RESEARCH STUDY | Natural History Study of Individuals with Autism and Germline Heterozygous *PTEN* Mutations (IRB 15-174)

STUDY SNAPSHOT

Why was this study started?

- PHTS has been linked to approximately two percent of all ASD cases and to 17% of those with ASD and macrocephaly (abnormally large head size).
- It is important to understand if PHTS-related ASD is different than sporadic ASD (occurring in the general population) to help guide the earliest and most appropriate interventions.

What has this study found so far?

- PHTS-related ASD is a unique subgroup of the disorder that has specific features.
- Mouse models of PHTS-related ASD can help the researchers understand the molecular pathways (a series of actions among molecules in a cell) that lead to these specific features.

What other questions is this study aiming to answer?

- Do PTEN-ASD children have the same cancer risks as PHTS individuals without ASD?
- Do PTEN-ASD children have differences in other features (e.g., skin findings) compared to PHTS individuals without ASD?

What is next for this study?

- The study is currently enrolling patients for Phase II, which will investigate biomarkers (biological signs) of ASD and cancer in individuals with PHTS.

Can I or my child enroll in Phase II of this study?

- If you have questions about eligibility, please contact the PTEN clinical research team at pten@ccf.org.

Protocol #15-174 Narrative Description

Previous studies have suggested a link between autism and *PTEN* mutations. The purpose of this study is to learn more about the symptoms and characteristics of individuals with autism and *PTEN* mutations, with the goal of informing risk management guidelines. The researchers may also learn new things about the genetic, biochemical, cognitive and/or behavioral problems associated with autism and/or *PTEN* mutations that may help diagnosis and treatment of individuals in the future. Charis Eng, MD, PhD, is the principal investigator.

This study has a two-year duration and involves three onsite visits. Study assessments may include medical history/family history, physical exam, neurobehavioral/cognitive evaluations, questionnaires/interviews, blood sample(s), optional seizure tracking, and, if applicable, electroencephalogram (EEG).

This study was originally being conducted at four sites: Boston Children's Hospital, Cleveland Clinic, Stanford University and the University of California, Los Angeles. There currently are 108 patients enrolled.

The upcoming (second phase; "DSC II") phase will allow enrollment of anyone with a *PTEN* mutation above the age of 18 months and includes a fifth site, Cincinnati Children's Hospital.

Decision to participate is voluntary and may be withdrawn at any time. Assuming an individual meets the study criteria, enrollment involves giving consent over the phone or in person and providing medical records.

Individuals may not benefit directly from participation, but they will be provided information about their autism symptoms, adaptive functioning and cognitive test results for future educational and treatment planning.

If you have questions about eligibility, please contact the PTEN clinical research team at pten@ccf.org.