, is known to be the gold standard of care.[23] Helping the patient through these experiences should be a part of every treatment plan.



Every health history should have a section on PTSD. These questions can-not only identify both those who have been diagnosed and those who have not.

In the past, dental health care professionals have tended to focus on the oral needs of the patient and have not taken into consideration their mental health and emotional needs. As patients dealing with PTSD enter the dental environment, it is key to not only look at their oral health, but to also address their other needs. Working with a medical team, including their physician and mental health care provider, is imperative for the long-term success of treatment. Each patient must be assessed individually for his or her ability to tolerate treat-ment in the dental environment. The medical team must develop a treatment together with the patient to achieve the greatest outcome.

First meeting: Providers need to be mindful of both verbal and nonverbal interactions with patients dealing with PTSD and avoid sounding judgmental or condes-cending, as this will deter an already uneasy patient.[24]

It is important to take the time to ask non-judgmental questions and assess the patient's ability to receive treatment. Making the patients aware of your concern for their comfort can help relieve anxiety. Questions such as "is there any part of dental treatment that is particularly difficult for you?" or "is there anything I can do to make you feel more comfort-able?" will allow the patient to share needs that they may not even be aware of. Simple adjustments in treatment and the environment can help the patient feel safe and in control. Reclining and adjusting the chair as the patient desires may stop the patient from reliving past experiences, as the supine position can be very difficult for some patients and can elicit threat cues. Long treatment times and confining procedures such as rubber damns must be assessed and adapted. Frequent breaks and adapting to patient requests is a must when seeing these patients. Simple reassuring stimuli such as headphones, headgear, movies or a warm blanket, can distract patients and help them avoid re-experiencing or emotional flooding.

It is important to establish rapport and help patients make a connection between their current physical and emotional distress and PTSD symptoms. This can also provide the basis for offering pharmacotherapy. Offering the patient an explanation for untreated emotional pain as an aggravating, but not causative factor for physical pain may be a useful step in building a therapeutic relationship, which can make it easier for the client seeking treatment.[25]

Treatment Planning for Success

When treatment planning for these patients, it is vital to have a protocol set up ahead of time, but also to be adaptable to the patients experience. Plans must be altered if the patient is unable to tolerate the planned treatment. PTSD is a chronic and potentially relapsing disorder; patients may take one step forward and then two steps back.

***Getting to know the patient and they get to know you*:** In this phase, information is gathered to develop a plan with the patient. All health care providers must be included in this phase.

It is essential to establish a relationship with the patient and their community support person. Ask the patient who their therapist and/or prescribing psychiatrist is and request a release of information to coordinate care so that any possible triggers or adverse interactions of psychiatric and dental medications including analgesics, sedative agents and antibiotics can be addressed in advance.[27]

Ask the patient about their triggers and coping tools. Invite them to bring in items that help them stay calm and feel safe. Discuss the possibility of needed premedication and about, their past responses to nitrous oxide, general and local anesthesia. Ask the patient if they have a mindfulness or relaxation exercise that you can prompt them to do during procedures.

Plan for desensitization and premedication with anti-anxiety medications, if indicated, at this meeting. In most cases this phase will occur in a meeting room, not in the operatory, which will allow the patient to adapt to the surroundings and develop a relationship of trust with the dental professionals. If the patient agrees some desensitization therapy, such as a brief tour of the office, can be presented at this time. The patient can develop a stop signal and patient assessment should occur along with creation of a plan for the following meeting. This appointment can be broken into two sessions if the patient is unable to tolerate the length of time or situation. Plans for prevention of oral diseases should be introduced. Assess past dental and health history and obtain a list of medications the patient is taking. Allow the patient to set their goal for oral health.[25]

Creating a safe, comforting environment: At this point, simple diagnostic tools are introduced and, if the patient is able to tolerate the environment, desensitized to the operatory. Dental charting, X-rays and possibly cast models can be initiated if done slowly, giving the patient a sense of control over the procedures. It is vital to have a staff member stay with the patient for support and to monitor the patient's visual cues if they struggle to express themselves. Assessment of oral conditions can occur at this appointment if the patient is able to tolerate the procedure. Simple preventive measures can be added, including application of desensitizer, fluoride varnish, dry mouth products, etc. as these noninvasive procedures can build a sense of trust and safety.

