CHOC Children's Hospital
Best Evidence and Recommendations

Methods to Manage Acute Alcohol, Opiate, and Benzodiazepine Withdrawal Symptoms of Children and Adolescents

Sarah Carey, BSN, RN-BC
scarey@choc.org
Elaine Imperio, BSN, RN-BC
eimperio@choc.org

PICO: In a pediatric hospital, what are best practices in the early identification of children and adolescents at risk for acute alcohol, opiate, and benzodiazepine withdrawal symptoms to initiate timely clinical interventions and stabilization?

P (Population/problem): In a pediatric hospital
I (Intervention/issue): What are best practices in the early identification of acute alcohol, opiate, and benzodiazepine withdrawal symptoms
C (Comparison): (Compared to current practice)
O (Outcome): to initiate timely clinical interventions and stabilization

Background:

The ongoing adolescent substance use epidemic is of critical importance to healthcare providers. One of the Healthy People 2020 Objectives calls for reducing the proportion of adolescents reporting the use of alcohol or any illicit drugs during the past 30 days (HHS, 2019). Substance Use Disorder refers to a cluster of cognitive, behavioral, and physiological symptoms indicating the individual continues using the substance despite significant substance-related problems (APA, 2013).

Alcohol is the psychoactive substance most commonly used among youth under 17 years, estimates from significant surveys, including the National Survey on Drug Use and Health (NSDUH), the National Health and Nutrition Examination Surveys (NHANES), and the Monitoring the Future study indicate that most adolescents between 59% to 71% had consumed alcohol (Swendsen et al., 2012). Adolescent drinking patterns tend to be episodic and heavy. More than 90% of alcohol consumed by teens is in the context of a binge (Office of Juvenile Justice and Delinquency Prevention, 2005). Binge drinking is defined as consuming approximately five or more drinks in 2 hours (SAMHSA, 2014).

While not as common as alcohol use, prescription opioid (codeine, oxycodone, morphine, etc.) misuse is rising and is exceptionally high risk because of the powerful addiction potential of opioids. One study found that many adolescents whom "misuse" opioids (i.e., use them without a

prescription) do so to address pain, albeit inappropriately (McCabe, 2012). Other teens often begin using opioids recreationally in social situations such as "pharming" parties, where prescription drugs are exchanged and shared among adolescents.

Benzodiazepines (clonazepam, lorazepam, diazepam, etc.) are central nervous system depressant drugs that cause a dose-dependent effect. As each dose increases, there is a progression from sedation to hypnosis to stupor. The pattern of benzodiazepine use in adolescents is usually characterized as being "binge" in nature. Adolescents who use benzodiazepines regularly for at least a month develop tolerance to their sedative effect and can show withdrawal symptoms (Adolescent Withdrawal Guideline, 2016).

Alcohol and other drug (AOD) withdrawal occur when an individual is substance dependent. One of the primary principles of adolescent withdrawal management is to enable the young person to be safe and supported during withdrawal. *Detoxification* refers to the medical management of symptoms of withdrawal. Medically supervised detoxification is indicated for any adolescent at risk of withdrawing from alcohol or benzodiazepine and may also be helpful for adolescents withdrawing from opioids. Individualized care during detoxification is provided by an interdisciplinary team, including psychiatrists, physicians, nurses, and social workers.

For alcohol detoxification, withdrawal symptoms usually begin within six to 24 hours after the last alcoholic drink. The severity of alcohol withdrawal can range from mild to severe. Severe alcohol withdrawal is potentially life-threatening. Early recognition and appropriate management of the beginning stages of withdrawal are crucial to prevent its progression into the severe-life threatening phase. Seizures usually occur within the first 72 hours but can sometimes occur later (Maldonado, 2013).

Benzodiazepine withdrawal symptom manifest if there is an abrupt reduction or cessation of use. Signs and symptoms vary according to duration and consistency of service, amount used, and type (short, medium, or long-acting) of benzodiazepine. The onset of withdrawal syndrome usually begins within one to two days of cessation of short-acting benzodiazepine (i.e., alprazolam), peaking at 7-14 days (Adolescent Withdrawal Guideline, 2016).

In opioid use, the withdrawal stage follows from physiological dependence, which can be another driving force for continued substance use. Withdrawal symptoms begin when opioids are abruptly discontinued (Koobs, 2010).

This evidence-based project aimed to find and present literature review findings to determine the best practice in the early identification of children and adolescents at risk for acute alcohol, opiate, and benzodiazepine withdrawal symptoms to initiate timely clinical interventions and stabilization.

Search Strategies and Databases Reviewed:

- Databases searched for this review included PsycInfo, Pub Med, Medline, CINAHL, and Google Scholar. Key search words: adolescent, alcohol, drug, substance, assessment,

measure, instrument. This search yielded nine articles relevant to our topic, describing practices in the early identification of children and adolescents at risk for acute withdrawal symptoms. We have consulted substance use websites such as SAMHSA Alcohol and Drug Information, the U.S. Department of Health and Human Services, and the Office of Juvenile Justice and Delinquency Prevention.

