

## Clonidine: Off-label uses in pediatric patients

Jordan Hill, BS, and Musa Yilanli, MD

Mr. Hill is a third-year medical student, The Ohio State University Wexner Medical Center, Columbus, Ohio. Dr. Yilanli is Assistant Clinical Professor, Nationwide Children's Hospital and The Ohio State University Wexner Medical Center, Columbus, Ohio.

### Disclosures

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Clonidine is a centrally acting alpha-2 agonist originally developed for treating hypertension. It is believed to work by stimulating alpha-2 receptors in various areas of the brain. It is nonselective, binding alpha-2A, -2B, and -2C receptors, and mediates inattentiveness, hyperactivity, impulsivity, sedation, and hypotension.<sup>1</sup> Clonidine is available as immediate-release (IR), extended-release, and patch formulations, with typical doses ranging from 0.1 to 0.4 mg/d. The most common adverse effects are anticholinergic, such as sedation, dry mouth, and constipation. Since clonidine is effective at lowering blood pressure, the main safety concern is the possibility of rebound hypertension if abruptly stopped, which necessitates a short taper period.<sup>1</sup>

In child and adolescent psychiatry, the only FDA-approved use of clonidine is for treating attention-deficit/hyperactivity disorder (ADHD). Yet this medication has been increasingly used off-label for several common psychiatric ailments in pediatric patients. In this article, we discuss potential uses of clonidine in child and adolescent psychiatry; except for ADHD, all uses we describe are off-label.

**ADHD.** Clonidine is effective both as a monotherapy and as an adjunctive therapy to stimulants for pediatric ADHD. When used alone, clonidine is better suited for patients who have hyperactivity as their primary concern, whereas stimulants may be better suited for patients with inattentive subtypes. It also can help reduce sleep disturbances associated with the use of stimulants, especially insomnia.<sup>1</sup>

**Tics/Tourette syndrome.** Clonidine is a first-line treatment for tics in Tourette syn-

drome, demonstrating high efficacy with limited or no adverse effects. Furthermore, ADHD is the most common comorbid condition in patients with dystonic tics, which makes clonidine useful for simultaneously treating both conditions.<sup>2</sup>

**Insomnia.** Currently, there are no FDA-approved medications for treating sleep disorders in children and adolescents. However, clonidine is among the most used medications for childhood sleep difficulties, second only to antihistamines. The IR formulation is often preferred for this indication due to increased sedation.<sup>3</sup>

**Posttraumatic stress disorder (PTSD).** Research has shown clonidine can help reduce hyperarousal symptoms, address sleep difficulties, and reduce PTSD trauma nightmares, anxiety, and irritability.<sup>4</sup>

**Substance detoxification.** Clonidine successfully suppresses opiate withdrawal signs and symptoms by reducing sympathetic overactivity. It can help with alcohol withdrawal and smoking cessation.<sup>2</sup>

**Antipsychotic-induced akathisia.** Controlled trials have shown that clonidine significantly reduces akathisia associated with the use of antipsychotics.<sup>2</sup>



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**Sialorrhea.** Due to its anticholinergic effects, clonidine can effectively reduce antipsychotic-induced hypersalivation.<sup>2</sup>

**Behavioral disturbances.** Due to its sedative and anti-impulsive properties, clonidine can be used to address broadly defined behavioral issues, including anxiety-related behaviors, aggression, and agitation, although there is a lack of proven efficacy.<sup>1,2,4</sup>

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**Clonidine is often used to treat sleep difficulties in children and adolescents**