Understanding PANS Flares: Clinical Course of Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS)



- Working definition for PANS patient classification
- Data from Stanford's Immune Behavioral Health Clinic
- 10-year longitudinal study of 264 patients (2012-2023)

Learning for therapists: Taking Science and Making It Accessible

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NS patient classification une Behavioral Health Clinic of 264 patients (2012-2023)

What Is PANS? Key Criteria and Definitions

PANS Criteria

- Abrupt, dramatic onset of OCD and/or eating restriction
- At least two additional neuropsychiatric symptoms
- Onset within 3–7 days (hyperacute/acute)



PANS-like Features

- Obsessive-compulsive symptoms and/or eating restriction
- At least two other symptoms
- Sub-acute onset or unclear documentation

What is the Standard of Medical and Psychological Care? Interventions and Management

Infection Control

Treat infections, clear
Group A strep, prevent
recurrence

Anti-Inflammatory Therapy

- NSAIDs first-line, corticosteroids if needed
- DMARDs for autoimmune conditions

Psychiatric Treatment

- CBT, ERP, SPACE, parent coaching
- SSRIs, antipsychotics, guanfacine

Antimicrobal Treatment

3-PRONGED PANS TREATMENT

Immunomodulatory Treatment Psychotherapy Treatment

Why Standardization of PANS and Flares Matters

Lacking biological markers PANS cannot be diagnosed through lab tests alone

Enhances communication Common language between clinicians

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Improves research quality Comparable cohorts across studies

Guides treatment decisions More precise intervention selections

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Patient Cohort and Clinical Presentation

264 Patients

Evaluated at Stanford IBH Clinic (2012–2023)

Age Range for Flare, PANS Criteria, First Appointment

Average 6.1–8.3 years at age of initial flare

8.5-9.7 years when met PANS criteria

9.7-11.4 age when first appointment at the Stanford IBH Clinic

Diverse Onset

51% met PANS criteria at initial flare, 24% after initial flare, 25% never met criteria

Demographics:

White 82.2% and 87.5% non-Hispanic 56.8% male, 43.2% female





What were the Overall PANS Classification Results?

Never met FULL criteria 25% Met Criteria AFTER initial flare 24%

Met PANS Criteria at initial flare 51%



What is the Proposed Clinical Course Classifications?

Single Flare One isolated episode Complete symptom resolution No recurrence

Persistent Course

Symptoms beyond 12 months Minimal recovery periods Chronic symptom burden

Relapsing-Remitting

Multiple discrete flares

ution Recovery intervals between

Variable symptom patterns

What is the Flare Definition?

Flare Definition -Abrupt/dramatic onset of neuropsychiatric symptoms and functional impairment



- Hyperacute Onset: within 3 days
- Acute Onset: within 3-7 days
- Exclusions: Not consider escalations of pain, fatigue, arthritis, or other inflammatory disease-related symptoms without Neuropsychiatric symptoms

• FLARE CATEGORIES- Agreed upon by parent and clinician

- not at or near pre-PANS baseline,
- significantly improved from flare,
- return to pre-PANS baseline

Clinical Course Patterns: Flare Duration and Frequency

Initial/Isolated Flare

Average duration: 3.7–4.1 months; Average age at initial flare: 6- 8 years 95% resolved within 1 year

Flare Series

Longer than isolated flares, especially in patients not meeting PANS criteria (up to 35 months)



Multiple Flares

77% had multiple flares within 5 years;43% had a flare lasting over 12 months

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Clinical Course Patterns: Five years AFTER Initial Flare

Clinical History N= 174

Patients who met PANS criteria at their initial flare, n=82.

• The current clinical courses of these patients were as follows: 11 (14%) were Single Flare, 6 (7%) were Primary Persistent, 61 (74%) were Relapsing Remitting, and 4 (5%) were Secondary Persistent.

Patients who met PANS criteria at a later flare, n= 51.

• The current clinical courses of these patients were as follows: 12 (14%) were Single Flare, 1 (2%) were Primary Persistent, 34 (66%) were Relapsing Remitting, and 4 (8%) were Secondary Persistent.

Patients who did not meet PANS criteria, n= 41.

• The current clinical courses of these patients were as follows: 13 (32%) were Single Flare, 5 (13%) were Primary Persistent, 15 (37%) were Relapse Remitting, and 8 (19%) were Secondary Persistent.

Study Limitations



Single Site, Specialized Clinic The specialized PANDAS/PANS clinic may see more severe or persistent PANS cases.



Retrospective Design Relies on previously collected clinical data and we need to expand on this information.



Small Sample Size

We need more families to learn more.



Clinical Implications & Future Directions

Early symptom monitoring Monitor even before full PANS criteria met

> Longitudinal monitoring Track disease trajectory over years



Biomarker correlation Link clinical course to biological indicators

> Multi-center validation Test framework across diverse populations

Proposed Phenotypic Classifications of PANS



One episode, recovery within 12 months

Symptoms persist beyond 12 months from initial flare

Multiple distinct flares with recovery intervals

Chronic symptoms after initial relapsing-remitting course

What are Key Takeaways and Future Directions?

Disease Monitoring

Vigilance for new neuropsychiatric symptoms is crucial in pediatric patients, especially those with autoimmune histories.

Refining Definitions

Standardizing flare and recovery criteria will improve diagnosis and management.

Collaborative Research

Ongoing data collection and symptom tracking are needed to distinguish disease patterns and outcomes.

Source: Masterson, E. E., Miles, K., Schlenk, N., Manko, C., Ma, M., Farhadian, B., Chang, K., Silverman, M., Thienemann, M., & Frankovich, J. (2025). Defining clinical course of patients evaluated for pediatric acute-onset neuropsychiatric syndrome (PANS): phenotypic classification based on 10 years of clinical data. Developmental Neuroscience, 1–33. https://doi.org/10.1159/000545598

What Assessment Tools and Symptom Tracking Were Used?



Neuropsychiatric Assessments

- CY-BOCS (OCD)
- YGTSS (Tics)
- MOAS (Aggression)

Functional & Caregiver Measures

• CIS, GIS, CBI, CGAS

Symptom Trajectories

• Track flare start/end, recovery, and residual symptoms

Thank you!

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> Angela Henry, LCSW www.angelahenrylcsw.com Karan Lamb, PsyD www.lambpsychservices.com

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