Curriculum Vitae for Louise Groth Grunnet MSc. PhD

Personal data

Born:	April 17th, 1977
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Personal Statement

For the last 6 years I have been project manager responsible for the clinical examinations in a research program investigating the long-term effects of gestational diabetes for both mothers and offspring – a project in collaboration with researchers at Statens Serum Institut, the National Institute of Child Health and Disease (NICHD) and the Harvard School of Public Health, funded by NIH. Through this project I have gained strong experiences in planning, execution and finalisation of human metabolic studies. The involvement of many study sites and national and international partners in this project have taught me the power of collaboration and the essential role of communication herein.

During the last 14 years I have been working with obesity, prediabetes, gestational diabetes and anemia trying to understand the pathophysiology behind and the transgenerational impact. During these years I have gained experience in a wide range of methods including in vivo and in vitro metabolic studies, initiating human metabolic studies and experience within the field of epidemiology, integrative physiology and genetic studies.

I have brought together and transferred experiences from our Danish human studies to a more rural setting in a developing country (India) and am currently involved in a research project in Tanzania, focusing on the role of anaemia in early life for non-communicable diseases in later life.

In March 2011 our research group moved from Steno diabetes center to Rigshospitalet and I was a main driver in establishing the new research group and was daily leader for the epidemiology group focusing on diabetes in pregnancy and the consequences hereof. In 2016 Allan Vaag (the former head of the group) left and a colleague and I took over the responsibility and successfully carried on the group.

I have supervised several master students and 2 PhD students.

Education

2011	PhD. Faculty of Health Sciences, University of Copenhagen. Origin of obesity and type 2 diabetes – thrifty phenotype versus thrifty genotype".
2004	MSc. Biology, University of Copenhagen, Denmark.
2000-2001	Student at the University of Edinburgh.

Employments

2012-present	Postdoc at Rigshospitalet, Diabetes and Metabolism
2015	Maternity leave
2011/2012	Research Assistant at Rigshospitalet, Diabetes and Metabolism
2010	Research Assistant, Steno Diabetes Center
2009	Maternity leave
2006	Maternity leave
2005-2010	University of Copenhagen, International Health, Denmark. Ph.D student
2005	Steno Diabetes Center, Gentofte, Denmark. Research Fellow.
2003-2004	Steno Diabetes Center, Gentofte, Denmark. Master Student

Teaching experience

From 2014 to present I have taught students at both master and PhD level. In addition, I have disseminated our research knowledge and communication to the general public community by letters to "BestPractise" and Diabetesforeningen and through P1.

Academic advisor from 2005-2018

Co-advisor for 2 PhD students (1 passed in March 2018 and one ongoing) and for 10 MSc Students who all passed.

Personal grants

Personal Post Doc grant from Rigshospitalet, Denmark 2012, travel grants Lundbeck and Rigshospitalet and personal Post Doc grant from The Danish Diabetes Academy. Furthermore, I have been a key person in obtaining research grants with Allan Vaag as PI and been a co-investigator on research funding achieved together with Professor Peter Damm, Rigshospitalet.

Review activities

Reviewed several articles in international journals and done one PhD assessment.

Other:

2014	Certification in "Post. Doc. Research Leadership" – Danish Diabetes Academy and CBS Executive
2012-2016	Project Manager for the Danish part of the Diabetes &Women's Health study. A Cooperation with Harvard School of Public Health, Boston.
2012	"Introduction to University Teaching" (1. del af Adjunktpædagogikum)
2011-	Daily leader of the Epidemiology-group (dept. of Diabetes and Metabolism)
2007-2010	Partly responsible for setting up a metabolic study in India, including theoretical and practical teaching.

Peer reviewed Publications

H-index: 19 (estimated from web of science)

1. Fish Intake in Pregnancy and Offspring Metabolic Parameters at Age 9⁻16-Does Gestational Diabetes Modify the Risk?
   Maslova E, Hansen S, Strøm M, Halldorsson TI, **Grunnet LG**, Vaag AA, Olsen SF.
   Nutrients. 2018 Oct 17;10(10).

2. Risk factors of pre-hypertension and hypertension among non-pregnant women of reproductive age in northeastern Tanzania: a community based cross-sectional study.
   Msemo OA, Schmiegelow C, Nielsen BB, Kousholt H, **Grunnet LG**, Christensen DL, Lusingu JPA, Møller SL, Kavishe RA, Minja DTR, Bygbjerg IC. Trop Med Int Health. 2018 Oct 2

3. Maternal glycemic index and glycemic load in pregnancy and offspring metabolic health in childhood and adolescence-a cohort study of 68,471 mother-offspring dyads from the Danish National Birth Cohort.
   Maslova E, Hansen S, **Grunnet LG**, Strøm M, Bjerregaard AA, Hjort L, Kampmann FB, Madsen CM, Thuesen ACB, Bech BH, Halldorsson TI, Vaag AA, Zhang C, Olsen SF.
   Eur J Clin Nutr. 2018 Sep 24.