The treatment challenge: Treatment can be the most challenging phase for a patient with PTSD. Treatment time in the chair must be dictated by the patient's needs, with emphasis on short, flexible appointments and goals that incorporate the patient's input. Simple procedures such as fabrication of a night guard should be the priority unless the patient is in pain. Describe each step of a procedure before it is done to increase the client's feelings of safety and control. It is not unusual for a patient to suddenly accept treatment after repeated visits but the dental team must also be prepared for sudden onset of symptoms after success. This is a chronic relapsing disorder; success at one appointment does not guarantee success at another appointment. With this population it is important to use restorative materials that are durable and long lasting due to high propensity for avoidance of oral healthcare treatment.

Creating a patient who wants to return: The long term goal is to maintain oral health for these clients. All patients who complete treatment should have an understanding of the tools and time frame of visits to prevent dental diseases from recurring. Frequent visits and follow ups are a necessary part of the treatment plan, though the patient's tolerance, which can vary widely during one appointment, should be kept in mind when discussing treatment expect-ations. It may help to address one treatment goal at a time.

When the problem overcomes the solution: Even with caring and in-depth preparation for the patient, years of fear, lack of control and behaviors may overwhelm him/her

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and the therapist, or medical provider, may need to become part of the treatment plan to help the patient minimize possible PTSD symptoms. In consultation, the therapist may prescribe medications such as Xanax® or Ativan®, which requires supervision of the patient pre and post procedure. The patient will require a support person, such as a friend or spouse, to be with them before and after treatment. Further, having the patient drive himself or herself home if they have been administered premedication is contraindicated.

***After Each Appointment*:** Research has shown that the patient may not recover from anesthesia in the same manner or time as the general population so it is vital to observe the patient before dismissal. Additionally, because patients dealing with PTSD may have difficulties with memory, long-term recall and sustained attention, it is critical to send home all post treatment instructions in written form.

Conclusion

While the patients dealing with PTSD can present unanticipated and complex challenges, the ability to help them problem solve their dental needs can be among your most satisfying professional experiences. Part of our professional responsibility is to educate ourselves on how to be the help these patients need. The following resources and charts are designed to make that education easier and in a usable format in an operatory setting.

Resources/Further Reading/References

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About the Author

Noel Brandon-Kelsch RDH, RDHAP, MS, is an international speaker, writer, Registered Dental Hygienist in Alternative Practice and program director for Cabrillo College Dental Hygiene program. She received her Master of Science from UCSF with research on Infection Control Compliance in the Dental Setting. She is passionate about oral health and uses humor and cutting edge information to educate.

She is the infection control columnist for RDH magazine, a syndicated newspaper columnist and has been published in many books and magazines.

Reaching out to underserved populations, Noel takes her message and oral disease prevention methods to the street with her clinical research on the impact of Methamphetamine Abuse on the oral cavity.

Noel has received many national awards including: Top 25 Women in Dentistry 2014, Who's Who in Infection Control 2014, Colgate Bright Smiles Bright Futures, RDH Magazine Sun Star Butler Award of Distinction, USA magazine Make a Difference Day Award, President's Service Award, Foster Parent of the Year.

Noel is a current member of the DHCC, a Past President of the California Dental Hygienist's Association and Key Organization Leader for many dental corporations.

Coping Tools in the Operatory

When a client uses a pre-determined stop signal, consider asking if they need to take a break to do one of the following distraction activities. When completed, check to see if the patient is ready to continue with treatment or if they prefer to schedule for another day.

Control the breath as a means for full body relaxation

- This exercise may be helpful for a patient feeling fear or anxiety in the dental setting
- Have the patient breathe in through their nose and think the word "Feeling."
- Have the patient breath out through their mouth and think the work "Calmer." Repeat 3-5 times or until the patient's hands and face relax. Remind them that they can use this tool throughout their visit.

Focus the 5 Senses

When a patient reports high levels of anxiety or an out of body feeling, recommend the following exercise that focuses on the 5 senses to bring them into the moment and feel in control. For patients who cannot speak during a dental procedure, instruct them to answer silently in their minds. Tell the patient to focus on the sense that brings about the most pleasing response.

Ask the patient the following questions:

- "What do you see in this room? What colors? What objects?"
- "What do you feel on your hands? On your feet? How does your chair feel? What does the temperature of the room feel like?"
- "What sounds do you hear in the room? What style of music is playing?"
- "What smells are in the room?"
- "What do you taste? Are there any textures in your mouth?"

