

Indian Academy of Pediatrics (IAP)



# STANDARD TREATMENT GUIDELINES 2022



## Substance Use Disorders in Adolescents

*Lead Author*

**TP Jayaraman**

*Co-Authors*

**Yatesh Pujar, Kamlesh Parekh**

**Under the Auspices of the IAP Action Plan 2022**

**Remesh Kumar R**

IAP President 2022

**Upendra Kinjawadekar**

IAP President-Elect 2022

**Piyush Gupta**

IAP President 2021

**Vineet Saxena**

IAP HSG 2022–2023



© Indian Academy of Pediatrics

## **IAP Standard Treatment Guidelines Committee**

### ***Chairperson***

Remesh Kumar R

### ***IAP Coordinator***

Vineet Saxena

### ***National Coordinators***

SS Kamath, Vinod H Ratageri

### ***Member Secretaries***

Krishna Mohan R, Vishnu Mohan PT

### ***Members***

Santanu Deb, Surender Singh Bisht, Prashant Kariya,  
Narmada Ashok, Pawan Kalyan

# Substance Use Disorders in Adolescents

83

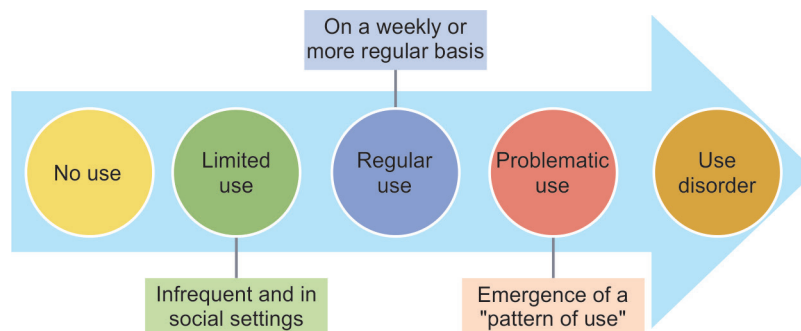
## Introduction

Substance use in adolescence can have widespread negative effects on adolescent health, including school failure, respiratory disease, high-risk sexual behaviors, injury, and even death. Although some view the occasional use of substances such as alcohol or marijuana as part of normal adolescent development, there exists significant potential for injury even with occasional use.

Adolescents with substance use problems present in a variety of ways:

- ☑ Intoxicated in the emergency department
- ☑ In your clinic with physical complaints, e.g., persistent abdominal pain, palpitations, chest pain, recurrent sore throat, and persistent nasal discharge
- ☑ Brought in by parents for behavioral concerns, changes in school performance, sudden mood swings, stealing, or lying
- ☑ No presenting signs or symptoms; disclosed only on direct questioning by healthcare professionals

Substance use patterns in adolescents are presented in **Figure 1**.



**Fig. 1:** Substance use patterns in adolescents.

**General Management**

Intoxicated adolescents should be assessed and managed through the ABCDE approach. Early resuscitation is a life-saving measure in intoxicated patients. A—Maintain Airway and give Antidotes, B—Facilitate Breathing, C—Circulation, D—Manage Disability, and E—Avoid Exposure to dangers.

**Management of Specific Substances (Over and above Symptomatic Therapy)**

- ☑ Find out drug-specific indicators during history taking and physical examination:
  - *Amnesia*: Barbiturates, ketamine, and flunitrazepam
  - *Gastritis, blackouts, and body odor*: Alcohol
  - *Flu-like symptoms*: Cocaine, inhalants, and marijuana
  - *Red conjunctiva and abnormal pupils*: Marijuana
  - *Paint stains on face and clothes*: Inhalants
  - *Chest pain and tachycardia*: Cocaine and amphetamine
  - *Bronchospasm and constipation*: Opiates and marijuana
  - *Increased appetite for sweets*: Marijuana
  - *Altered body odor*: Alcohol and inhalants
  - *Gynecomastia, small testes, and irregular periods*: Marijuana
  - *Gasoline cans in car*: Inhalants
- ☑ Specific management:
  - *Alcohol*: Intravenous (IV) fluids with glucose and vitamins
  - *Cannabis*: Rarely serious and may not require anything else than the symptomatic treatment including benzodiazepines
  - *Opioids*: IV naloxone-bolus 1–2 mg followed by infusion at 0.1 mg/kg/hour, maximum up to 10 mg total
  - *Stimulants*: Benzodiazepines, aggressive cooling, and sodium bicarbonate for cocaine
  - *Benzodiazepine*: Flumazenil can be used in severe intoxication associated with respiratory and neurological depression.

Management of substance use in adolescents needs team work from multiple specialties. Pediatricians are the ones who should screen them and guide them during routine office visits. HEEADSSS method of psychosocial assessment should be done in all adolescents visiting pediatric office to screen for substance use disorder (SUD). Look for red flag signs, i.e., headache, sore throat, worsening asthma, chronic cough, chest pain, gastritis, hepatitis, needle puncture marks, and pancreatitis.

