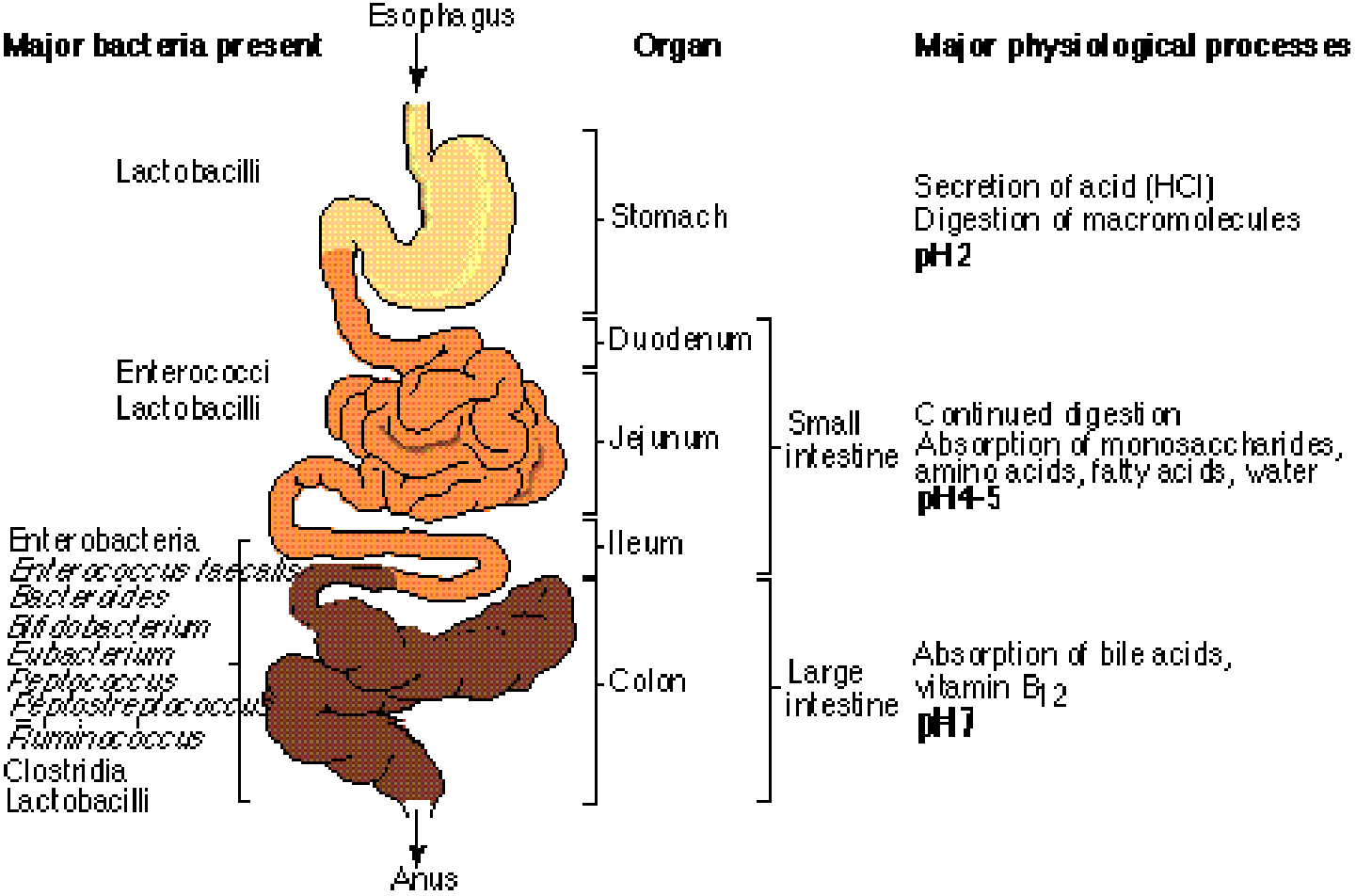


Probiotics

- What is it?
- How it come from?
- Examples of Probiotic products
- Benefits of Probiotics
- Technological requirements

Gut Microflora



http://sp11symbiosis.providence.wikispaces.net/file/view/GI_Tract.gif/223669006/GI_Tract.gif

Gut Microflora of Infant

Gut Microflora of new born baby is sterile. It may take several years to establish a microbial ecosystem similar to that of adults.

