

What is PANS/PANDAS?



SEE YOUR CHILDREN
SHINE AGAIN

PANS (Pediatric Acute-onset Neuropsychiatric Syndrome) and **PANDAS** (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections) are types of infection-triggered autoimmune encephalopathies (AE) or basal ganglia encephalitis (BGE), which result in the onset of certain neurologic and/or psychiatric symptoms.

PANS/PANDAS can occur when the body's immune system malfunctions in response to an infection. Autoantibodies intended to fight the infection, mistakenly attack healthy proteins or receptors in the brain, such as those in the area known as the basal ganglia. This misdirected attack can lead to brain inflammation and disruption of normal cell functions and result in various neurologic and/or psychiatric symptoms.

Which infections can trigger PANS/PANDAS?

While PANDAS is triggered by an infection with Group A strep, PANS may be triggered by various other infections, or the trigger may be unknown. Infections that have been associated with the onset of PANS include: upper respiratory infections, such as rhinosinusitis, pharyngitis, or bronchitis, mycoplasma pneumoniae, influenza, Epstein Barr virus, Borrelia burgdorferi (Lyme disease), herpes simplex infection and varicella.

Note: Infections can be subclinical. That is, not producing outward physical symptoms. Yet the infection(s) can still induce an abnormal immune response, resulting in neurologic and/or psychiatric disturbances.

What are the symptoms of PANS/PANDAS?

PANS/PANDAS symptoms can vary from person to person, range in severity, and typically follow a relapsing/remitting course (symptoms can come and go and be more or less severe). Patients usually experience multiple symptoms.

Diagnosis and Treatment

PANS/PANDAS are diagnosed clinically and are considered "diagnoses of exclusion" after all other potential causes have been eliminated. However, the Cunningham Panel™ of tests can assist clinicians by providing laboratory evidence of an underlying autoimmune dysfunction and help in determining appropriate treatment strategies.

PANS Diagnostic Criteria: (As established by the PANDAS Physicians Network Consortium)

- An abrupt, acute, dramatic onset of OCD or severely restricted food intake
- Concurrent presence of additional neuropsychiatric symptoms with similarly severe and acute onset from at least 2 of the following categories: anxiety, emotional swings and/or depression, irritability, aggression, and/or severe oppositional behaviors, behavioral (developmental) regression, sudden deterioration in school performance, sensory or motor abnormalities, sleep disturbances, bed wetting or urinary frequency changes.
- Symptoms are not better explained by a known neurologic or medical disorder.
- No age requirement.

PANDAS Diagnostic Criteria: (As established by the PANDAS Physicians Network Consortium)

- Presence of OCD and/or tics
- Symptoms of the disorder first become evident between age 3 and puberty
- Acute onset and episodic (relapsing-remitting) course. Note: there have been cases of gradual symptom onset.
- Association with group A streptococcal (GAS) infection
- Association with neurological abnormalities

COMMON SYMPTOMS

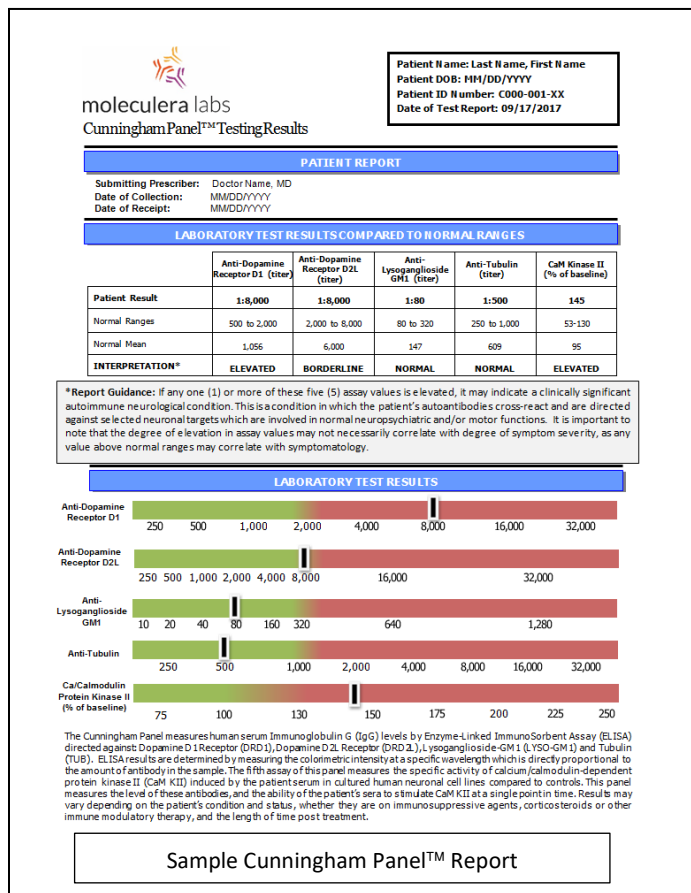
- | | |
|-------------------------|--------------------------|
| ○ Vocal Tics | ○ Depression |
| ○ Obsessions | ○ Impulsivity |
| ○ Motor Tics | ○ Changes in Handwriting |
| ○ Behavioral Regression | ○ Anorexia |
| ○ Compulsions | ○ Aggression |
| ○ Anxiety | ○ Sensory Abnormalities |
| ○ Irritability | ○ Emotional Swings |
| ○ Sleep Disturbances | |

