**CURRICULUM VITAE**

**KATHLEEN C. WAUGH**

***PERSONAL HISTORY***

Current Position: Senior Professional Research Assistant

Barbara Davis Center for Diabetes

Department of Pediatrics, School of Medicine

Work Address: University of Colorado Anschutz Medical Campus

1775 Aurora Court Campus Box F527

Aurora CO 80045

Phone: (303) 724-7546

FAX: (303) 724-7530

Email: [kathleen.waugh@ucdenver.edu](mailto:kathleen.waugh@ucdenver.edu)

Birth: Mokena, IL

Marital Status: Married, 1989; Michael A. Waugh

Children: Ethan M. Waugh, Dylan R. Waugh

***EDUCATION***

2014 M.S. Epidemiology, University of Colorado Denver

Thesis: "Perinatal Factors and Childhood Adiposity: the EPOCH Study"

1987 B.S. Zoology, University of Wisconsin-Madison

1983 Franklin H.S., Franklin, WI Diploma

***ACADEMIC APPOINTMENTS AND POSITIONS***

2012-Present Senior Professional Research Assistant, DAISY Study Coordinator: Barbara Davis Center, Dept. of Pediatrics, School of Medicine, University of Colorado, Anschutz Medical Campus

2008-Present Senior Professional Research Assistant, Clinical Research Laboratory Manager: Barbara Davis Center, Dept. of Pediatrics, School of Medicine, University of Colorado, Anschutz Medical Campus

2004-2014 Professional Research Assistant, Clinical Research Laboratory Coordinator: TEDDY Study, DAISY Study, Barbara Davis Center, Dept. of Pediatrics, School of Medicine, University of Colorado, Anschutz Medical Campus

***PROFESSIONAL EXPERIENCE***

Current Positions

**Senior Professional Research Assistant:** Barbara Davis Center, Dept. of Pediatrics, School of Medicine

* Study manager for clinical research study, Diabetes Autoimmunity Study in the Young (DAISY), an NIH funded prospective cohort study (Started 1/1/1994). Responsible for collaborating with Principal and Co-Investigators for protocol development and updates and budget management. Conduct oversight of continuing reviews to COMIRB and ensure implementation of and compliance to the clinical and laboratory protocols. Oversight of database management, ensure data integrity, dataset development, and descriptive data analysis. Responsible for sample project communications and coordination as well as the receipt, import and organization of analysis results. Partner with investigators to develop study aims, proposals, and manuscripts. Coordinate with other ongoing clinical research studies to manage staffing and schedules so that all studies are appropriately supported efficiently and effectively.
* Clinical Research Laboratory Manager for the Barbara Davis Center for Diabetes.
  + Responsible for ensuring that all clinical research studies have the laboratory support that they require-bench space, storage space, equipment, and other resources.
  + Ensure all laboratory staff are appropriately trained, and are compliant with university requirements, OSHA regulations and CLIA regulations.
  + Technical Supervisor and primary coordinator for CLIA Compliance Certification for the BDC Clinical Research Laboratory and Autoimmunity Laboratory. Responsible for documentation of staff training, equipment operations, quality control procedures, and corrective actions.
  + Laboratory Supervisor for multiple clinical research studies: ASK Program (started 9/1/2016), TEDDY Study (started 1/1/2004), and DAISY Study (started 1/1/1994). Hiring of staff, oversight and documentation of training, oversight and evaluation of lab protocols and procedures, conduct intermittent and annual staff evaluations. Support laboratory coordinators, providing resources to conduct laboratory protocols. Direct supervision for sample pull projects: sample set creation, sample pull lists, aliquotting and organization of samples, communication and coordination with collaborating institution for samples preparation and shipping.
* Investigator for TEDDY and ASK and the DAISY studies: Work with study leadership, other investigators and scientific committees to develop and implement protocols, data analysis, and manuscript concepts.

Past Positions

**Professional Research Assistant (2004-2009):** Barbara Davis Center, Dept. of Pediatrics, School of Medicine

* Laboratory Coordinator for the TEDDY Study and DAISY Study-responsible for protocol development, implementation, and oversight of laboratory protocols and procedures required for biological sample processing, storage, and recording. Hiring, training, oversight of laboratory staff involved in these studies, ensuring compliance to research laboratory regulations and standards as well as compliance to study protocol requirements.

