Prompting prenatal infection prevention using the mnemonic “HYGINE”

James A McGregor1,2, Marti Perhach1, Amy Perhach1
1. Group B Strep International 2. LA Best Babies Network

Objectives: To help parents avoid prenatal infections.

In developed countries, up to 24% of stillbirths have been attributed to infection. U Reddy et al. Clin Obstet Gynecol 2010

Method:
1. Listed routes of prenatal infection.
2. Listed microorganisms that can commonly cause prenatal infection.
3. Identified behaviours that could help reduce the risk of prenatal infection.

Infection is estimated to contribute to nearly half of stillbirths in developing countries. E Mdro, R Goldenberg, J Matern Fetal Neonatal Med 2009

Prenatal infection can be caused by a wide variety of microorganisms, including bacteria, viruses, and parasites.

Multiple pathways to intraterrorine infection were identified. Presence of abnormal “vaginal microbiota” or “vaginal immunity” may alter each of the following pathways singly or in combination:

- Ascending transport of vaginal/vaginal infection due to physiologic uterine activity occurring prior to or during pregnancy
- “Counter-current” vascular/lymphatic transport concentrating vaginal microbial products within pregnancy tissues
- Translocosis: of microbes from oral/gastrointestinal microbe/cell constituents including lipopolysaccharides (LPS)
- Intestinal inoculation of cervico-vaginal microflora by cervical manipulation or instrumentation (“membrane stripping”)
- Microecologic shift of predominant vaginal microflora mediated by hygienic practices, change of sexual partner(s)/practices, antimicrobial use, dietary-style microbiome shifts
- Hematologic transport of microbes (e.g., Usteria sp., enteroviruses, etc.) initiated by systemic exposure/exposure

Patient education is a vital tool to help prevent prenatal infection. Knowledge gives women the power to advocate on behalf of their and their unborn baby’s health.

Conclusion:
We found that giving parents specific actions they can take to help avoid the risk of prenatal infection has been welcomed and useful instead of overwhelming parents with information about how to prevent each of the many types of infection.