

Thesis Portfolio

The Physiological Effects of Various Vasoactive Agents on Mouse Ear Microvasculature
(Technical Report)

Ethical Considerations of Genetic Engineering
(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science
University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree
Bachelor of Science, School of Engineering

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Department of Biomedical Engineering

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Sociotechnical Synthesis

The focus of my thesis is genetic engineering and the ethical concerns related to its applications. The focus of my technical report is on the pharmacokinetic effects of vasoactive agents on microvasculature. There is no direct connection between the two.

However, they can be viewed together from an interesting perspective. If one broadens my technical capstone project to represent modern current methods of health care, specifically the use of drugs to improve a surgery outcome, then it can become a marker of our current ability to treat health issues. Our current ability is to treat health issues and their symptoms with a reactive approach. If one views my thesis topic as the potential future state of our ability to treat health issues, then this serves as a marker that can be used to compare present to future. In the future, my thesis topic, genetic engineering, could be used to create cures to health issues. Our future ability to treat health issues could become the ability to cure health issues in a proactive way, not just mitigate symptoms or react to a disease's effects.