**(Corpulence & Coronary—Part IV)**

**The Ideal—A Microbiome Fed Quality Microbe Munchies The Real—A Decimated Microbiome Fed Next to Nothing Brian Bull M.D. ‘Winter Wednesdays’, LL University Church 2018.**

 **Synopsis**

* When lower gut microbes are fed ‘munchies’ they produce Short Chain Fatty Acids (SCFAs) which we then utilize for energy (calories). At present our diets provide 7-10% of calories from this source. Lowland Gorillas, with an anatomically similar gut, get up to 60% from their lower-gut microbes. That difference may, in part, account for the obesity epidemic! 100 years ago we were likely getting ~20 of our calories from SCFA, and we were not then obese.
* How might taking in even more SCFA calories help reduce obesity? By two possible means: (1) SCFAs (particularly acetic acid) have appetite suppressant effects, and, (2) microbes produce a steady stream of SCFA calories throughout 24 hours. This steady input maintains a baseline blood glucose level, helps retain insulin sensitivity and makes ‘snacking’ less likely. They are an aid-to-willpower.
* SCFAs, especially the 4 carbon variety (butyric acid) provide the vast majority (70-80%) of the calories needed by the lining cells of the colon. These cells cover an area half the size of a badminton court and constitute the single layer of cells that separate (and protect) us from being overwhelmed by unnumbered microbes.
* Good gut microbes produce compounds that function as anti-breast cancer agents, anti-inflammatory agents and immune enhancing agents. They likely produce many additional beneficial compounds that we do not yet understand.
* A population of ‘bad’ microbes in the lower gut can be devastating—and it can kill. The most dramatic example is *C. difficile* colitis—but less spectacular, longer-term damage also occurs. A healthy microbiome is far more important than we have heretofore acknowledged. We would be wise to do everything within our power to ensure its continuing health.

 **References**

* *The Western Lowland Gorilla Diet Has Implications for the Health of Humans and Other Hominoids.* David G. Popovich, et al*.* The Journal of Nutrition, Vol 127, Issue 10, 1 October 1997, Pages 2000–2005. (https://doi.org/10.1093/jn/127.10.2000)
* *Fiber Is Good for You. Now Scientists May Know Why.* Carl Zimmer. New York Times, Jan 1, 2018. (https://www.nytimes.com/2018/01/01/science/food-fiber-microbiome-inflammation.html)