Take a Break

At times symptoms of PTSD can be eased by titrating activities, allowing the patient to switch gears periodically can allow for longer treatment times.

Some activities that may help are:

- Drink a warm or cool beverage
- Take a walk outside
- Use a hand held electronic device for distraction (there are many versions of programs that assist persons struggling with PTSD)
- Read a magazine or observe things in the lobby such as a fish tank if possible

Helpful Hints for Treating Patients Living with PTSD

Before the appointment

- Medical support team: All patients dealing with PTSD must have a medical team. Pain may bring the person to the dental office, but patients must know that other care-givers may need to back up the dental team. These could include a general physician to determine the impact on the body and manage the case, a therapist to help with the mental impact of the disorder, a psychiatrist to offer medicinal treatment options and a support person (such as a friend or spouse) to help them navigate services and provide support.
- Support person: Ask patient whether they would like to bring a safe and familiar person to their appointment. This person could calm the patient by being present, and also help if the patient should have a delayed recovery from anesthesia or need time to recover from premedication.
- Set the stage for a non-stimulating environment. Limited stimulation may improve the patient's response to treatment and prevent the onset of PTSD symptoms:
  - Assure that the room is quiet and the light is dim.
  - Cover the instruments
  - Limit use of procedures that can make the patient feel trapped (mouth guards, oxygen masks)

During the appointment

- Staff members interacting with the patient should remain the same as much as Desensitize the patient with slow exposure to procedures over time. This may take several visits.
- ***Breathing:*** Watch the patient's breathing. Encourage breathing through the nose as explained in the "On the Spot Coping Tools" box. Steady breathing will aid in clearing their thoughts and removing them from the stressful event.
- ***Use of oxygen and/or nitrous oxide/oxygen sedation:*** The oxygen hood can make the patient feel trapped. Discuss its use before attempting to introduce it. Administer nitrous oxide with great care as patients dealing with PTSD may have an exaggerated reaction to it.
- ***Do not drop items or allow startling noises*** behind the patient
- ***Control:*** Allow patient to have choices whenever possible to enhance feelings of control.[26] Patients may:
  - Use an established stop signal (see "On the Spot Coping Toole" box)
  - Use headphones
  - Choose the flavor of the prophy paste
  - Hold the saliva ejector
  - Be allowed to speak as long as they want
  - Decide whether to recline or sit up and other ways to position the chair[26]
  - Select a calming aroma therapy scent (place a drop or two on the patient napkin)
  - Decide about using a warm blanket and/or pillow. Have these available, or the patient may prefer to bring their own.

Clinician communication

- Use calming words. Speak in a low voice, in a positive manner, and avoid judgment. Try to talk about reassuring and distracting topics.
- Be honest. Avoid surprise. Do not try to sneak in unexpected procedures. Ask patients how much they want to know, then inform them of what to expect if they choose. Allow the patient to hear what they are capable of hearing.
- Praise. Commend patients for even the smallest success, such as coming to the appointment or making slight progress in treatment.[29]
- Ask patients what situations they need to avoid.
- Ask open-ended questions that invite the patient to explain situations that make them uncomfortable.

Appukuttan, D. P. (2016). Strategies to manage patients with dental anxiety and dental phobia: literature review. Clinical, Cosmetic and Investigational Dentistry, 8, 35–50. http://doi.org/10.2147/CCIDE.S63626

Resources/Further Reading/References

Resources:

- **National Institute of Mental Health.** Accessed 7/10/2013 http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml
- **National Alliance on Mental Illness.** Accessed 7/10/2013 http://www.nami.org/Template.cfm?Section=posttraumatic_stress_disorder
- **Make the Connection-PTSD resources for Veterans.** Accessed 7/10/2013 http://maketheconnection.net/conditions/ptsd

Further Reading:

- Miller, W. and Rollnick, S. *Motivational Interviewing Preparing People for Change.* Second Edition. New York: The Guilford Press. 2002.
- Herman, J. *Trauma and Recovery The aftermath of violence- from domestic abuse to political terror.* New York: Basic Books. 1997.
- Bussey, M and Wise, J. *Trauma Transformed An Empowerment Response.* New York: Columbia University Press. 2007.
- *The Body Remembers Casebook Unifying Methods and Models in the Treatment of Trauma and PTSD.* New York: WW Norton & Company. 2003.

