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**Comparing Infection Parameters for Respiratory Syncytial Virus in Different Aged Cotton Rats** SHAHEER KHAN, HANA DOBROVOLNY, Texas Christian University — Viral infections pose a significant threat to individuals. Viral models can assist health professionals in developing more effective treatments while also lessening the costs in researching and developing new treatments. Of particular interest are the similarities and differences for a viral infection across different age groups. In both rats and humans, the immune system develops over time, leading to different immune responses at different ages. In this study, experimental data of respiratory syncytial virus (RSV) viral count in different aged cotton rats were fit to a mathematical model in order to obtain parameter values. Six parameter values were determined and used to calculate the eclipse phase length, infection phase length, basic reproductive number, and infecting time. These values were compared by age and collection site. The resulting comparison offers insight regarding the viral kinetics of RSV across different age groups.

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