4. Gestational diabetes and maternal obesity are associated with epigenome-wide methylation changes in children. Hjort L, Martino D, **Grunnet LG**, Naeem H, Maksimovic J, Olsson AH, Zhang C, Ling C, Olsen SF, Saffery R, Vaag AA. JCI Insight. 2018 Sep 6;3(17).

5. Lactation Duration and Long-Term Thyroid Function: A Study among Women with Gestational Diabetes. Panuganti PL, Hinkle SN, Rawal S, **Grunnet LG**, Lin Y, Liu A, Thuesen ACB, Ley SH, Olesen SF, Zhang C.Nutrients. 2018 Jul 21;10(7).

6. Genetic variants of gestational diabetes mellitus: a study of 112 SNPs among 8722 women in two independent populations. Ding M, Chavarro J, Olsen S, Lin Y, Ley SH, Bao W, Rawal S, **Grunnet LG**, Thuesen ACB, Mills JL, Yeung E, Hinkle SN, Zhang W, Vaag A, Liu A, Hu FB, Zhang C. Diabetologia. 2018 Aug;61(8):1758-1768.

7. Gestational Diabetes Mellitus and Renal Function: A Prospective Study With 9- to 16-Year Follow-up After Pregnancy.
   Rawal S, Olsen SF, **Grunnet LG**, Ma RC, Hinkle SN, Granström C, Wu J, Yeung E, Mills JL, Zhu Y, Bao W, Ley SH, Hu FB, Damm P, Vaag A, Tsai MY, Zhang C.
   Diabetes Care. 2018 Jul;41(7):1378-1384.

8. Hjort L, Vryer R, **Grunnet LG**, Burgner D, Olsen SF, Saffery R, Vaag A. Telomere length is reduced in 9- to 16-year-old girls exposed to gestational diabetes in utero. Diabetologia. 2018 Apr;61(4):870-880

9. **Grunnet LG**, Hansen S, Hjort L, Madsen CM, Kampmann FB, Thuesen ACB, Granstrømi C, Strøm M, Maslova E, Frikke-Schmidt R, Damm P, Chavarro JE, Hu FB, Olsen SF, Vaag A. Adiposity, Dysmetabolic Traits, and Earlier Onset of Female

Puberty in Adolescent Offspring of Women With Gestational Diabetes Mellitus: A Clinical Study Within the Danish National Birth Cohort. *Diabetes Care*. 2017 Dec;40(12):1746-1755

10. Maslova E, Hansen S, **Grunnet LG**, Strøm M, Bjerregaard AA, Hjort L, Kampmann FB, Madsen CM, Baun Thuesen AC, Bech BH, Halldorsson TI, Vaag AA, Olsen SF. Maternal protein intake in pregnancy and offspring metabolic health at age 9-16 y: results from a Danish cohort of gestational diabetes mellitus pregnancies and controls. *Am J Clin Nutr*. 2017 Aug;106(2):623-636

11. Zhu Y, Olsen SF, Mendola P, Halldorsson TI, Rawal S, Hinkle SN, Yeung EH, Chavarro JE, **Grunnet LG**, Granström C, Bjerregaard AA, Hu FB, Zhang C. Maternal consumption of artificially sweetened beverages during pregnancy, and offspring growth through 7 years of age: a prospective cohort study. *Int J Epidemiol*. 2017 Oct 1;46(5):1499-1508

12. Charlotte Brøns & **Louise Groth Grunnet**. Skeletal muscle lipotoxicity in insulin resistance and type 2 diabetes. A causal mechanism or an innocent bystander ? Eur J Endocrinol. 2017 Feb;176(2):R67-R78 Müller AC, Jakobsen MA, Barington T, Vaag AA, **Grunnet LG**, Olsen SF, Kamper-Jørgensen M. Microchimerism of male origin in a cohort of Danish girls. Chimerism. 2016 Aug 11:1-7.

13. L. Grinder-Hansen, R Ribel-Madsen, J F. P. Wojtaszewski, P. Poulsen, **L. Groth Grunnet**, A.Vaag·Common variation of the *PTEN* gene is associated with peripheral insulin resistance. Diabetes & Metabolism 2016 Sep;42(4):280-4.

