PEGS

Personalized Environment & Genes Study Newsletter

Powerful science for integrating genomic and environmental data to understand human health

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Message From Janet Hall, M.D., and Alison Motsinger-Reif, Ph.D.

Thank you for your continued participation! Your contribution to environmental health research is greatly appreciated.

PEGS hosted a virtual meeting on March 28, 2023, which included study updates and a Q&A session.

View the video recording found on the News & Updates page of the study website by visiting https://bit.ly/3TMxxOC.

Diabetes is a common diagnosis in PEGS participants

Nearly 10% of participants reported that they have diabetes.

There are three different types of diabetes: Type 1, Type 2, and gestational diabetes. With Type 1 diabetes, your body stops making insulin. Type 2 diabetes occurs when your body does not use insulin well. Gestational diabetes develops in pregnant women who never had diabetes before. While they are pregnant, their bodies cannot make enough insulin.[1]

Type 2 diabetes was the most common among PEGS participants. There are ways to prevent Type 2 diabetes that include eating healthy, managing stress, and regular physical activity.

Recent PEGS research also looked at risk factors for Type 2 diabetes using your survey responses and found that environmental exposures can be very important in diabetes risk.[2] We found associations between Type 2 diabetes and exposures, such as smoking, asbestos, and coal dust.[2]

These findings related to asbestos and coal dust exposures had not been seen before in other studies, which shows how important your participation is in this study!

If you have been diagnosed with diabetes, ask your physician if there is a CDC-recognized National Diabetes Prevention Program offered in your community or find one by visiting this link: https://www.cdc.gov/diabetes/prevention/find-a-program.html.

What does consenting to receive incidental findings mean?

You may remember being asked to sign a consent document for full sequencing of your DNA with an option to receive "incidental findings." These are DNA differences, or variants, that may increase a person's chances to develop a treatable or preventable health condition. Only a small number of PEGS participants may have an incidental DNA finding.

Over the last two years, PEGS has been working with participants to share these findings so that they can get the care they need to improve their health. For example, several PEGS participants have a gene variant that causes high cholesterol. People who know this information can get specific treatments that work very well.

If you consent to receive incidental findings, please know that:

- PEGS has a genetic counselor who can talk to you. This person can help make sense of your incidental findings and help you figure out what to do next.
- Information like this can give you the power to take control of your own health.
- We will only contact you about actionable gene variants. An actionable variant is one where there are specific, defined medical recommendations for people that have the variant.
- Some findings could possibly affect your close relatives or your children. It may help to know this information so your family can be screened early for these actionable conditions and look for early medical care.

Protecting your data is important to us! We use many safety measures to protect your data and identity.

- We have a Certificate of Confidentiality from the NIH. This legally allows PEGS to refuse to give your personal information and study data to organizations that are not related to the study. This includes insurance companies, employers, and others.
- We do not include information that could identify participants when a research study is published in a science journal.
- All data is stored in secure data centers that must follow federal security requirements.

References:

1. https://www.cdc.gov/diabetes/basics/diabetes.html

2. Akhtari FS, Lloyd D, Burkholder A, Tong X, House JS, Lee EY, Buse J, Schurman SH, Fargo DC, Schmitt CP, Hall J, Motsinger-Reif AA. Questionnaire-Based Polyexposure Assessment Outperforms Polygenic Scores for Classification of Type 2 Diabetes in a Multiancestry Cohort. Diabetes Care. 2022 Nov 16:dc220295. Epub ahead of print. PMID: 36383734.

For more information:

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Visit our website: **https://niehs.nih.gov/research/clinical/studies/pegs**

Please add our email address to your contact list to stay up to date on study progress: niehs-pegs-info@nih.gov