

# The Effect of Atypical Antipsychotic Medications on Body Temperature in Patients with Prader-Willi Syndrome

---

Gregory L. Cherpes<sup>1</sup>, Jennifer Padden Elliott<sup>2</sup>, Khalid M. Kamal<sup>2</sup>, Elizabeth Bunk<sup>2</sup>, Megan Cockroft<sup>2</sup>, Rachel Marini<sup>2</sup>, Ashley Modany<sup>2</sup>, Ishveen Chopra<sup>2</sup>

*<sup>1</sup>The Children's Institute of Pittsburgh, <sup>2</sup>Duquesne University Mylan School of Pharmacy, Pittsburgh, PA*

**Introduction/Background:** Atypical antipsychotics (AAP) are often prescribed to treat behavioral and psychiatric disorders in patients with Prader-Willi syndrome (PWS). AAP use and PWS have both independently been associated with impaired thermoregulation; thus the study objective was to evaluate the effect of AAP on body temperature in patients with PWS.

**Methods:** A retrospective cohort study was conducted at The Children's Institute of Pittsburgh using the electronic medical records of all patients (n=540) admitted to the inpatient Prader-Willi Syndrome Program from March 2002 to May 2012. Pediatric and adult patients exposed to an AAP upon admission were matched based on age and gender to those not exposed to AAP, and mean temperatures as well as deviations from euthermia were assessed.

**Results/Discussion:** Mean body temperatures of pediatric patients (n=59) exposed to an AAP (97.61°F) were similar to that of pediatric patients (n=59) not exposed (97.86°F) (p=1.000). The same trend was observed in the adult population, with mean body temperatures of adult patients (n=78) exposed to an AAP (97.47°F) similar to those of adult patients (n=78) not exposed (97.67°F) (p=1.000). Hyperthermia ( $\geq 101^\circ\text{F}$ ) was not observed in any pediatric or adult patients. The frequency of hypothermia ( $\leq 95^\circ\text{F}$ ) was similar among both pediatric and adult AAP use groups, with 1 and 2 pediatric and adult patients not exposed to AAP, and 1 and 1 pediatric and adult patients exposed to AAP experiencing hypothermia, respectively.

**Conclusion:** Exposure to AAP upon admission did not have a significant impact on the mean body temperatures of pediatric and adult patients with PWS in this study. None of the patients experienced hyperthermia, and although rare, hypothermia was experienced at similar rates between adult and pediatric subjects, regardless of AAP exposure. The effect of AAP on body temperature in patients with PWS warrants further research.

Scientific Abstract  
Presented at the 27<sup>th</sup> PWSA (USA) Scientific Meeting  
November 2013