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**Melissa A Stoner\*** ([mastoner@salisbury.edu](mailto:mastoner@salisbury.edu)). *Calculus in Clinical Medicine: Using the Simulation Center to Model and Motivate Calculus and Differential Equations*. Preliminary report.

How can we utilize the medical simulation center on campus to enhance learning in mathematics class? Based on a student project, we have designed a differential equations model of the mechanical lung used in respiratory care. In collaboration with the respiratory therapy program, we have run simulations on the mathematical model comparing results to the model lungs in the simulation center. We then discuss the design of a project for the Differential Equations course regarding the mechanical lung, as well as the integration of the simulations in Calculus I to motivate the use of derivatives in medicine. We also share the results and outcomes of the project in a Fall Calculus class and the expansion for the Differential Equations class. (Received September 19, 2016)