**Professional Research Assistant (1998-2001):** University of Colorado Denver, Dept. of Endocrinology & Metabolism, School of Medicine

* Assisted post-doctoral fellow with research investigating the role of lipoprotein lipase in nerve repair and regeneration in a rat model, including animal care, tissue RNA isolation and preparation, immunohistochemistry assays and general laboratory tasks.

**Professional Research Assistant (1997-1998):** Cadus Pharmaceutical Corporation, Drug Discovery Division, Lakewood, Colorado

* Development of high-throughput systems and processes for drug discovery technologies related to cell-signaling pathways, evaluating serial titrations of candidate drugs and analyzing the effectiveness to block or enhance cell-signaling pathways, in vitro, in multiple highly characterized cell culture lines.

**Professional Research Assistant (1992-1996):** Eccles Institute of Human Genetics, Human Molecular Biology and Genetics Program, University of Utah, Salt Lake City, UT

* Laboratory Manager-Assisted newly appointed tenure-track investigator with the start-up and setup of the laboratory and research protocols specific to in vitro investigation of mutations in the cholesterol metabolism pathway. Responsible for maintenance and operation of equipment and research lab space: wet lab and sterile tissue culture lab.

**Professional Research Assistant (1988-1992):** University of Texas Southwestern Medical Center, Dept. of Molecular Genetics, Dallas, TX

* Utilizing an animal model, identifying and sequencing, restriction fragment length polymorphisms of the amylin gene, to investigate its potential role in the development of type 2 diabetes. Support for multiple investigators, post-doctoral fellows, and graduate students, synthesizing customized oligonucleotides, DNA sequencing, RNA purification, and general laboratory operation and maintenance.

***SERVICE ACTIVITIES***

***Barbara Davis Center***

2017 Coordinator, Autoimmunity Studies Conference, Feb 9-10. 2017, Golden CO

2016-Present Member, BDC Research Freezer Space Committee

2012-Present Biannual Biosafety Training Presentations: Laboratory and Clinical Research Staff

***Community Volunteer***

2015-Present Catechist, Ave Maria Catholic Parish RCIA Team

2014-Present Food Pantry Volunteer, Catholic Charities of Colorado Springs

2010- 2013 Co-chair, Legend High School Men’s Soccer Booster Club

***GRANT SUPPORT***

# Active Grants

2004-Present Title: Natural History of Pre-Diabetic Autoimmunity (DAISY Study)

Funding Source: NIH, NIDDK/NIAID R01 DK32493

Dates and Status: 01/1992-4/30/20-Ongoing

Principal Investigator: Marian Rewers, MD, PhD

Role: Study Coordinator (2012-present)

Laboratory Supervisor (2004-present)

Data Management Team Supervisor (2014-present)

To determine age-specific incidence of islet autoimmunity, environmental and genetic risk factors, and determinants of progression to diabetes.

DAISY Ancillary Studies:

Jan. 2015-Present IVY’Omics: Nutrigenetics and Genomics in Type 1 Diabetes

Principal Investigator: Jill Norris, PhD

Role: Laboratory and Data Management

May 2017-Present Immune Biomarkers in Type 1 Diabetes and Other Autoimmune Diseases

Principal Investigator: Aaron Michels, MD

Role: Study Coordinator for DAISY cohort

August 2017-Present JDRF/IBM Watson Type 1 Diabetes Project

Principal Investigator: Marian Rewers, MD, PhD

Role: Study Coordinator and Data Management

2004-Present Title: Environmental Causes of Type 1 Diabetes (TEDDY Study)

Funding Source: NIH, Diabetes, Digestive and Kidney Disease: U01-DK06382103

Dates and Status: 01/03-4/30/18-Ongoing

Principal Investigator: Marian Rewers, MD, PhD

Role: Laboratory Supervisor

Co-Chair Laboratory Implementation Committee

Member Coordinator Committee

Member of Infectious Agents Committee

The primary objectives of this multi-national, multi-center epidemiological study are to identify infectious agents, dietary factors, and other environmental exposures that are associated with increased risk of autoimmunity and Type 1 diabetes in a cohort of newborns found to have high risk HLA genotypes or who have a family history of T1DM.

