

Pediatric Acute-Onset Neuropsychiatric Syndrome

Background

Pediatric acute-onset neuropsychiatric syndrome (PANS) is a syndrome caused by a misdirected immune response that attacks the basal ganglia, the brain region responsible for motor control, emotions, and learning. This immune malfunction leads to the sudden onset of OCD or eating restrictions in conjunction with a constellation of behavioral, psychiatric, and neurological symptoms.

The average age of onset is between three and 13 years, cases can occur after puberty as well. The cause of PANS is unknown in most cases but is thought to be triggered by infections, psychosocial stress, metabolic disturbances, and other inflammatory reactions. Common infectious triggers include upper respiratory infections, influenza, persistent sinusitis, mycoplasma pneumonia, and Lyme borreliosis. The initial triggers for PANS may differ from secondary triggers.

PANS symptoms follow a chronic relapsing/remitting course and can worsen and differ with each occurrence. Symptom severity varies from patient to patient and can vary from flare to flare. PANS symptoms include cognitive, physical, and behavioral symptoms. Symptoms might include:

- Abrupt dramatic onset of OCD or severely restricted food intake
- Anxiety
- Emotional lability or depression
- Irritability, aggression, oppositional behaviors
- Behavioral/developmental regression
- Cognitive changes, memory deficits
- Sensory abnormalities (hypersensitivity to touch/clothes, sound, and light)
- Motor abnormalities (involuntary muscle movements, gross and fine motor difficulties)
- Somatic signs and symptoms (sleep disturbances, urinary frequency)

Treatment plans reflect the severity of the current PANS flare and case history. Treatment of PANS involves a three-part strategy: antibiotics to address the underlying neuroinflammation, psychiatric medications when necessary to address symptoms, and anti-inflammatory and immune-modulating therapies to correct the immune system disturbances.



Top Takeaways for School

A student's ability to regularly attend school is often affected. School absences are common, and it is important to note that this is not typical school refusal.

School refusal is seen in 90-100% of students with PANS. The main reasons for absences are OCD, separation anxiety, fatigue, sleep disturbances, immune and health issues, and medical appointments.

Most students with PANS will require individualized school accommodations. The level of support needed will depend on the student's severity of their symptoms.

Noticeable changes in handwriting could occur affecting quality or legibility.

School performance may be impacted by symptoms affecting cognition, fatigue, poor cognitive stamina, and inability to focus. Students may have difficulty concentrating and retaining information.

Sleep disturbances, enuresis, or urinary urgency and frequency may impact the child during the school day.

Behaviors are not choice-based and are due to the inflammation of the basal ganglia. Positive reinforcement works well.

Sensory processing issues can cause both sensory avoidance symptoms and sensory-seeking behaviors. Students can be bothered by sounds, smells, textures, and lights.

Considerations for the Individualized Healthcare Plan (IHP)

- Nursing diagnoses: Pain (acute/chronic), fatigue, impaired thought process and risk for infection
- Communicable disease and outbreak plan if others diagnosed with illness in school
- Consider that student may have other immunosuppression concerns or diagnoses
- Student-specific triggers, avoidance, or intervention strategies
- Consider emergency action plans (EAPs) and emergency evacuation plans (EEPs) related to special health care needs, including staff education/training

Discussion Starters for the Educational Team

1. Would the student benefit from evaluations or assessments in any of the following areas: physical therapy, occupational therapy, speech and language therapy, assistive technology, adapted physical education, functional behavior, psychology, hearing and vision?
2. Would the student benefit from additional academic support and/or modified education (e.g., copies of notes, extra time, reduced workload, simplified instructions, alternative formats for presentation of material, 504/IEP)?
3. Can strategies be implemented to assist the student with executive function (e.g., plan, prompts, organizers, agendas)?
4. Can rest breaks, safe spaces or reduced stimulation times be built into the student's schedule?
5. Can strategies be implemented to assist the student with executive function (e.g., plan, prompts, organizers, agendas)?

Resources

Child Mind Institute
childmind.org/guide/parents-guide-to-pans-and-pandas/

PANDAS Network
pandasnetwork.org/

Aspire: PANS and PANDAS at School
aspire.care/treating-pans/pans-at-school/

Aspire: PANS Rating Scale
aspire.care/wp-content/uploads/PANS-PANDAS-Rating-Scale



For more information, please scan the QR code or visit: KennedyKrieger.org/SHNIC

