

# PEDIATRIC AUTOIMMUNE NEUROPSYCHIATRIC DISORDERS ASSOCIATED WITH STREP

## Background

Pediatric Autoimmune Neuropsychiatric Disorders Associated with Strep (PANDAS) is an autoimmune disorder characterized by sudden onset of behavior and mental health symptoms which is associated with strep bacteria triggering a misdirected response. Brain inflammation causes the child to exhibit significant and sudden neurological and psychiatric symptoms within 24-48 hours, including severe onset obsessive compulsive disorder (OCD), tic disorder, or both. Research suggests that it is the antibodies produced by the body in response to the strep infection that may cause PANDAS symptoms, not the bacteria itself.

PANDAS will typically present during childhood, around age three through puberty. Reactions to strep infections after age 12 are considered rare. Symptoms of PANDAS include:

- Obsessive-compulsive disorder (OCD)
- Motor and/or vocal tics
- Sensory processing issues
- Attention-deficit/hyperactivity disorder (ADHD)
- Changes in mood or personality
- Anxiety
- Emotional lability

Symptoms are sudden and intense but could appear as late as four to six months post-acute strep infection if treatment antibiotics did not eradicate the bacteria. PANDAS is considered an episodic disorder. Symptoms may subside before reappearing when again exposed to strep. Symptoms may grow increasingly severe with multiple recurrences. Children are often misdiagnosed with psychiatric illnesses.

There are no labs tests to confirm PANDAS. Diagnosis is based on clinical symptoms, onset, episodic course and association with a group A strep infection (positive throat culture for strep or history of scarlet fever). If more than a week has passed since onset of symptoms, a blood test can confirm a preceding strep infection.

Treatment for acute episodes means treating the infection causing the symptoms if present. Antibiotics for one or more symptoms will be prescribed and, in some cases, used prophylactically.



Other treatments include use of steroids, probiotics, Omega 3, immunoglobulin, and plasmapheresis. Children with OCD symptoms could also additionally benefit from Selective Serotonin Reuptake Inhibitors (SSRI) medication and cognitive behavioral therapy (CBT). Children with PANDAS are unusually sensitive to side effects of SSRIs and other medications, so it is important to start with a low dose and slowly increase over time.

## Top Takeaways for School Considerations

PANDAS is a neuropsychiatric syndrome triggered by a faulty immune response causing neurological, psychological, and cognitive symptoms.

Consider the impact of the student's individualized symptoms on school attendance and participation (e.g., obsession for preferred seating, separation anxiety from home or teacher, motor tics that look like hyperactivity, sensitivity to lights or noise in school environment).

Symptoms affecting cognition include fatigue, poor cognitive stamina, and inability to focus may affect school performance.

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

Sensory processing issues can cause both sensory avoidance symptoms and sensory-seeking behaviors.

## Kennedy Krieger Institute's Specialized Health Needs Interagency Collaboration

The Specialized Health Needs Interagency Collaboration (SHNIC) program is a collaborative partnership between Kennedy Krieger Institute and the Maryland State Department of Education.



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## Considerations for the Individualized Healthcare Plan (IHP)

- Nursing diagnosis of pain (acute/chronic), fatigue, impaired thought process and risk for infection
- Current diagnosed health condition, including date of diagnosis, progress of disease process, and other chronic health conditions.
- Communicable disease and outbreak plan if others diagnosed with illness in school
- Monitor for signs and symptoms of strep outbreak and notify caregivers
- Consider that student may have other immunosuppression concerns or diagnoses
- Current medication and treatment orders (consider schedule, equipment needs and side effects)
- Student-specific triggers, avoidance, or intervention strategies
- Consider emergency care plan(s) (ECP) and emergency evacuation plan(s) (EEP) as related to medical needs in the school setting, and staff education/training, as appropriate

## Discussion Starters for 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/](https://childmind.org/guide/parents-guide-to-pans-and-pandas/)

PANDAS Network  
[pandasnetwork.org/](https://pandasnetwork.org/)

New England PANS/PANDAS Association  
[nepans.org/](https://nepans.org/)



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