

## How Does the Microbiome Affect Fertility?

- Impact of infections or significant disturbances to the microbiome, such as Chlamydia and Gonorrhea, are easy to understand, but we want to focus on the impact of normal or healthy microbiome on fertility.
- Humans have evolved along with the millions of microorganisms that populate their bodies. These microbes outnumber human cells by 10 to 1.
- It has been known for a long time that the microbiome of the vagina is important for establishing the gut microbiome for infants during childbirth, but the microbiome is far more impactful in reproductive and fertility than just that.
- The Human Microbiome Project.
- What microbial flora exists naturally in the healthy female reproductive tract and where?
- Bacteria, virus, fungi?
- What microbial flora exists in the healthy male reproductive tract and where?
- Different from gut microbiome
- How do these organisms impact conception?
- How do these organisms impact implantation?
- How do these organisms impact fetal growth?
- Male fertility
- Microbiome of placenta.
- What is known about the changes or disruptions in the microbiome that may contribute to miscarriage or preterm birth?
- Does a woman's microbiome change during her monthly menstrual cycle?
- Does the microbial flora and fauna change during pregnancy?
- How does the male reproductive tract microbiome affect conception or pregnancy?
- How is knowledge of the microbiome influencing reproductive medicine?

- How is it impacting embryo transfer techniques?
- What medication is used intravaginally during treatment and do they change the microbiota of the vagina or cervix or uterus?
- Are we adapting the culture media to reflect what is known about the microbiome?
- Can we alter the microbiome to influence the outcome of treatment or pregnancy?
- Individualized medicine based on microbiome?
- What role do prebiotic and probiotics play? Should women who want to conceive or who are going through infertility treatment