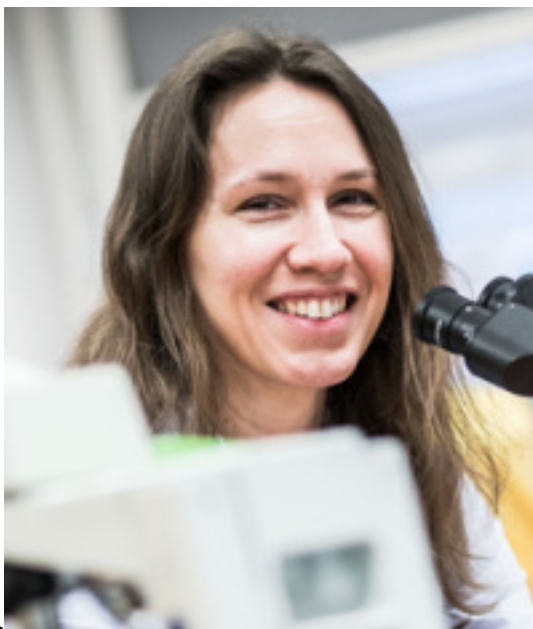

Mgr. Lenka Rossmeislová, Ph.D.



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Laboratory of Physiology and Pathophysiology of Adipose Tissue, Department of Pathophysiology
<https://www.lf3.cuni.cz/3LFEN-677.html>

Topic title

Interaction between adipose tissue and the lymphatic system
Characterization of adipose tissue properties affected by exercise

Description of scientific activity

Lenka graduated in Molecular Biology, Virology and Genetics, her master thesis focused on uncoupling in adipose tissue at the Institute of Physiology under the supervision of Dr. Jan Kopecký. In 2000-2002, she worked as a research associate at the Pennington Biomedical Research Center, LSU, within the team of Steven Smith, where she continued her research in adipose tissue in human in vivo and in vitro models. After returning to the Czech Republic, she joined Dr. Pavel Hozák at the Institute of Molecular Genetics for her PhD studies, where she focused on various aspects of cellular aging with significant use of microscopy methods. She received her PhD degree in 2007, since then she has been working at the 3rd Faculty of Medicine of Charles University, within the Department of Sport Medicine. After the transformation of the Department, she became the head of the Laboratory of Physiology and Pathophysiology of Adipose Tissue in 2010. The laboratory is now involved in the study of various aspects of de novo lipogenesis in adipose tissue, including the synthesis of insulin-sensitizing PAHSA, adipose tissue-liver interactions in response to starvation, as well as the study of lipolysis and secretory properties of adipose tissue in patients with pancreatic cancer. Another research topic is the relationship between adipose tissue and the lymphatic system, i.e., addressing the question of how adipocytes affect lymphatic endothelial function and, vice versa, how differently efficient lymphatic drainage affects the expansion of individual fat depots. Our group is also the Czech half of the Czech-French Obesity Clinical Research Laboratory, under the leadership of Prof. Štich (3rd Faculty of Medicine) and Prof. Langin (INSERM). Lenka is/was a PI or coPI of national grants of the AZV and GAČR, is a partner in the H2020 project, publishes regularly, is a member of the panel of the AZV grant agency, reviews articles for many journals.

Selected publications

KOC, M., WALD, M., VARALIOVA, Z., ONDRUJOVA, B., CIZKOVA, T., BRYCHTA, M., KRACMEROVA, J., BERANOVA, L., PALA, J., SRAMKOVA, V., SIKLOVA, M., GOJDA, J. & ROSSMEISLOVA, L. 2021. Lymphedema alters lipolytic,

lipogenic, immune and angiogenic properties of adipose tissue: a hypothesis-generating study in breast cancer survivors. *Sci Rep*, 11, 8171.

ČÍŽKOVÁ, T., ŠTĚPÁN, M., DAŘOVÁ, K., ONDRŮJOVÁ, B., SONTÁKOVÁ, L., KRAUZOVÁ, E., MATOUŠ, M., KOC, M., GOJDA, J., KRAČMEROVÁ, J., ŠTICH, V., ROSSMEISLOVÁ, L. & ŠIKLOVÁ, M. 2020. Exercise training reduces inflammation of adipose tissue in the elderly: cross-sectional and randomized interventional trial. *The Journal of Clinical Endocrinology & Metabolism*.

ROSSMEISLOVA, L., MALISOVA, L., KRACMEROVA, J., TENCEROVA, M., KOVACOVA, Z., KOC, M., SIKLOVA-VITKOVA, M., VIQUERIE, N., LANGIN, D. & STICH, V. 2013. Weight loss improves the adipogenic capacity of human preadipocytes and modulates their secretory profile. *Diabetes*, 62, 1990-5.

Selected or ongoing grants/clinical studies

2020-2026: TheraLymph –Gene Therapy to restore lymphatic flow lymphedema, H2020 SC1-BHC-07-2019, Project # 874708

2021-2024: Novel approaches to enhance insulin-sensitizing effects of exercise: targeting PAHSA metabolism ETAPA; Czech Health Research Council project NU21-01-00469

2019 - 2022: Pancreatic cancer: metabolic derangements associated with insulin resistance (PAMIR), Czech Health Research Council project NV19-01-00101, Co-PI: Lenka Rossmeislova

PhD Students

Number of PhD students currently studying : 2

Number of defended students with year of defence: 3 PhD (2014,2015, 2017)