14. Zhu Y, Olsen SF, Mendola P, Yeung EH, Vaag A, Bowers K, Liu A, Bao W, Li S, Madsen C, **Grunnet LG**, Granström C, Hansen S, Martin K, Chavarro JE, Hu FB, Langhoff-Roos J, Damm P, Zhang C. Growth and obesity through the first 7 y of life in association with levels of maternal glycemia during pregnancy: a prospective cohort study. Am J Clin Nutr. 2016 Mar;103(3):794-800.

15. Gillberg L, Perfilyev A, Brøns C, Thomasen M, **Grunnet LG**, Volkov P, Rosqvist F, Iggman D, Dahlman I, Risérus U, Rönn T, Nilsson E, Vaag A, Ling C. Adipose tissue transcriptomics and epigenomics in low birthweight men and controls: role of high-fat overfeeding. Diabetologia. 2016 Apr;59(4):799-812.

16. Livingstone RS, **Grunnet LG**, Thomas N, Eapen A, Antonisamy B, Mohan VR, Spurgeon R, Frank ID, Bygbjerg IC, Vaag A. Are hepatic and soleus lipid content, assessed by magnetic resonance spectroscopy, associated with low birth weight or insulin resistance in a rural Indian population of healthy young men? Diabet Med. 2016 Mar;33(3):365-70.

17. Bao W, Yeung E, Tobias DK, Hu FB, Vaag AA, Chavarro JE, Mills JL, **Grunnet LG**, Bowers K, Ley SH, Kiely M, Olsen SF, Zhang C. Long-term risk of type 2 diabetes mellitus in relation to BMI and weight change among women with a history of gestational diabetes mellitus: a prospective cohort study. Diabetologia. 2015 Jun;58(6):1212-9.

18. Madsen C, Mogensen P, Thomas N, Christensen DL, Bygbjerg IC, Mohan V, Inbakumari M, Nadig SV, Alex R, Geetanjali FS, Westgate K, Brage S, Vaag A, **Grunnet LG.** Effects of an outdoor bicycle-based intervention in healthy rural Indian men with normal and low birth weight. J Dev Orig Health Dis. 2014 Dec 17:1-11.

19. Bork-Jensen J, Scheele C, Christophersen DV, Nilsson E, Friedrichsen M, Fernandez-Twinn DS, **Grunnet LG**, Litman T, Holmstrøm K, Vind B, Højlund K, Beck-Nielsen H, Wojtaszewski J, Ozanne SE, Pedersen BK, Poulsen P, Vaag A. Glucose tolerance is associated with differential expression of microRNAs in skeletal muscle: results from studies of twins with and without type 2 diabetes. Diabetologia. 2014 Nov 19.

20. Vaag A, Brøns C, Gillberg L, Hansen NS, Hjort L, Arora GP, Thomas N, Broholm C, Ribel-Madsen R, **Grunnet LG**. Genetic, nongenetic and epigenetic risk determinants in developmental programming of type 2 diabetes. Acta Obstet Gynecol Scand. 2014 Nov;93(11):1099-108.

21. Bork-Jensen J, Thuesen AC, Bang-Bertelsen CH, **Grunnet LG,** Pociot F, Beck-Nielsen H, Ozanne SE, Poulsen P, Vaag A. Genetic versus Non-Genetic Regulation of miR-103, miR-143 and miR-483-3p Expression in Adipose Tissue and Their Metabolic Implications-A Twin Study. Genes (Basel). 2014 Jul 9;5(3):508-17.

22. Bao W, Tobias DK, Bowers K, Chavarro J, Vaag A, **Grunnet LG,** Strøm M, Mills J, Liu A, Kiely M, Zhang C. Physical activity and sedentary behaviors associated with risk of progression from gestational diabetes mellitus to type 2 diabetes mellitus: a prospective cohort study. JAMA Intern Med. 2014 Jul 1;174(7):1047-55.

23. Zhang C, Hu FB, Olsen SF, Vaag A, Gore-Langton R, Chavarro JE, Bao W, Yeung E, Bowers K, **Grunnet LG**, Sherman S, Kiely M, Strøm M, Hansen S, Liu A, Mills J, Fan R; the DWH study team. Rationale, design, and method of the Diabetes & Women's Health study - a study of long-term health implications of glucose intolerance in pregnancy and their determinants. Acta Obstet Gynecol Scand. 2014 May 14

24. **Grunnet LG**, Laurila E, Hansson O, Almgren P, Groop L, Brøns C, Poulsen P, Vaag. The Triglyceride content in skeletal muscle is associated with hepatic but not peripheral insulin resistance in elderly twins. J Clin Endocrinol Metab. 2012 Dec;97(12):4571-7.