Synthesis of Evidence:

- The process of adolescence is a period of preparation for adulthood during which essential developmental experiences occur. While adolescence is a time of tremendous growth and potential, it can also be a time of considerable angst and risk, during which social contexts and individual experiences can exert powerful influences. There is a commencement of individualization- a shift from parents to peers; they can be impulsive and are experiential learners.
- The literature shows strong evidence for the association of psychiatric morbidity and alcohol use among adolescents with the onset of psychiatric disorders usually preceding alcohol problems. It has been consistently observed that depression, trauma, low self-esteem, conduct problems, and anxiety are predictors of problematic alcohol use among adolescents (Sung, 2004).
- Withdrawal scales can assist assessment but should never replace clinical assessment. It is helpful to ask the patient to describe their symptoms.
    - The Clinical Institute Withdrawal Assessment (CIWA A/r is a well-validated scale that assesses ten symptoms related to alcohol or benzodiazepine withdrawal, including nausea or vomiting, tremor, sweating, anxiety, agitation, headache, orientation, auditory, visual or tactile disturbances.
    - The Clinical Opiate Withdrawal Scale (COWS) is an 11-item scale designed to reproducibly rate common signs and symptoms of opiate withdrawal and monitor these symptoms over time. The summed score for the complete scale can help clinicians determine the stage or severity of opiate withdrawal and assess the level of physical dependence on opioids. The symptoms of opioid withdrawal have been likened to severe influenza infection (i.e., nausea, vomiting, sweating, joint aches, agitation, and tremor).
- In a pediatric hospital, withdrawal symptoms from alcohol, benzodiazepines, and opioids often mimic other co-morbidities, which can put the patient at risk for life-threatening acute withdrawal. In 201, CHOC Children's Mental Health Inpatient Center (MHIC) began utilizing the CIWA A/r. However, it has been recognized that within MHIC and campus-wide education on being able to identify and utilize either the CIWA A/r or COWS to initiate timely clinical interventions, which will result in the stabilization of withdrawal symptoms
- Medications to support withdrawal be considered for the withdrawal period only. They should not be continued post-withdrawal unless there is a justifiable reason. Benzodiazepines should never be prescribed without a comprehensive management plan and monitoring procedure (Adolescent Withdrawal Guidelines, 2016).
- Address symptomatic withdrawal according to the severity of the withdrawal symptom using the CIWA A/r or COWS scale (Adolescent Withdrawal Guidelines, 2016).

Practice Recommendations:

- The Substance Abuse and Mental Health Services Administration (SAMHSA) recommends universal substance use screening, brief intervention, and referral to treatment (SBIRT) as part of routine health care. This helps to quickly identify patients seen in the Emergency Department (ED) for potential withdrawal symptoms or referrals (Levy S.J.L., 2016).
- Revise the current CHOC Nursing Admission form to include specific questions which lead to more probing and potential initiation of either CIWA A/r or COWS scale.
- Create a pathway to initiate early intervention which involves the interdisciplinary team, including physicians and social workers.
- Create an algorithm for appropriate medication management of withdrawal symptoms utilizing scores obtained from the CIWA A/r or COWS scale.
- Provide hospital-wide education regarding the early identification of alcohol, benzodiazepines, and opiate withdrawal symptoms utilizing the CIWA A/r and COWS scale.

Acknowledgements:

- The Evidence-Based Scholars Program was supported by a grant from the Walden W. and Jean Young Shaw Foundation
- Jennifer Hayakawa, DNP, PCNS-BC, CNRN, CCRN, Nurse Scientist, CHOC Children's.
- Vicky R. Bowden, DNSc, RN, Azusa Pacific University, CHOC Children's Hospital EBP Scholars Mentor.

References:

2020 Topics & Objectives, Substance Abuse, Epidemiology, and Surveillance: SA-13 Reduce past-month use of illicit substances. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/Substance-Abuse/objectives#5199.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.,) Washington DC.

Swendsen, J., Burstein, M., Case, B., Conway, K.P., Dierker, L., He, J., & Merikangas, K.R., (2012). Use and abuse of alcohol and illicit drugs in US adolescents: Results of the national comborbidity survey-adolescent supplement. *Archives of General Psychiatry,* 69, 390-398. doi: 10.1001/archgenpsychiatry.2011.1503.

McCabe, S.E., West, B.T., Teter, C.J., Cranford, J.A., Ross-Durow, P.L., & Boyd, C.J. (2012). Adolescent nonmedical users of prescription opioids: brief screening and substance use disorders. Addictive Behaviors. 37. 651-656.

Adolescent Withdrawal Guidelines, 2016 ed., Youth Support + Advocacy Service, Fitzroy, Victoria, Australia, 2016. 34-35.

Koobs, G.F., Volkow, N.D. (2010). Neurocircuitry of addiction. Neuropsychopharmacology. 35. 217-238.

Maldonado, J.R. (2013). An approach to the patient with substance use and abuse. Med Clin N Am. 94. 1169-1205.

Sung, M., Erkanli, A., Angold, A., (2004). Effects of age at first substance use and psychiatric comorbidity on the development of substance use disorders. *Drugs and Alcohol Dependence*, 75. 225-334.doi: 10.1016//drugalcdep.2004.03.013.

Levy, S.J.L., Williams, J.F., and Committee on Substance Use and Prevention (2016). Substance use screening, brief intervention, and referral to treatment. Pediatrics, 138, 1, doi: 10.1542/peds.2016-1211.