The CUNNINGHAM PANEL™ An Autoimmune Encephalopathy and Basal Ganglia Encephalitis Panel (AE-BGE)

- The Cunningham Panel™ helps clinicians identify the autoimmune antibodies associated with PANDAS/PANS and the capability they have to stimulate and trigger neurologic behavior.
- The Cunningham Panel™ measures the level of autoantibodies circulating in the patient's bloodstream. Elevated levels indicate the likelihood that the patient's symptoms are autoimmune.
- This allows physicians to differentiate between a true psychiatric disorder and an infection-triggered autoimmune neuropsychiatric syndrome and consider appropriate treatment modalities.
- The distinction is important since treatment focuses on eradicating the infection(s) and addressing the autoimmune dysfunction.
- The Cunningham Panel™ is unique and based on over two decades of research. It is offered exclusively through Moleculera Labs, Inc. and has been utilized by clinicians worldwide.

To learn more about PANS/PANDAS and testing for these conditions, visit www.moleculeralabs.com, email customerservice@moleculera.com or call us at 405-239-5250.





Cost of The Cunningham Panel™

An Autoimmune Encephalopathy and
Basal Ganglia Encephalitis Panel (AE-GBE)

The cost of the Cunningham Panel™ of Tests is \$995.
Patients are responsible for the full cost of the panel.

Moleculera is the sole testing laboratory for the Cunningham Panel™. We are a very small organization but are committed to doing everything we can to ensure that all those truly in need can receive testing. At this time, we do not participate in any insurance or government sponsored plans. A deposit or full payment is due when the panel is ordered (see details below). If you are unable to pay the deposit or full price of the panel upfront or need to make payment arrangements, please contact our office and we will work with you on a case-by-case basis to find a payment arrangement that works for your family.

Patients covered by commercial insurance (through an employer group or individually purchased plan):

Moleculera does not participate in any insurance plans and is considered an "out-of-network" provider for all insurance companies. "Out-of-network" means that we do not accept

insurance discounts or allowables. **The full cost of \$995 is ultimately the patient's/responsible party's responsibility regardless of how insurance may process the claim.** It is the sole responsibility of the patient/responsible party to obtain all necessary insurance authorizations and know in advance what your plan will or will not cover prior to testing. **Moleculera Labs can file a claim on your behalf.** If you would like us to file your insurance, we require a \$495 deposit when the panel is ordered. If there is a balance due after your claim is processed, you will receive a billing statement for the amount due. **The balance due is responsibility of the patient/responsible party.** If there is a credit due after your claim is processed, we will issue a refund to the responsible party.

If you prefer to file the insurance claim yourself, payment of \$995 is required when the panel is ordered.

Patients who are covered by government sponsored insurance such as Medicaid, Medicare, TRICARE, etc.:

Moleculera does not participate in government sponsored plans, including those administered by a commercial insurance company such as Medicare Advantage Plans. **Patients covered by government sponsored plans must agree not to submit a claim for reimbursement from those entities.** Payment of \$995 is due when the panel is ordered.

Information to help families determine what their insurance benefits are for the Cunningham Panel™:

Moleculera Labs is currently unable to perform preauthorizations or verify insurance coverage for our panel. It is your responsibility as a patient or responsible party to obtain all necessary authorizations from your insurance company **prior to testing**. Please visit our website at www.moleculeralabs.com to find information to help you discuss coverage with your insurance company. Under the *Parent & Patient Resources* tab, click on the *Insurance Checklist* link. You will find procedure codes (CPT codes), information regarding diagnosis codes (ICD-10 codes), and a detailed script to guide your discussion with your insurance carrier.

Moleculera Labs is committed to helping patients in need of testing.

Please contact our office at 405-239-5250 with any questions.