25. A.Vaag, **L.G. Grunnet**, GP. Arora, C. Brøns. The Thrifty Phenotype Hypothesis Revisited. *Diabetologia.* 2012 Aug;55(8):2085-8.

26. Thomas N*, **Grunnet LG***, Poulsen P, Christopher S, Spurgeon R, Inbakumari M, Livingstone RS, Alex R, Mohan VR, Antonisamy B, Geethanjali F, Karol R, Vaag A, Bygbjerg I. Born With low Birth Weight in Rural Southern India – What Are the Metabolic Consequences 20 Years Later? *Eur J Endocrinol* 16 Jan 2012.

27. Impact of circulating vaspin levels on metabolic variables in elderly twins. Hida K, Poulsen P, Teshigawara S, Nilsson E, Friedrichsen M, Ribel-Madsen R, **Grunnet L**, Lund SS, Wada J, Vaag A. Diabetologia. 2012 Feb;55(2):530-2.

28. Pilgaard, K, Hammershaimb M.T, **Grunnet L**, Eiberg H, Van Hall G, Fallentin E, Larsen T, Poulsen P, Vaag A. Differential Nongenetic impact of Birth Weight Versus Third-Trimester Growth Velocity on Glucose Metabolism and Magnetic Resonace Imaging Abdominal Obesity in Young Healthy Twins. *J Clin Endocrinology Metab*. Sep;96(9):2835-43, 2011.

29. Friedrichsen M; Ribel-Madsen R; Wojtaszewski J; **Grunnet L**; Richter EA; Billestrup N; Ploug T;Vaag A; Poulsen P. Dissociation between skeletal muscle inhibitor-kappaB kinase/nuclear factor-kappaB path way activity and insulin sensitivity in nondiabetic twins. *J Clin Endocrinol Metab* Vol. 95 (1), 414-421, 2010.

30. **Grunnet LG**, Nilsson E, Ling C, Hansen T, Pedersen O, Groop L, Vaag A, Poulsen P. Regulation and function of FTO mRNA expression in human skeletal muscle and subcutaneous adipose tissue. *Diabetes*. Oct;58(10):2402-8. 2009.

31. Monrad RN*, **Grunnet LG***, Rasmussen EL, Malis C, Vaag A, Poulsen P. Age-dependent nongenetic influences of birth weight and adult body fat on insulin sensitivity in twins. *J Clin Endocrinol Metab*. Jul;94(7):2394-9. 2009.

32. Poulsen P, **Grunnet LG,** Pilgaard K, Storgaard H, Alibegovic A, Sonne MP, Carstensen B, Beck-Nielsen H, Vaag A. Increased risk of type 2 diabetes in elderly twins. *Diabetes.* Jun;58(6):1350-5. 2009**.**

33. **L. Grunnet***, C. Brøns*, S. Jacobsen, E. Nilsson, A. Astrup, T. Hansen, O. Pedersen, P. Poulsen, B. Quistorff and A. Vaag. Increased Recovery rates of phosphocreatine (PCr) and inorganic phosphate (Pi) after isometric contraction in Oxidative Muscle Fibres and Elevated Hepatic Insulin Resistance in Carriers of the Fat Mass and Obesity-associated *FTO* genotypes. *J Clin Endocrinol Metab. 2009 Feb;94(2):596-602.*

34. **Grunnet L,** Vielwerth S, Vaag A and Poulsen P. Birth weight is nongenetically associated with glucose intolerance in elderly twins, independent of adult obesity. *J Intern Med*, Jul;262(1):96-103 2007.

35. **Grunnet L**, Poulsen P, Klarlund Pedersen B, Mandrup-Poulsen T and Vaag A. Plasma cytokine levels in young and elderly twins: genes versus environment and relation to in vivo insulin action. *Diabetologia*, 49:343-350 2006.

36. Vaag A, Jensen CB, Poulsen P, Brøns C, Pilgaard K, **Grunnet L**, Vielwerth S, Alibegovic A. Metabolic aspects of insulin resistance in individuals born small for gestational age. Horm Res. 2006;65 Suppl 3:137-43.

37. Ozanne SE, Jensen CB, Tingey KJ, Martin-Gronert MS, **Grunnet L**, Brøns C, Storgaard H and Vaag A. Decreased protein levels of key insulin signaling molecules in adipose tissue from young men with low birthweight – potential link to increased risk of diabetes? *Diabetologia,* 49:2993-2999 2006.

38. Juel C, **Grunnet L**, Holse M, Kenworthy S, Sommer V, Wulff T. Reversibility of exercise-induced translocation of Na+-K+ pump subunits to the plasma memebrane in rat skeletal muscle. *Pflugers Arch.* 2001 ov;443(2): 212- 7.