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MEDICATION MANAGEMENT OF POSTTRAUMATIC STRESS DISORDER (PTSD) IN VETERANS WITH MILD TRAUMATIC BRAIN INJURY (mTBI)

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TABLE 1: POSTTRAUMATIC STRESS DISORDER (PTSD) - TRAUMA-MNEMONIC

T-TRAUMATIC EVENT EXPOSURE (required) Death, threatened death, and actual or threatened serious injury or sexual violence, by following ways:	1. Direct exposure; 2. Witnessing the trauma; 3. Learning of exposure to trauma of a close friend or relative; 4. Indirect exposure during professional duties (e.g., first responders, medics);
R- RE-EXPERIENCING 1 required	1. Intrusive thoughts, 2. Nightmares, 3. Flashbacks, 4. Emotional distress after exposure to traumatic reminders, 5. Physical reactivity after exposure to traumatic reminders;
A-AROUSAL 2 required	1. Irritability or aggression, 2. Risky or destructive behavior, 3. Hypervigilance, 4. Heightened startle reaction, 5. Difficulty concentration, 6. Difficulty sleeping;
U- UNABLE to Function	Significant distress or functional impairment, and are not due to medication, substance use, or other illness;
M-MONTH	Symptoms last more than 1 month;
A-AVOIDANCE 1 required	1. Trauma -related thoughts or feelings, 2. Trauma-related reminders; and
NEGATIVE THOUGHTS OR FEELINGS 2 required	1. Inability to recall trauma, 2. Overly negative thoughts about self or world, 3. Exaggerated blame of self or others, 4. Negative affect, 5. Decreased interest in activities, 6. Feeling isolated, 7. Difficulty experiencing positive affect.

TABLE 2: MILD TRAUMATIC BRAIN INJURY (mTBI)

1. Headache, 2. Dizziness, 3. Fatigue, 4. Irritability, 5. Insomnia, 6. Poor concentration, 7. Memory difficulty, and 8. Intolerance of stress, emotion, or alcohol. • Persistent symptoms (>3 mos) are considered multifactorial. • PTSD medications may complicate mTBI symptoms in **bold**.

TREATMENT OF PTSD: • Educate about effective treatment options and collaborative care interventions that facilitate active engagement. • Use PTSD Checklist (PCL-5) in the initial assessment and to monitor progress. • Recommend and refer for EBP over pharmacologic treatment of PTSD. • Start pharmacotherapy when individual EBP is not readily available or not preferred. • Assess co-occurring sleep disturbances. • Recommend Sleep Hygiene and/or CBT for Insomnia unless severe sleep deprivation warrants immediate use of medication to prevent harm.

TABLE 3: PHARMACOTHERAPY FOR PTSD WITH COMORBID mTBI

MEDICATION	INITIAL DOSE	DOSE RANGE	CLINICAL CONSIDERATIONS
MONOTHERAPY			<ul style="list-style-type: none">• Start low, go slow.• Use: prazosin - nightmares; trazodone/ mirtazapine - insomnia; buspirone/ hydroxyzine - anxiety; bupropion - lack of motivation or concentration.• Stimulants are not recommended for mTBI and can worsen arousal symptoms of PTSD.• Combining TCAs with other serotonergic agents (SSRIs, SNRIs, trazodone, triptans) can precipitate serotonin syndrome.• High dose trazodone or hydroxyzine can worsen fatigue and/or concentration.• Titrate prazosin slowly; can cause dizziness.• Bupropion increases risk of seizure.• Antidepressants and stimulants can precipitate mania in bipolar disorder.• VA/DoD evidence-based guidelines recommend against benzodiazepines.• Caution is advised for use of medications in pregnancy and lactation.• Side Effects of SSRIs & SNRIs: Nausea, headache, diarrhea, anxiety, nervousness, sexual dysfunction, agitation, dizziness, and hyponatremia or SIADH. High dosage of venlafaxine can increase blood pressure.
Sertraline*+	25-50 mg daily	50-200 mg daily	
Paroxetine*+	10-20 mg daily	20-50 mg daily	
Fluoxetine+	10-20 mg daily	20-80 mg daily	
Venlafaxine^	SA (XR): 37.5 mg daily	SA (XR): 75-225 mg daily	
AUGMENTATION±			
Prazosin	1 mg bedtime	1-15 mg bedtime	
Trazodone	25-50 mg bedtime	50-100 mg bedtime	
Mirtazapine	7.5-15 mg bedtime	15-45 mg bedtime	
Buspirone	5 mg BID	30-60 mg in 2 or 3 divided doses	
Hydroxyzine	25 mg 1-4 times a day PRN anxiety	50-100 mg 1-4 times a day PRN anxiety	
Bupropion	150 mg daily	IR: 150-450 mg in 2 or 3 divided doses SR: 150 mg BID XR: 300 mg daily	

* FDA Approved; ± If no or partial response at maximum dose for 6 weeks, consider switch or augmentation; + SSRI; ^ SNRI

Abbreviations: EBP: evidence based psychotherapy; CBT: cognitive behavioral therapy; IR: immediate release; SR: sustained release; XR: extended release; SSRIs: selective serotonin reuptake inhibitors; SNRIs: serotonin-norepinephrine reuptake inhibitors; TCAs: tricyclic antidepressants.