# Assessment and Treatment of Adolescent Substance Use Disorders: Alcohol Use Disorders



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#### **KEYWORDS**

- Adolescence Binge use Screening Interventions Pharmacotherapy
- Prevention
  Biomarkers
  Continuum of care

#### **KEY POINTS**

- The article discusses the current prevalence of alcohol use disorder among youth and its biopsychosocial correlates that modify the prevalence and natural progression.
- Clinical aspects of care are discussed to provide care teams with a knowledge basis of validated tools and treatment choices relevant for treating alcohol use disorders among youth.
- With the recent changes in DSM nosology, we discuss the importance of diagnostic considerations for alcohol use disorders.
- Clinical aspects such as confidentiality, differential levels of care, and criteria for best fitting treatments are discussed.

#### INTRODUCTION

Alcohol drinking during the adolescence is a serious public health concern due to the significant risk of life-changing tragic consequences. Adolescence is a dynamic phase of development when biopsychosocial factors shape an individual's potential into adulthood. This transitional phase of impulsivity and novelty seeking is also known for its indulgence in risk taking. Exposure to alcohol and drugs in this critical window, akin to kindling a fire, can soon derail into a lifetime of hazardous consequences and substance use problems. Evidence shows that adolescents are at risk for drinking heavily starting as early as eighth grade, resulting in a high number of accidents, homicides, high-risk sexual behaviors, and changes in the brain that predispose them to further substance use and psychiatric disorders.

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years quadruples the chance for substance use disorder than later use by college years, <sup>11</sup> highlighting the risks associated with early use. Recognizing these dangers related to problematic alcohol use by adolescents, the US surgeon general announced in 2007 a "Call to Action" to address the problem and develop appropriate interventions. <sup>1</sup> Over the last decade, since the call to action, researchers have identified several dimensions from developmental frameworks, from gene assays to gene–environmental interactions, that inform our understanding of underage drinking and unique treatment needs. <sup>12</sup> In this review, we focus on recent clinical advances to help providers understand and address alcohol use disorder among adolescents and children confidently using available tools.

We review the following:

- i. Epidemiology of alcohol use and misuse among children and adolescents, studied by nationwide surveys monitoring this trend for decades,
- ii. Risks that trigger onset and modify the course of problematic drinking,
- iii. Common clinical considerations contingent on point of care sites, and
- The evidence-based screening tools and interventional modalities that are available.

#### **EPIDEMIOLOGY**

#### Prevalence

Alcohol is the most common drug used among youth under 17 years.<sup>13</sup> Based on recent national survey, the Monitoring The Future (MTF) series, 2 of every 3 students drink alcohol to varying degrees by 12th grade and 1 in 3 students report drinking by 8th grade.<sup>13</sup> Epidemiologic studies consistently show that adolescents have a higher tendency to engage in heavy drinking or bingeing when compared with adults.<sup>13,14</sup> Binge drinking is defined as consuming approximately 5 or more drinks in 2 hours. Heavy drinking is 5 drinks a day for at least 5 days.<sup>14</sup> According to nationwide survey of youth between 12 and 17 years, 23% (8.7 million) drink alcohol, 14% binge, and 3% report heavy drinking.<sup>14,15</sup> Both binge and heavy drinking are problematic trends among adolescents due to increased risk for hazardous injuries, suicides, poisoning, homicides,<sup>8</sup> and neuronal damages<sup>16</sup> which can result in death or a lifetime of disability.

Heavy drinking worsens with age. The MTF survey shows that 5% of 8th graders, 11% of 10th graders, and 17% of 12th graders<sup>13</sup> report heavy drinking when stratified by class. A study that explored high school seniors' drinking trend from the MTF series showed that some 12th grade students reported consuming 10 to 15 alcohol drinks in rapid succession, which can dramatically increase their risk for impairment.<sup>17</sup> A critical study by Donovan<sup>18</sup> in 2009 showed that bingeing on 5 drinks by adolescents resulted in blood alcohol concentrations that were 2 to 3 times the adult levels when drinking the same amount of alcohol. This finding highlighted how alcohol was metabolized differentially by adolescents when compared with adults. It also suggested the reclassifying of binge drinking for adolescents to 3 drinks at any given time, because the blood alcohol concentration varied based on age.<sup>18</sup>

Behavioral and genetic studies show that age at first drink bears the greatest risk and prognosis for later alcoholism.<sup>19,20</sup> Hingson & White<sup>12</sup> described that drinking before 14 years of age results in a 2-fold hazard risk for alcohol use problems within 10 years, independent of one's familial history, illicit drug use, depression, and disruptive behaviors. Early onset of drinking is a valid predictor of lifetime alcohol use and drug use disorders as evidenced by longitudinal studies showing strong association with heavy consumption, severe dependence, increased comorbidities, and familial history of problematic use of alcohol.<sup>11,21</sup>

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