References:

1. Figley, C. R. & Nash, W. P. (Eds.) (2007). Combat Stress Injury Theory, Research, and Management. New York: Routledge.A., Eftekhari A, Ruzek J. Review of exposure therapy: A gold standard for PTSD treatment. Journal Of Rehabilitation Research &
2. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders (Fifth ed.). Arlington, VA: American Psychiatric Publishing.
3. http://www.cdc.gov/masstrauma/factsheets/public/coping.pdf accessed 8/12/2013.
4. DiCecco K. Post-traumatic Stress Disorder (PTSD). Journal Of Legal Nurse Consulting [serial online]. July 2011;22(3):20-22. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
5. Buchwald D, Goldberg J, Noonan C, Beals J, Manson S. Relationship between post-traumatic stress disorder and pain in two American Indian tribes. Pain Medicine [serial online]. February 2005;6(1):72-79. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
6. http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml Accessed 7/10/2013
7. Magruder K, Yeager D. Patient factors relating to detection of post-traumatic stress disorder in Department of Veterans Affairs primary care settings. Journal Of Rehabilitation Research & Development [serial online]. May 2008;45(3):371-381. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
8. Bryant RA. Post-traumatic stress disorder and traumatic brain injury: can they co-exist? Clin Psychol Rev 2001 Aug;21(6):931-48.
9. Frewen PA, Lanius RA. Toward a psychobiology of post-traumatic self-dysregulation: reexperiencing, hyperarousal, dissociation, and emotional numbing. Ann N Y Acad Sci 2006 Jul;1071:110-24.
10. Gill J, Saligan L, Woods S, Page G. PTSD is associated with an excess of inflammatory immune activities. Perspectives In Psychiatric Care [serial online]. October 2009;45(4):262-277. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
11. Villano C, Rosenblum A, Magura S, Fong C, Cleland C, Betzler T. Prevalence and correlates of post-traumatic stress disorder and chronic severe pain in psychiatric outpatients. Journal Of Rehabilitation Research & Development [serial online]. March 2007;44(2):167-177. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
12. http://www.buffalo.edu/news/releases/2001/03/5063.html Accessed 8/11/2013
13. Vangard http://www.va.gov/opa/publications/archives/vanguard/01May VG.pdf Accessed 8/12/2013
14. Eva Fries, Judith Hesse, Juliane Hellhammer, Dirk H. Hellhammer, Department for Psychobiology, University of Trier, Johanniterufer 15, 54290 Trier, Germany
15. Sharp TJ, Harvey AG. Chronic pain and post-traumatic stress disorder: mutual maintenance? Clin Psychol Rev 2001 Aug;21(6): 857-77.
16. Bertoli E, de Leeuw R, Schmidt JE, Okeson JP, Carlson CR. Prevalence and impact of post-traumatic stress disorder symptoms in patients with masticatory muscle or temporomandibular joint pain: differences and similarities. J Orofac Pain 2007 Spring;21 (2):107-19.
17. McLean SA, Caluw DJ, Abelson JL, Liberzon I. The development of persistent pain and psychological morbidity after motor vehicle collision: integrating the potential role of stress response systems into a biopsychosocial model. Psychosom Med 2005 Sep-Oct; 67(5):783-90.
18. Buchwald D, Goldberg J, Noonan C, Beals J, Manson S. Relationship between post-traumatic stress disorder and pain in two American Indian tribes. Pain Medicine [serial online]. February 2005;6(1):72-79. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
19. Delahanty D, Bogart L, Figler J. Post-traumatic stress disorder symptoms, salivary cortisol, medication adherence, and CD4 levels in HIV-positive individuals. AIDS Care [serial online]. February 2004;16(2):247-260. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.

