# ABSTRACT

WOMEN’S HIGH HEEL DISCOMFORT ANALYSIS AND SOLUTION

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Women love high heeled shoes, but this love comes at the cost of comfort. Wearing high heels causes a lot of pain and, in the long term, health complications. This project tries to overcome the problem by ultimately making high heels more comfortable. In order to do this, one must first understand the reasons that high heels are uncomfortable, such as arch angle, heel height, and the changes in walking motion. Once there is a true understanding of the factors that contribute to high heel discomfort, the design stage can begin.

The design selected for this project was a wedge heel that contained compressive material. This design would improve user comfort in four different criteria. These criteria were arch angle, compression of the shoe, foot rotation, and ground contact surface area of the heel. After the working prototype was created, it was performance tested in these four criteria against a standard stiletto heel and a standard wedge. The results of the prototype showed a great improvement in all of these criteria, resulting in a more comfortable high heel. However, there were a few areas that this prototype and the production process could be improved upon in the future. First, the prototype weight was a critical design factor, which resulted in a heel that is noticeably heavier then a standard high heel. Next, the cost to produce the prototype is much higher than is economically preferable if the shoes were to be sold for profit. Finally, a more refined manufacturing process would be more beneficial in creating a more aesthetically pleasing product.