

1116-VP-2103 **Tiffany N. Kolba*** (tiffany.kolba@valpo.edu). *Probabilistic Analysis of Polyovulation.*

Polyovulation is the production of more than one ovum, or egg, during a single menstrual cycle. This talk examines the probability of the human ovarian system ovulating k eggs during a single cycle, for $k \geq 0$. In order to obtain precise estimates for the probability of polyovulation, we use U.S. birth data from the 1950's (before the introduction of artificial reproductive technologies). However, to utilize birth data, we model the various processes that eggs undergo in order to result in a live birth, including fertilization, possible division, implantation, and potential miscarriage. We also examine the distribution of the number of eggs ovulated from the left and right ovaries in order to analyze the probability of polyovulation resulting from within one ovary versus from both ovaries. (Received September 21, 2015)