

Obesity and heart disease: Is the health of your fat a measure of risk?

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Dr. Fiona McGillicuddy from the UCD Conway Institute wins the first award under the SFI-HRB Wellcome Trust Biomedical Partnership. She will investigate the links between obesity, 'good cholesterol', diet and coronary artery disease.

Mr. Enda Connolly, Chief Executive of the Health Research Board (HRB) and spokesperson for the SFI-HRB Wellcome Trust Biomedical Partnership said, "We are delighted to announce that the first award under this partnership is for a Research Career Development Fellowship.

It is a significant award; Fiona will receive approximately €750,000 euros over five years to conduct this research. We hope that her success will encourage more Irish researchers to apply for funding through the many schemes in this partnership."

Sir Mark Walport, Director of the Wellcome Trust added, "As levels of obesity reach record proportions worldwide, it is essential that we improve our understanding of the potential causes, and the impact that this will have on our cardiovascular health.

We hope that Dr. McGillicuddy's work will provide an essential key to help us understand this relationship. Her award illustrates the excellent research that will be funded under our Biomedical Partnership with Science Foundation Ireland and the Health Research Board."

The research project will examine how obesity affects the function of

high-density lipoprotein (HDL), sometimes referred to as 'good cholesterol'. HDL plays an important role in removing cholesterol from the body, which in turn reduces the risk of heart attack brought on by cardiovascular disease.

"First we want to determine whether being obese affects HDL's ability to eliminate cholesterol from the body," says Dr. McGillicuddy, from the Nutrigenomics Research Group, at the UCD Conway Institute. "We then want to determine whether the type of diet that causes the obesity also plays a role in elevating the risk of [coronary artery disease](#).

For example, you can be obese from eating a high-carbohydrate diet, or you can be obese from eating a high-saturated fat diet. We want to see how these very different diets affect HDL function, and consequently the risk of coronary disease.

We also know that during obesity as the fat mass (adipose tissue) expands it becomes inflamed. We plan to investigate whether this adipose tissue inflammation actually reduces the ability of HDL to remove [cholesterol](#) from the body. We will examine whether new therapies that reduce fat inflammation can also improve HDL function and reduce the risk of coronary disease despite the presence of [obesity](#)."

Commenting on the announcement, Professor Mark Ferguson, Director General of Science Foundation Ireland, said, "Scientific solutions require convergence and collaboration, and I am delighted about this first award, particularly given the urgency and relevance of Dr. McGillicuddy's research topic. SFI hopes to build on, and add to, its prestigious partnership agreements to facilitate excellent research with the potential to produce significant societal impacts."

Adding his congratulations to Dr. McGillicuddy, Professor Walter Kolch, Director, UCD Conway Institute said, "This prestigious award to

Fiona is testament not only to the calibre of early-stage career scientist that is the fibre of our Institute but also to the quality of research output that endures under the scrutiny of substantial peer review”

Provided by University College Dublin

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