2016-Present Title: Autoimmunity Screening for Kids (ASK) Program

Funding Source: JDRF International, The Leona M. and Harry B. Helmsley Charitable Trust, and Janssen Research & Development, LLC.

Dates and Status: 09/16-11/20-Ongoing

Principal Investigator: Marian Rewers, MD, PhD

Role: Laboratory Supervisor

Data Management Team Supervisor

The primary objectives of this program are to 1) develop/implement a large scale screening program for children 2-17 to assess autoantibodies for T1D and celiac disease; 2) develop/implement a follow-up education and monitoring program designed to prevent DKA for those found to be positive for T1D autoantibodies; 3) to increase the understanding and awareness of T1D in the general public and practice communities; and 4) to assess the cost effectiveness of general population screening.

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**PUBLICATIONS**

Metherall JE, **Waugh K**, Li H (1996) Progesterone Inhibits Cholesterol Biosynthesis: Accumulation of Sterol Precursors *J. Biol. Chem*. 271, 2627-2633.

Metherall JE, Li H, **Waugh K** (1996) Role of Multidrug Resistance (MDR) P-Glycoproteins in Cholesterol Biosynthesis. *J. Biol. Chem.* 271, 2634-2640.

Huey PU, **Waugh KC**, Etienne J, Eckel RH (2002) Lipoprotein lipase is expressed in rat sciatic nerve and regulated in response to crush injury. *J Lipid Res.* 43 (1):19-25.

Alkanani AK, Rewers M, Dong F, **Waugh K**, Gottlieb PA, Zipris D (2012) Dysregulated Toll-like receptor-induced interleukin-1β and interleukin-6 responses in subjects at risk for the development of type 1 diabetes. *Diabetes.* 61 (10):2525-33.

Gesualdo PD, Bautista KA, **Waugh KC**, Yu L, Norris JM, Rewers MJ, Baxter J (2016) Feasibility of screening for T1D and celiac disease in a pediatric clinic setting. *Pediatr Diabetes.* 17(6):441-8.

Steck AK, Dong F, **Waugh K**, Frohnert BI, Yu L, Norris JM, Rewers MJ (2016) Predictors of slow progression to diabetes in children with multiple islet autoantibodies. *J Autoimmun.* 72:113-7.

Liu CW, Bramer L, Webb-Robertson BJ, **Waugh K**, Rewers MJ, Zhang Q (2017) Temporal profiles of plasma proteome during childhood development. *J Proteomics.* 152:321-328.

Zhao Z, Miao D, **Waugh K**, Taki I, Dong F, Liu E, Rewers M, Liu Y, Yu L (2016) Higher Sensitivity and Earlier Identification of Celiac Disease Autoimmunity by a Nonradioactive Assay for Transglutaminase Autoantibodies. *J Immunol Res.* 20:2904563.

**Waugh K**, Snell-Bergeon J, Michels A, Dong F, Steck AK, Frohnert BI, Norris JM, Rewers M (2017) Increased inflammation is associated with islet autoimmunity and type 1 diabetes in the Diabetes Autoimmunity Study in the Young (DAISY). *PLoS One.* 12(4):e0174840.

Liu CW, Bramer L, Webb-Robertson BJ, **Waugh K**, Rewers MJ, Zhang Q (2018) Temporal expression profiling of plasma proteins reveals oxidative stress in early stages of Type 1 Diabetes progression. *J Proteomics.*172:100-110.

Steck AK, Dong F, Frohnert BI, **Waugh K**, Hoffman M, Norris JM, Rewers MJ (2018) Predicting progression to diabetes in islet autoantibody positive children. *J Autoimmun.* 90:59-63.

**presentations & posters**

Gesualdo P, Ide L, Barriga K, **Waugh K**, Rewers M, Baxter J for the TEDDY Study Group, 26th Epidemiologic Research Exchange, Denver, CO, USA: April 2008. Enrollment, retention, and compliance challenges in an intensive long-term prospective study: The Environmental Determinants of Diabetes in the Young (TEDDY) Study.