20. The association between tinnitus and post-traumatic stress disorder. American Journal Of Audiology [serial online]. December 2007; 16(2):107-117. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
21. Sherman J, Carlson C, Wilson J, Okeson J, McCubbin J. Post-traumatic stress disorder among patients with orofacial pain. Journal Of Orofacial Pain [serial online]. October 2005;19(4):309-317. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
22. Olszewski TM, Varrasse JF. The neurobiology of PTSD: implications for nurses. J Psychosoc Nurs Ment Health Serv 2005 Jun;43(6):40-7.
23. A., Eftekhari A, Ruzek J. Review of exposure therapy: A gold standard for PTSD treatment. Journal Of Rehabilitation Research & Development [serial online]. August 2012;49(5):678-687. Available from: CINAHL with Full Text, Ipswich, MA. Accessed August 7, 2013.
24. Stalker CA, Russell BD, Teram E, Schachter CL. J. Providing dental care to survivors of childhood sexual abuse: treatment considerations for the practitioner. J Am Dent Assoc 2005 Sep;136 (9):1277-81.
25. Jeffreys M, Capehart B, Friedman M. Pharmacotherapy for post-traumatic stress disorder: Review with clinical applications. Journal Of Rehabilitation Research & Development [serial online]. August 2012;49(5):703-715. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
26. Lovestrand D, Phipps P, Lovestrand S. Post-traumatic Stress Disorder and Anesthesia Emergence. AANA Journal [serial online]. June 2013;81(3):199-203. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013. Development [serial online]. August 2012;49(5):678-687. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
27. Post-traumatic stress disorder: psychopathology, medical management, and dental implications Arthur H Friedlander, DDSa, Corresponding author Ida K Friedlander, RN, MSb, Stephen R Marder, MDc
28. PTSD presents medical risk factors. Journal Of Psychosocial Nursing & Mental Health Services [serial online]. April 2008;46(4):10-11. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.
29. Wright E, Thompson R, Paunovich E. Post-traumatic stress disorder: considerations for dentistry. Quintessence International [serial online]. March 2004;35(3):206-210. Available from: CINAHL with Full Text, Ipswich, MA. Accessed July 11, 2013.

2 CE Units (Category I)
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LifeLong Learning

Home Study Correspondence Course

"Treatment Considerations for Post-Traumatic Stress Disorder Dental Patient"

Circle the correct answer for questions 1-10

1. Post Traumatic Stress Disorder (PTSD is an intense physical and emotional response to _____ and _____ of a traumatic event.
   a. Vectors and vehicles
   b. Weather and humidity
   c. Thoughts and reminders
   d. None of the above
2. Which of the following statements is FALSE?
   a. Women are more likely to experience PTSD
   b. PTSD can be a contributing factor to oral disease
   c. PTSD is associated with genetic factors and life changes
   d. PTSD can be a factor in TMD and chronic pain
3. The "re-living" cluster group of PTSD symptoms includes which of the following?
   a. Nightmares and flashbacks
   b. Staying away from activities and places
   c. Poor appetite and increased salivation
   d. Feelings of isolation and estrangement
4. Potential oral indications found in PTSD patients include all of the below EXCEPT:
   a. Bruxing and associated symptoms
   b. Anesthesia complications (delayed onset or recovery)
   c. Gingival hyperplasia and fibrosis
   d. Xerostomia and increased tooth sensitivity
5. Exposure to potential "triggers" for PTSD in a controlled safe environment prior to beginning dental treatment:
   a. Is an accepted form of treatment and known as the gold standard of care
   b. Is not acceptable because of the potential risks it presents
   c. Is contraindicated because of the elevated heart rate and blood pressure
6. What type of strategies are advisable for treating patients with PTSD?
   a. Pre-consultation or collaboration with a physician, therapist or psychiatrist
   b. Let patients know it is ok to bring a support person
   c. Establish a non-stimulating office environment
   d. Allow patients to have choices when possible
   e. All of the above
7. Instructions for home care activities are more successful if given:
   a. In pamphlet format
   b. With detailed verbal explanations
   c. In verbal and written formats
   d. In video format
8. Events which encompass feelings of "powerless, betrayal and out-of-control" and that lead up to PTSD include:
   a. War experiences
   b. Sexual and or mental abuse
   c. Extreme trauma or perception of danger
   d. Any of the above
9. Which of the following behaviors can be categorized with the "increased arousal" cluster group of PTSD symptoms?
   a. Staying away from activities and places
   b. Outburst of anger or irritability
   c. Isolation
   d. Depression
10. What type of support might be needed to insure successful dental treatment?
    a. Pre-consultation or collaboration with a physician
    b. Friend or family to accompany them
    c. Pre-consultation or collaboration with psychiatrist and or therapist
    d. Any of the above

The following information is needed to process your CE certificate. Please allow 4 - 6 weeks to receive your certificate. Please print clearly:

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