- ✓ *Alcohol*: Disulfiram (inhibits an enzyme involved in the metabolism of alcohol, causing an unpleasant reaction if alcohol is consumed after taking the medication), naltrexone (decreases alcohol-induced euphoria), acamprosate (reduces withdrawal symptoms), ondansetron, selective serotonin reuptake inhibitor (SSRI), topiramate, and baclofen
  - ✓ *Opioid*: Replacement therapy: buprenorphine-naloxone and methadone (all act by both activating and blocking opioid receptors in the brain)
  - ✓ *Cannabis*: N-acetylcysteine and baclofen
  - ✓ *Inhalants*: Baclofen
  - ✓ *Nicotine*: Bupropion (reduces nicotine cravings and withdrawal symptoms and depression), varenicline (reduces nicotine cravings and withdrawal symptoms by stimulating nicotine receptors in the brain), nicotine replacement therapies: activate nicotine receptors in the brain, available in the form of a patch, gum, lozenge, nasal spray, and inhaler.
- CRAFFT questionnaire should be used to assist Screening to Brief Intervention (S2BI) method to screen adolescents for SUD (Fig. 2).

S2BI: Screening to brief intervention	
In the past year, how many times have you used	
<ul style="list-style-type: none"><li>• Tobacco?</li><li>• Alcohol?</li><li>• Marijuana?</li></ul> Stop if all "Never". Otherwise, continue	<input type="radio"/> Never
<ul style="list-style-type: none"><li>• Prescription drugs that were not prescribed for you (such as pain medication or adderall)?</li><li>• Illegal drugs (such as cocaine or Ecstasy)?</li><li>• Inhalants (such as nitrous oxide)?</li><li>• Herbs or synthetic drugs (such as salvia, "K2", or bath salts)?</li></ul>	<input type="radio"/> Once or twice
	<input type="radio"/> Monthly
	<input type="radio"/> Weekly

Fig. 2: Screening to brief intervention.

CRAFFT Screening Questionnaire

**C:** Have you ever ridden in a **C**ar driven by someone who was high or had been using drugs?

**R:** Do you ever use drugs to **R**elax or feel better or to fit in?

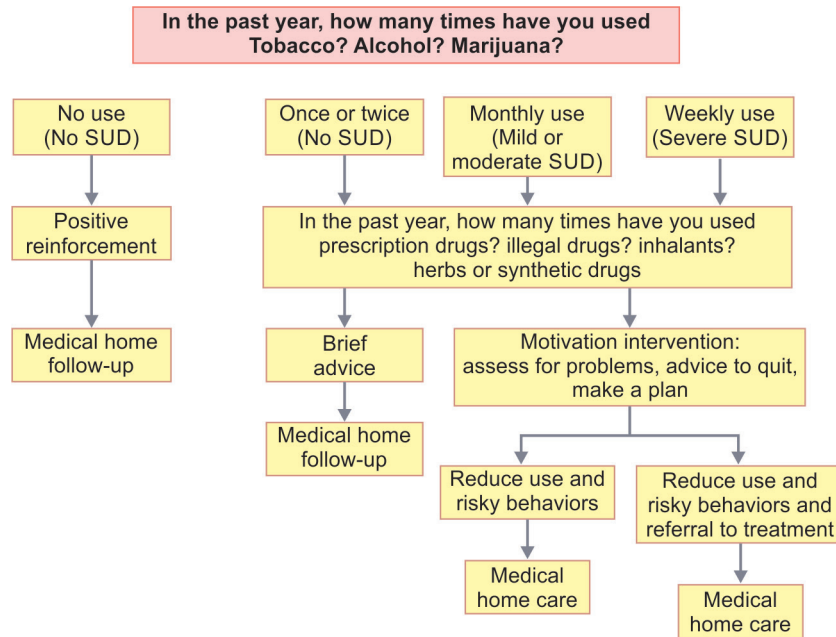
**A:** Do you ever use drugs when you are **A**lone?

**F:** Do you ever **F**orget things when you are on drugs?

**F:** Do your **F**amily/**F**riends ask you to cut down on drugs?

**T:** Have you ever gotten into **T**rouble while using drugs?

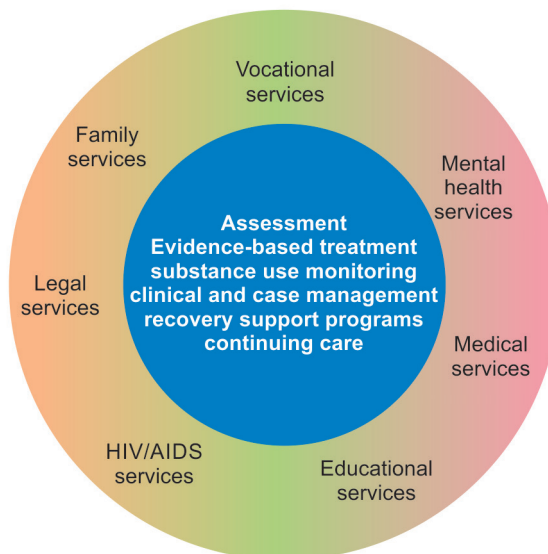
**Flowchart 1:** Algorithm for management of substance use disorder in adolescence.