Blair A, Ide L, Nallamshetty L, Alejandrino M, Bogale M, Baxter J**,** **Waugh K**, Bugawan TL, Rewers M, Erlich HA and the TEDDY Study Group, The Environmental Determinants of Diabetes in the Young (TEDDY): Denver, Colorado, 34th Annual Meeting of the American Society for Histocompatibility and Immunogenetics, Toronto Canada: October 2008.

**Waugh K**, Rewers M, Norris J, Barriga K, Snell-Bergeon J, Lower Physical Activity in Children with Islet Autoimmunity: The Diabetes Autoimmunity Study in the Young (DAISY), Oral Presentation American Diabetes Association 73rd Scientific Sessions, June 21-25, 2013, Chicago, IL.

**Waugh K**, Snell-Bergeon J, Dong F, Taki I, Hoffman M, Rewers J, Increased Inflammation is Associated with Islet Autoimmunity and Type 1 Diabetes in Diabetes Autoimmunity Study in the Young (DAISY), Poster Presentation American Diabetes Association 73rd Scientific Sessions, June 21-25, 2013, Chicago, IL.

**Waugh K**, Crume T, Snell-Bergeon J, Dabelea D, Perinatal Factors and Childhood Obesity: the EPOCH Study, Poster Presentation American Diabetes Association 74th Scientific Sessions, June 13-17, 2014, San Francisco, CA.

Gesualdo, P, Bautista K, **Waugh, K**, Yu, L, Norris, J, Rewers, M, Baxter. Feasibility of Screening for Type 1 Diabetes and Celiac Disease in a Pediatric Clinic Setting. Poster Presentation American Diabetes Association 75th Scientific Sessions, June 5-9, 2015, Boston, MA.

Steck A, Dong F, **Waugh K**, Yu L, Norris J, Rewers M, Predictors of Slow Progression to Diabetes in Children with Multiple Islet Autoanitbodies, Poster Presentation American Diabetes Association 75th Scientific Sessions, June 5-9, 2015, Boston, MA.

Johnson R, Zhao Z, Dong F, Seifert J, **Waugh K**, Frohnert B, Yu L, Rewers M, Norris J, Investigating Vitamin D Binding Protein Autoantibody and Type 1 Diabetes: The Diabetes Autoimmunity Study in the Young (DAISY), Poster Presentation American Diabetes Association 76th Scientific Sessions, June 10-14, 2016, New Orleans, LA.

Frohnert B, Webb-Robertson B, Bramer L, Reehl S, **Waugh K**, Steck A, Norris J, Rewers M, Prediction of Islet Autoimmunity and Type 1 Diabetes Using Integrative Bayesian Modeling of Omics Data, Poster Presentation American Diabetes Association 76th Scientific Sessions, June 10-14, 2016, New Orleans, LA.

Steck A, Dong F, Frohnert B, **Waugh K**, Hoffman M, Norris J, Rewers M, Prediction Progression to Diabetes in Islet-Autoantibody-Positive Children, Poster Presentation American Diabetes Association 77th Scientific Sessions, June 9-13, 2017, San Diego, CA.

Geno Rasmussen C, Rewers M, Baxter J, **Waugh K**, Steck A, Frohnert B, Yu L, Liu E, Population Screening for T1D and Celiac Disease-Autoimmunity Screening for Kids (ASK) Oral Presentation American Diabetes Association 78th Scientific Sessions, June 22-26, 2018, Orlando, FL.

Lund-Blix N, Dong F, Marild K, Baron A, Seifert J, **Waugh K**, Joner G, Stordal K, Tapia G, Stene L, Johnson R, Rewers M, Norris J, Gluten Intake and Risk of Islet Autoimmunity and Progression to Type 1 Diabetes in Children at increased Risk of Disease, Oral Presentation American Diabetes Association 78th Scientific Sessions, June 22-26, 2018, Orlando, FL.

**cerifications**

Certified in Phlebotomy-Phlebotomy Learning Center of Denver, 2008

Certified in CITI/Human Research/HIPS and Good Clinical Practice