

Dr Jeremy Tomlinson - Tackling the Burden of Obesity transcript

Tackling the burden of obesity, Dr Jeremy Tomlinson, University of Birmingham

Title: [Dr Jeremy Tomlinson - Tackling the Burden of Obesity \(http://www.youtube.com/watch?v=TXJ6Ca85ta8\)](http://www.youtube.com/watch?v=TXJ6Ca85ta8)

Duration: 3.35 mins

Speaker Names (if given):

- S1 Dr Jeremy Tomlinson

S1 We're looking at fat tissue, in particular, to see what controls how much fat people accumulate. We know that the more fat you have, the more detrimental that is to health and what we're able to do in a lab is take fat cells and grow them in the lab and see how they behave. We're quite interested in how natural steroids affect how fat tissue behaves and so we can see if you give steroids to fat tissue, whether they accumulate more fat and see how it changes their behaviour. The idea is that if we can understand exactly how steroids work on fat tissue then we can design treatments that might help prevent people become overweight or obese and perhaps reduce their risk of things like diabetes, which we know is quite related to exactly how much fat tissue that you have.

The other thing we're very interested in is where you have fat tissue because not all fat tissue is the same so fat tissue stored within the abdomen itself is much worse; so fat tissue around organs really does increase your risk of developing things like diabetes quite dramatically so the classics of a male beer belly is very bad for you; whereas if you just store fat just underneath the skin, it's actually a much better place to store fat. So we're trying to understand what it is, what the differences are between different fat cells from different depots within the body because if we can understand how those differences occur then again we can try and design treatments that selectively reduce one fat tissue depot as opposed to another.

Birmingham is one of the, certainly in men, is the most obese city in the country; so almost, you know, 70% of adults of males in Birmingham are either overweight or obese – so we're trying to understand specifically what causes some people to become overweight and obese – and ourselves, we clearly, though pertinently in Birmingham, where we do have such a problem, because obesity and Type II diabetes is such an important part of everyday life and because it's such an important health academic, we've really increased the amount of teaching that our obesity has and the focus that obesity has within the curriculum. Now that takes the form of individual projects that students get involved with, it's formalised lectures and I think what we also now do specifically with the research is try to get undergraduate students involved with some of the research projects both within the laboratory and actually also giving them some exposure to the sorts of studies that we're doing on a clinical-based level. So very much giving them the idea that we have this translational concept, i.e. taking investigations from the laboratory out into the clinical setting and trying to answer questions in that way.

One of the key features about Birmingham that really does make it unique is combining that laboratory-based research with the clinical research. We're really fortunate in Birmingham to have a clinical research facility such as this; it's one of only five of these what we call Millennial Wellcome Trust Funded Clinical Research Facilities in the country and it allows us to do clinical research outside the pressures of normal NHS ward-based clinical care. What that allows us to do, and certainly the fact that our laboratory-based investigations are performed so close, means that we can take samples from patients, analyse them in the laboratory, formulate hypotheses within the laboratory and then test those out on patients directly. So it's almost what we like to think is a very seamless approach and I think we're in a very fortunate position to be able to do that, but only with the great state-of-the-art laboratory facilities and clinical research facilities that we've got here, but also the development of the new hospital which I think will really add to the whole quality of research that we're able to do within Birmingham here at the University.

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