Factors influencing the development of the intestinal microflora

1. Vaginal vs Caesarean delivery
 2. Environment during birth, home vs hospital
 3. Hygiene measures (use of antiseptics during perinatal period)
 4. Environmental contaminants—maternity wards
 5. Mother's faecal, vaginal and skin flora
 6. Developmental stage of the gastrointestinal tract (premature vs full term infants)
 7. Breast vs formula feed
 8. Type of formula feed used
-

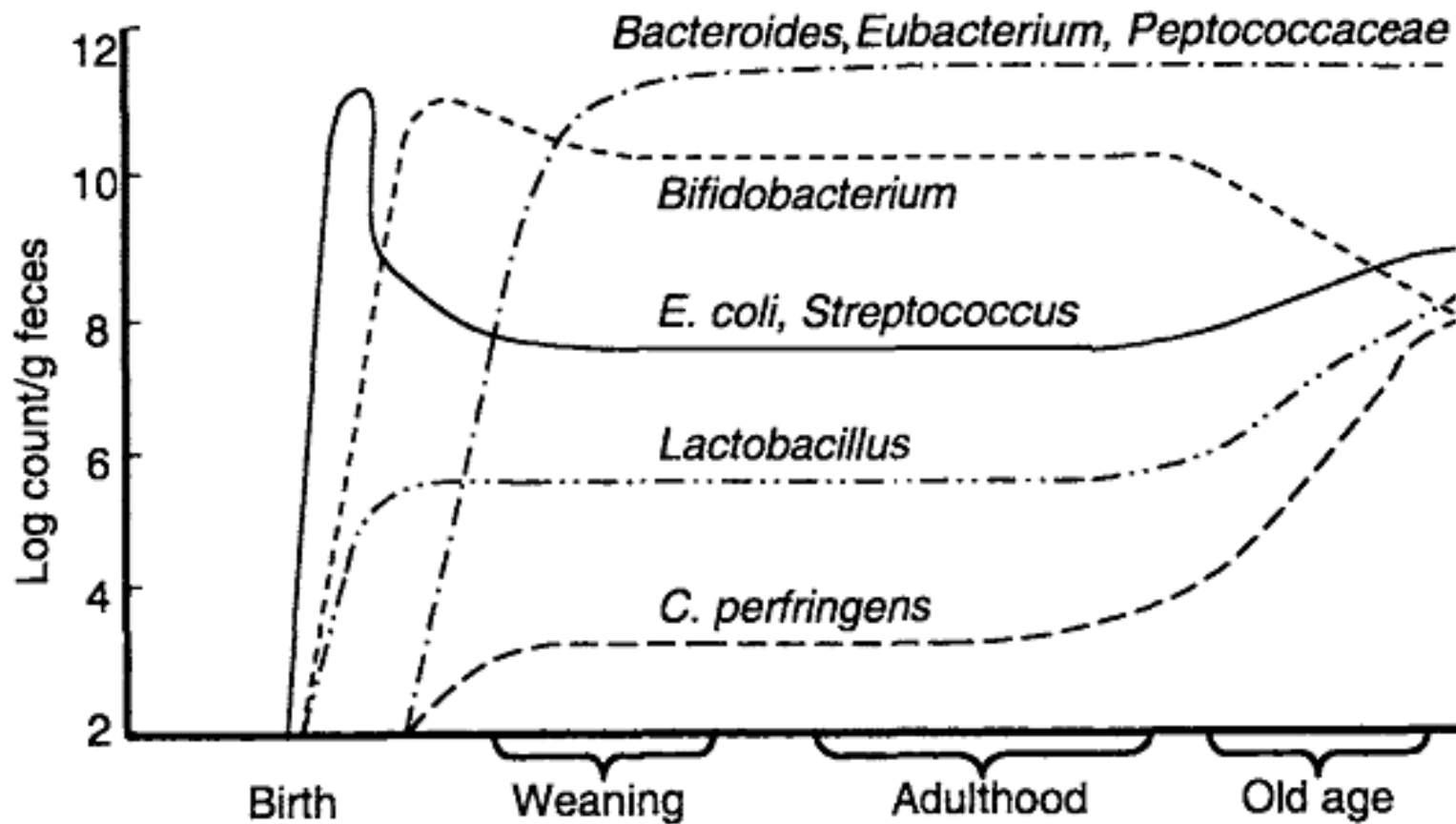


Figure 38.3 Differences in species of bacteria in human feces of different ages. From reference 62. doi:10.1128/9781555818463.ch38f3

Pfeiler E, Klaenhammer T. 2013. Probiotics and Prebiotics, p 949-971. In Doyle M, Buchanan R (ed), Food Microbiology. ASM Press, Washington, DC. doi: 10.1128/9781555818463.ch38

What is probiotic?

