1035-92-63 **Abdessamad Tridane*** (tridane@math.asu.edu), Department of Mathematics and Statistics, Arizona State University, Tempe, AZ 85287, **Karl P Hadeler** (k.p.hadeler@uni-tuebingen.de), Department of Mathematics and Statistics, Arizona State University, Tempe, AZ 85287, and **Yang Kuang**, Department of Mathematics and Statistic, Arizona State University, Temp, AZ 85287. *Mathematical Analysis of the Interaction of Cytotoxic T Lymphocytes and Epithelial Cells in the Influenza Infection.*

The aim of this work is to investigate the mechanisms involved in the clearance of viral infection of the influenza virus at the epithelium level by modeling and analyzing the interaction of the influenza virus-specific cytotoxic T Lymphocytes (CTL cells, T-cells) and the epithelial cells. Since detailed and definite mechanisms that trigger T-cell production and death are still controversial, we formulate different models for the T-cell response to influenza infection for three plausible scenarios. We present a systematic analysis of these model systems and we compare their dynamics. (Received July 05, 2007)