

Overweight? Get someone else's gut bacteria

March 18 2011, By Albert Sikkema

People who are overweight may have different gut bacteria from those in their slender fellow human beings. This is the contention of Willem de Vos, professor of Microbiology at Wageningen University, The Netherlands, in his dies lecture on 9 March.

The human being has countless numbers of bacteria in his body: 10 to the power of 14, or in other words, a '1' with 14 zeros. Those in the stomach and the [intestines](#) process our food. The composition of these bacteria differs from person to person, says De Vos. For twins from one [egg cell](#), the bacterial compositions in their bodies are broadly the same, even if they live separately. Scientists have now found evidence that the bacterial composition in the body can influence, among other things, diseases and weight. When researchers introduced [gut bacteria](#) from an obese mouse and those from a normal mouse in sterile mice, the mice with the gut bacteria from the obese mouse became obese, while the others did not, De Vos added.

Because we have so many bacteria in us - we have more bacteria than body [cells](#) - our bacterial metabolism is very complex. Most of the bacteria have not been mapped genetically, but a genome revolution is currently going on to establish the roles of bacteria and bacteria communities, added De Vos. The challenging part, the professor continued, is how to analyze the enormous sets of data using just one system approach in order to get a model of the bacteria communities which researchers can then improve on during experiments.

Doing this could eventually enable personal nutrition advice to be given

based on gut bacteria. There is also a somewhat unappetizing treatment method for the stubbornly obese patient: the poop transplant, or - in nicer terms - the bacteria treatment. Research carried out by De Vos together with the Academic Medical Center in Amsterdam has shown that such a [bacteria](#) transplant can have a curative effect in people prone to being obese.

Provided by Wageningen University

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