

# AODA in Adolescents

## Presenting Problem:

A participating PCP emailed a consultation request to WI CPCP, about a 17-year-old male patient they had been treating for ADHD. Those symptoms have been under fair-to-good control with atomoxetine (Strattera). The patient recently disclosed that he had been experiencing transient visual disturbances (halos around objects and distorted sizes of objects) for a week or so and had also once heard “a voice whispering, but I can’t hear what it says.” When asked about the use of recreational substances, the patient said that he had been smoking marijuana daily for more than a year, as well as consuming ‘magic mushrooms’ on one occasion months ago. As there is a family history of schizophrenia in the patient’s biological father, the patient and his parents are concerned that he may be developing this disorder.

## Consultant’s Response:

- Screen for safety to find a cause of these perceptual disturbances. The treatment is guided by the cause, so please contact WI CPCP as needed after clarification of cause.
  - Here is an article which reviews the differential diagnosis of psychiatric and non-psychiatric causes of psychosis in pediatric patients: [Recognition and Differential Diagnosis of Psychosis in Primary Care](#)
  - Studies have suggested that up to 16 percent of mentally healthy children and teens may hear voices, so this should remain in the differential diagnosis as this article describes: [Many children 'hear voices'; most aren't bothered](#)
- Schizophrenia is among the *possible causes* of your patient’s perceptual disturbances but monitoring over time is necessary to rule this in or out.
  - To receive a diagnosis of schizophrenia, a person must have experienced *at least two* of the following symptoms often during a one-month period, with a varying level of disturbance being present for six months:
    - Delusions, such as a belief that another is poisoning them.
    - Hallucinations, such as hearing a voice that issues orders.
    - Disorganized speech, such as logic that is difficult for others to understand.
    - Catatonic behavior, ranging from coma-like inactivity to hyperactivity.
    - Reduced ability to function, such as neglecting basic hygiene.
  - Schizophrenia occurs in one percent of the world’s population, and a person's chance of developing schizophrenia increases when there is a family history of schizophrenia.
    - For example, having a parent with schizophrenia increases a person's risk to ten times the population risk of one percent.
  - The [Psychosis Prodrome Questionnaire \(PQ-B\)](#) is a screening tool that can help clarify signs/symptoms of psychosis. Like all screeners and rating scales, it requires clinical correlation through interview and further assessment before any diagnosis is determined:
- Your patient’s use of recreational substances could certainly be causing or worsening the perceptual disturbances. Encourage him to cut back or stop the use of marijuana and other recreational substances and refer him for counseling. If his brain is this ‘touchy’ about development of hallucinations, he may be ‘playing with fire.’
  - Cannabis is known to produce acute, transient psychotic-like experiences.

- Frequent use of cannabis, especially the start of use at a younger age, doubles the risk of schizophrenia development in the future.
  - Daily use of marijuana increases the risk of psychotic illness development with as much as five times higher risk in person using high potency THC.
  - Young people with a parent (or sibling) affected by psychosis have a one in ten chances of developing the condition themselves—even if they never smoke pot.
    - Regular marijuana use, however, *doubles their risk*—to a **one in five** chance of becoming psychotic.
    - [Teens who smoke pot at risk for later schizophrenia, psychosis](#)
- Even a one-time use of a hallucinogenic substance, such as psilocybin/magic mushrooms, can result in visual perceptual disturbances, referred to as **hallucinogen persisting perception disorder (HPPD)**. These perceptual disturbances can initially occur days, weeks, or months after use of hallucinogens.
  - Note that hallucinogen persisting perception disorder (HPPD) only causes *visual* perceptual disturbances and does not cause people to have full hallucinations or delusions. Since your patient is also experiencing possible auditory hallucinations, perform further assessment of *other causes of psychosis*.
  - More information about HPPD:
    - [What Is Hallucinogen Persisting Perception Disorder \(HPPD\)?](#)
    - [On Perception and Consciousness in HPPD: A Systematic Review](#)
  - Encourage the patient to cut back or stop use of marijuana and other recreational substances. If his brain is this ‘touchy’ about development of hallucinations, he may be ‘playing with fire.’ It is highly recommended to refer to a therapist certified to treat both substance abuse and mental health conditions.

### Teaching Points:

- Psychotic symptoms are not rare in pediatric patients, and the differential diagnosis is broad.
- Studies show a strong association between use of marijuana and development of psychotic symptoms in youth. This risk may be twice as high when there is a family history of psychotic illness in a parent or sibling. Counseling young people about the potential risks is highly recommended.
- [Know the Facts About Marijuana](#)

### References:

The potential of cannabidiol treatment for cannabis users with recent-onset psychosis. Hahn B. *Schizophr Bull.* 2018; 44:46–53.

Medicinal cannabis for psychiatric disorders: a clinically-focused systematic review. Sarris J, Sinclair J, Karamacoska D, Davidson M, Firth J. *BMC Psychiatry.* 2020; 20:24–2020.

Cannabis, schizophrenia genetic risk, and psychotic experiences: a cross-sectional study of 109,308 participants from the UK Biobank. [Michael Wainberg](#), [Grace R. Jacobs](#), [Marta di Forti](#) & [Shreejoy J. Tripathy](#). *Translational Psychiatry* volume 11, Article number: 211 (2021)