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## PANS: Stovetop Cookware or Chronic Mental Illness?

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**Statement of the Problem:** Pediatric Autoimmune Neuropsychiatric Syndrome, or PANS, is characterized by an abrupt onset of neuropsychiatric symptoms following a microbial infection. Whether PANS is a distinct form of more typical cases of OCD or tic disorder is controversial, and many experts doubt the existence of PANS. Two cases of PANS following Mycoplasma Pneumoniae infection- in the same family- inspired us to investigate the evidence in the literature for the existence of PANS and the evidence for a genetic component to susceptibility to PANS.

**Methodology and Theoretic Orientation:** We performed a literature search in PubMed and in UptoDate. We used the key words "PANS NOT PANDAS," to exclude PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infection) which is a related, but separate, diagnosis. Given the relatively small number of articles on PANS, we included all articles in the literature review. We analyzed the articles for evidence of the existence of PANS as a unique diagnosis, separate from other neuropsychiatric diagnoses. We also analyzed the articles for evidence of a genetic component to susceptibility to PANS.

**Findings:** Of the 29 articles on PANS, five articles presented clear evidence for the existence of PANS, and two articles addressed the genetic susceptibility to PANS. The remaining articles consisted of mainly of case reports and the treatment of PANS. The first group of five articles documented a unique constellation of neuropsychiatric symptoms, following a bacterial infection, that is not otherwise better described by any other medical nor neuropsychiatric disorder. The second group of two articles showed that there is significant autoimmunity in first degree relatives of patients with PANS, suggesting a genetic component to susceptibility.

**Conclusion and Significance:** While our literature review and case reports present convincing evidence for the existence and heritability of PANS, more, larger cohort studies are needed. In addition, it is crucial to increase visibility and awareness of PANS to pediatricians, child and adolescent psychiatrists, and psychologists. Delaying diagnosis and treatments in PANS portend a significantly worse prognosis.

### Biography

Katie Hoeveler, MD, started her medical career as a pediatrician in a hospital-based practice in San Diego, CA. She was drawn to the children with mental health challenges and became fascinated with brain pathology. Thus, she completed her Adult Psychiatry Residency and Child Psychiatry Fellowship as part of the Post Pediatric Portal Program at the Children's Hospital of Philadelphia and the University of Pennsylvania. She stayed on at CHOP as a Consult-Liaison Psychiatrist and then Medical Director of the brand new Medical Behavioral Unit. She was also an Assistant Professor of Clinical Psychiatry at the University of Pennsylvania. She started her private practice in June 2019 and is part of a group of distinguished psychologists. She has researched and given presentations on all aspects of child psychiatry including anxiety, depression, and ADHD.

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