

THE BIG LITTLE NEWSLETTER FOR THE STUDY ON THE PREVENTION OF CARDIOVASCULAR DISEASE AND TYPE 2 DIABETES IN CHILDREN AND ADOLESCENTS



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An ecosystem to discover: the microbiota

Slowly but surely science progresses. Its efforts rely on previous scientific research endeavours that themselves were based on knowledge generated earlier. In the past few years many research teams have tried to provide a greater understanding of an ecosystem that turns out to be much more active than believed at first: the gastrointestinal tract's ecosystem. The QUALITY research team is among them.



DNA GENOTEK

This tract is considered a system in itself because it can develop very many bacteria, good or bad, and thus influence how the body functions. The system comprising all the bacteria present in a given body is named microbiota. What the Quality research team has undertaken is the study of the gastrointestinal microbiota's effect on health.

What new facts in the scientific world make the investigation of the microbiota in the gastrointestinal tract promising?

Several papers demonstrate an important link between the microbiota and an adult's metabolic health. Indeed, it is proven that the bacterial flora's composition (types and rates of the different bacteria present) is tied to risk factors concerning cardiovascular diseases, obesity, and diabetes. Yet the knowledge concerning youths in this field is insufficient, and we aim to determine if the same associations can be made for teens.

Did you know that the gastrointestinal tract's total surface is between 200 and 300 m²?

How does the number of different species of bacteria evolve for a given person?

Many factors affect the presence of bacteria in the stomach or intestine. Among them are age, health condition, drug intake, nutrition, stress, etc.

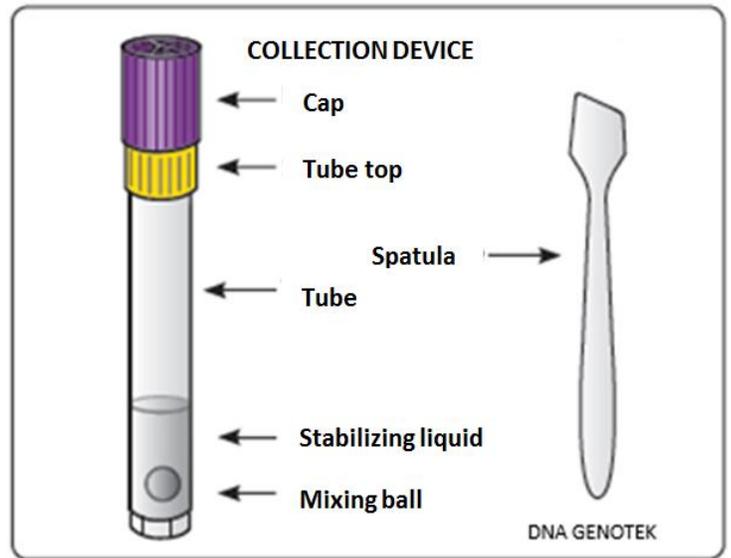
An ecosystem to discover... continued

How do you go about determining the composition of the bacterial flora in a person?

The most common method is to analyze the DNA of the bacteria present in a feces sample that has been mixed with a stabilizing liquid.

Is this how QUALITY does it?

Yes, we ask the youths to sample a small portion of their feces at home. Using a small spatula, the participant places a little amount of excrement (about $\frac{1}{4}$ teaspoon) into the yellow top of a tube containing the stabilizing liquid. This tube is then sealed and sent to the QUALITY laboratory.



Will all participants in the QUALITY study have to provide this sample?

For now, we ask that everyone that has not yet been to their 3rd QUALITY visit to do it. We look to repeat the sampling with the 4th visit.

A raffle for participants!

Yes, you have read it right!

To thank you for your generous participation, all youths having completed their 3rd visit are eligible for a prize!

The gifts will be drawn randomly once all participants will have completed their visit in the summer of 2016. There will be two gift sets up for grabs, each containing one *iPod Shuffle* and one *Ultimate Ears* portable speaker!

The *iPod* will allow you to send your favourite music to the speaker, which will play 360-degree sound. This set allows you to create your musical atmospheres wherever you are, both at home or outside.



Good luck everyone!

Where do we stand today?**What is the difference between a cross-sectional study and a longitudinal one?**

A cross-sectional study is a research project examining one feature or event among a number of individuals at a given moment, while a longitudinal study is one that measures one feature among a number of individuals over the course of time.

The QUALITY study is a longitudinal project in that the participants undergo many of the same tests in their different visits, that is, at different ages. However, when the researchers first started analyzing the data available they were limited to a cross-sectional analysis, since at that point only the data from the first visit had been gathered. Now that the data from the second visit has been collected a longitudinal analysis becomes possible. This is an opportunity for the research team to not only compare the participants with the rest of the cohort, but to compare one's condition in two separate moments of his life. Thus, we can for example verify if a measurement remains stable over time. This allows the researchers to publish more and more articles concerning the evolution of the variables under scrutiny.

The QUALITY study in figures:

- 7** The number of health professionals you will meet during the day of your 3rd visit for the study.
- 54** The number of scientific papers related to QUALITY published in academic journals.
- 108** The number of talks given or scientific posters presented in order to share the results yielded by the QUALITY study with the scientific community.
- 630** The number of youths recruited to form the cohort at the beginning of the Quality project.



New members in the team!

We take advantage of this issue to officially welcome the two new kinesiologists of the QUALITY team. They are the ones who will be encouraging you to do your best during the bike test!



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 Pour l'amour des enfants



Hypertension component

The complementary study on blood pressure is still ongoing.

You can partake in this phase of the research on your 3rd visit for the study.

This sub-study aims to better understand blood pressure in youths by recording it over a 24-hour period of time.

