



# FREEDOM AREA SCHOOL DISTRICT HEALTH SERVICES

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Dear Parent/Guardian:

Your child may have been exposed to STREP THROAT at school. We have had increased amounts of students out due to strep infection. Please watch your child for the symptoms which usually appear 2-5 days after exposure. Rashes are also being seen, even in the absence of a sore throat, and may indicate a strep infection. Children must be seen by a doctor and may need antibiotic treatment. For accurate diagnosis a throat culture needs to be taken and can take 2-3 days before a culture will show positive results. If antibiotic medication is prescribed for strep throat, your child needs to be on the medication for 24 hours before returning to school.

### **Common Signs and Symptoms:**

- Throat pain
- Difficulty swallowing
- Red and swollen tonsils, sometimes white patches or streaks of pus
- Swollen, tender lymph nodes in your neck
- Fever
- Headache
- Stomachache, sometimes vomiting

### **Atypical Signs and Symptoms:**

(please see reverse side for more detailed information)

- Behavioral changes
- Emotional changes
- Rash
- Anxiety attacks
- Gross motor tics

Our goal at Freedom is to keep you informed of any health issues and provide you with the best information to keep your child safe and healthy. Please contact the school health office with any questions or concerns.

Respectfully,

Emily Wendt, RN

Lori Vandenberg, LPN

# ***Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections***

## **What is PANDAS?**

PANDAS is a proposed kind of OCD that occurs in childhood following the body's reaction to infection. It is thought to be the body's immune reaction to infection, not the strep infection itself that causes symptoms. When an infection happens, the body's immune system makes a variety of proteins to help fight the bacteria. Some of these proteins are called antibodies and can be clinically measured. The exact way that causes the neuropsychiatric symptoms (OCD, tics, etc.) is not known. Other immune triggers have been also reported to worsen OCD and tics (like Lyme's disease, influenza, mycoplasma, etc.) and because the connection of the immune system to the neuropsychiatric symptoms is not fully understood, little is known about the best treatments (which may be different from other kinds of OCD treatment.) Currently, there are no scientifically approved evaluation and treatment protocols leaving clinicians and parents guessing at the best options for having these children assessed.

## **What causes PANDAS?**

The strep bacteria survives in its human host by hiding from the immune system as long as possible. It does this by putting molecules on its cell wall that look nearly identical to molecules found on the child's heart, joints, skin, and brain tissues. The mimicking allows the strep bacteria to avoid detection for a time. However, the molecules on the strep bacteria are eventually recognized as foreign to the body and the child's immune system reacts to them by producing antibodies. Due to this the antibodies react not only with the strep molecules, but also with the human host molecules that were mimicked. An immune reaction that "attacks" the mimicked molecules in the child's own tissues is triggered.

## **What are the symptoms of PANDAS?**

The diagnosis of PANDAS is a clinical diagnosis, which means that there are no lab tests that can diagnose PANDAS. Instead, clinicians use 5 diagnostic criteria for the diagnosis of PANDAS (see below). At the present time the clinical features of the illness are the only means of determining whether or not a child might have PANDAS.

The diagnostic criteria are:

- Presence of obsessive-compulsive disorder and/or a tic disorder
- Pediatric onset of symptoms (age 3 years to puberty)
- Episodic course of symptom severity
- Association with group A Beta-hemolytic streptococcal infection (a positive throat culture for strep or history of scarlet fever)
- Association with neurological abnormalities (physical hyperactivity, or unusual, jerky movements that are not in the child's control)
- Very abrupt onset or worsening of symptoms

If the symptoms have been present for more than a week, blood tests (antistreptococcal titers) may be done to document a preceding streptococcal infection.

## **What are the treatments for PANDAS?**

The best treatment for acute episodes of PANDAS is to treat the strep infection causing the symptoms (if it is still present) with antibiotics.

- A throat culture should be done to document the presence of strep bacteria in the throat.
- If the throat culture is positive, a single course of antibiotics will usually get rid of the strep infection and allow the PANDAS symptoms to subside.

If a properly obtained throat culture is negative, the clinician should make sure that the child doesn't have an occult strep infection, such as a sinus infection (often caused by strep bacteria) or strep bacteria infecting the anus, vagina, or urethral opening of the penis. Although the latter infections are rare, they have been reported to trigger PANDAS symptoms in some patients and can be particularly problematic because they will linger for longer periods of time and continue to provoke the production of cross-reactive antibodies. The strep bacteria can be harder to eradicate in the sinuses and other sites, so the course of antibiotic treatment may need to be longer than that used for strep throat.

