**Maternal transmission of microbiome**



**Background information:**

Although humans tend to think of themselves as single, stand alone, entities, we are actually a composite of our cells and those of our microbes (microscopic organisms, predominantly bacteria, termed microbiota). And although we tend to think of bacteria in a negative light, our microbes, particularly those inhabiting our digestive system, play critically important and complex roles in our body. When the gut microbiome is altered, humans experience medical disorders of the digestive tract. But, the influence of the gut microbiota transcends digestive disorders. Changes in gut microbiota are also linked to neurological and immune disorders.

So if our gut microbiota are so important, and if we are born without them, how do humans acquire them? In human birth, the first encounter with microbes occurs during the birth process as a soon to be newborn travels from the uterus, through the vagina, and out of the woman’s body. The mother gives the newborn exposure to her microbiota through her vagina. In a C-section, the baby is removed directly from the uterus without encountering the woman’s microbiota. How does being born via c-section affect the baby’s microbiota? Provide a specific, detailed answer.