(SUD: substance use disorder)

(Source: Levy S, Shrier L. The S2BI-based approach to clinical SBIRT. Boston, MA: Boston Children's Hospital; 2014.)

**Components of comprehensive drug abuse treatment**



*The best treatment programs provide a combination of therapies*

**Fig. 3:** Components of comprehensive drug abuse treatment.

☑ Outpatient department (OPD) treatment:

- Motivational intervention
- Express empathy and listening, bringing out positives in life and that the drugs as stumbling blocks toward reaching the goals
- Enhancing self-efficacy to resist drug use and rolling with resistance
- Request to sign a contract of life.

Manage any comorbidity, e.g., specific learning disability (SLD) and depression. Adolescent may require substance-specific counseling, e.g., for marijuana. OPD treatment on an individual basis or in a group format to be delivered during a visit lasting 3 hours, once or twice a week.

Pediatrician should refer such cases to multidisciplinary center/an adolescent-friendly psychiatrist for cognitive behavior therapy, motivational intervention, family therapy, and pharmacotherapy. These adolescents either require OPD treatment of 4–6 hours a day, 5 days a week while living at home, or may benefit from residential treatment—24-hour structured environment of a resource-intense high level of care.

There are two approaches for managing these adolescents.

Behavioral Approaches

- ☑ **Adolescent community reinforcement approach (A-CRA):** Achieve and maintain abstinence from drugs by replacing influences in their lives that had reinforced substance use.
- ☑ **Cognitive behavioral therapy (CBT):** A core element of CBT is teaching participants how to anticipate problems and helping them develop effective coping strategies. In CBT, adolescents explore the positive and negative consequences of using drugs. They learn to monitor their feelings and thoughts and recognize distorted thinking patterns and cues that trigger their substance abuse; identify and anticipate high-risk situations; and apply an array of self-control skills, including emotional regulation and anger management, practical problem solving, and substance refusal.
- ☑ **Contingency management (CM):** Provides adolescents an opportunity to earn low-cost incentives such as prizes or cash vouchers.
- ☑ **Motivational enhancement therapy (MET):** Motivational interviewing sessions in which a therapist helps the patient develop a desire to participate in treatment by providing nonconfrontational feedback and helps adolescents resolve their ambivalence about engaging in treatment and quitting their drug use.
- ☑ **Twelve-step facilitation therapy:** As in Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) stress the participant's acceptance that life has become unmanageable, that abstinence from drug use is needed, and that willpower alone cannot overcome the problem.

Family-based Approaches

- ☑ **Brief strategic family therapy (BSFT):** Over the course of 12–16 sessions, the BSFT counselor establishes a relationship with each family member, observes how the members behave with one another, and assists the family in changing negative interaction patterns.
- ☑ **Family behavior therapy (FBT):** The adolescent and at least one parent participate in treatment planning and choose specific interventions from a menu of evidence-based treatment options. Therapists encourage family members to use behavioral strategies taught in sessions and apply their new skills to improve the home environment.
- ☑ **Multidimensional family therapy (MDFT):** A comprehensive family- and community-based treatment useful for substance-abusing adolescents with behavior problems such as conduct disorder and delinquency.
- ☑ **Functional family therapy (FFT):** Combines a family systems view of family functioning (which asserts that unhealthy family interactions underlie problem behaviors) with behavioral techniques to improve communication, problem-solving, conflict resolution, and parenting skills.
- ☑ **Multisystemic therapy (MST):** MST is a comprehensive and intensive family- and community-based treatment for severe cases.

These include mutual help groups, e.g., AA and NA, peer recovery support services, assertive continuing care (ACC), recovery high schools, etc. Support systems are mandatory for recovery to be sustained and free of relapse.



- ☑ Indian academy of pediatrics. Mission Kishore Uday Manual 2018-19. Mumbai, India: Indian academy of pediatrics; 2019.
- ☑ Kliegman RM, St. Geme J. Adolescent substance abuse. In: Kliegman RM, St. Geme J (Eds). Nelson Textbook of Pediatrics, 21st edition. Philadelphia, PA: Saunders Elsevier; 2019.
- ☑ National Institute on Drug Abuse. (2011). Preventing Drug Use among Children and Adolescents (In Brief). [online] Available from: <https://nida.nih.gov/publications/preventing-drug-use-among-children-adolescents/prevention-principles>. [Last accessed August, 2022].
- ☑ Sathanantham S, Dayasiri K, Thadchanamoorthy V. Approach to the adolescent with substance use in the acute setting. Cureus. 2021;13(7):e16309.