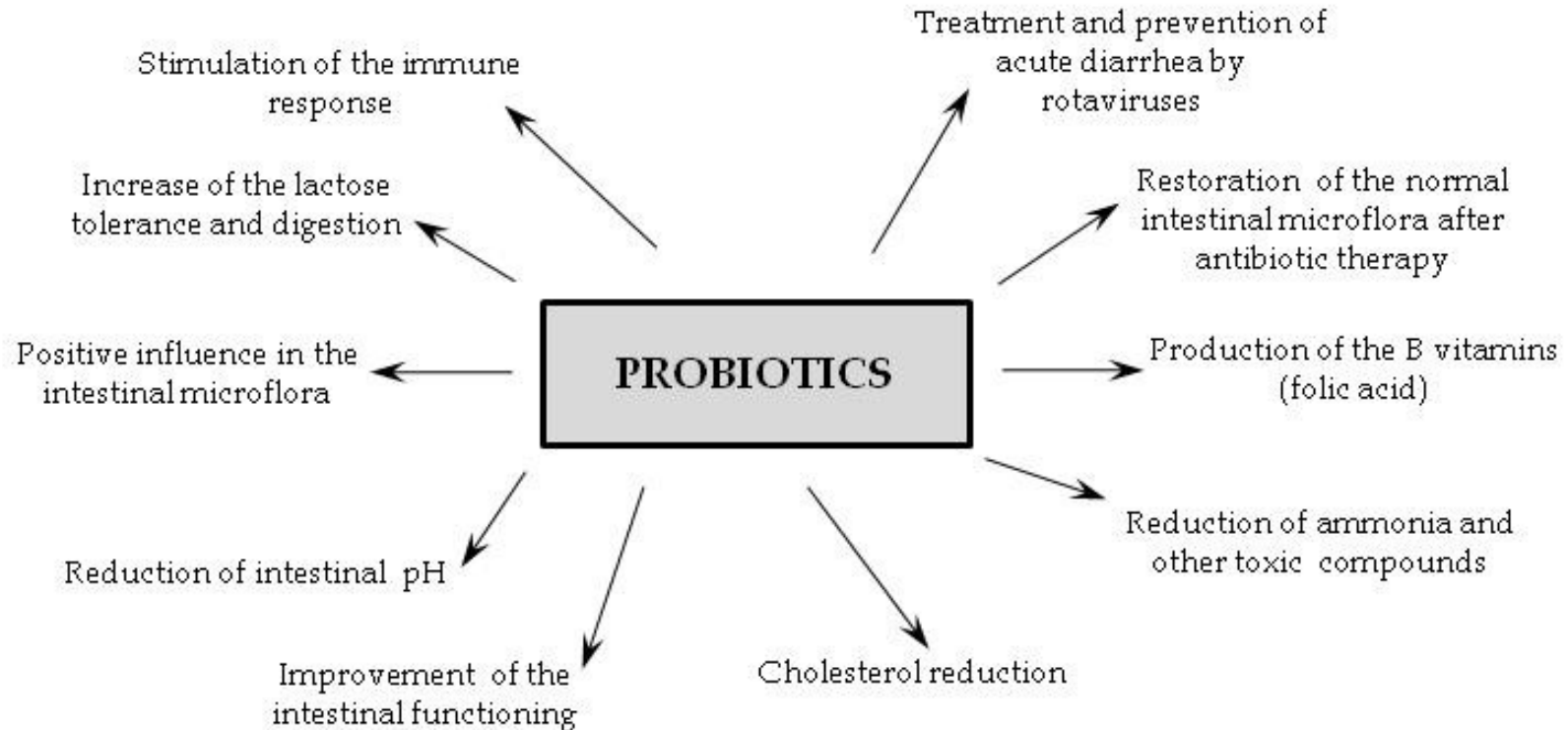
- live microorganisms that, when administered in adequate amounts, confer a health benefit on the host (FAO 2001).
- The US Food and Drug Administration (FDA) uses other terms for live microbes for regulatory purposes; live microbes used in animal feeds are called “direct-fed microbials”
- **Still no legal definition internationally**

Examples of Probiotic Products



<http://www.learnaboutprobiotics.org/wpinstall/wp-content/uploads/2011/09/products3.jpg>

Benefits of Probiotics



<http://www.intechopen.com/books/probiotics/milk-and-dairy-products-vectors-to-create-probiotic-products>

Probiotic should.....

- When combined with the specifications outlined by the FAO/WHO Working Group for the Evaluation of Probiotics in Food (2002), the key aspects of this definition include:
 - A probiotic must be alive and healthy when administered
 - A probiotic must have undergone controlled evaluation to document health benefits in the target host
 - A probiotic must be a taxonomically defined microbe or combination of microbes (genus, species and strain level)
 - A probiotic must be safe for its intended use
- Enough dose through out shelf life