

# Ultrasound Probe Brace

Course: Fall 2023 - Industrial Design: Process and Practice II

Students: Jada Vercosa, Maya Kovachi, McKenna Gagnon, and Josie Lubie

Client: Wendy Mosely

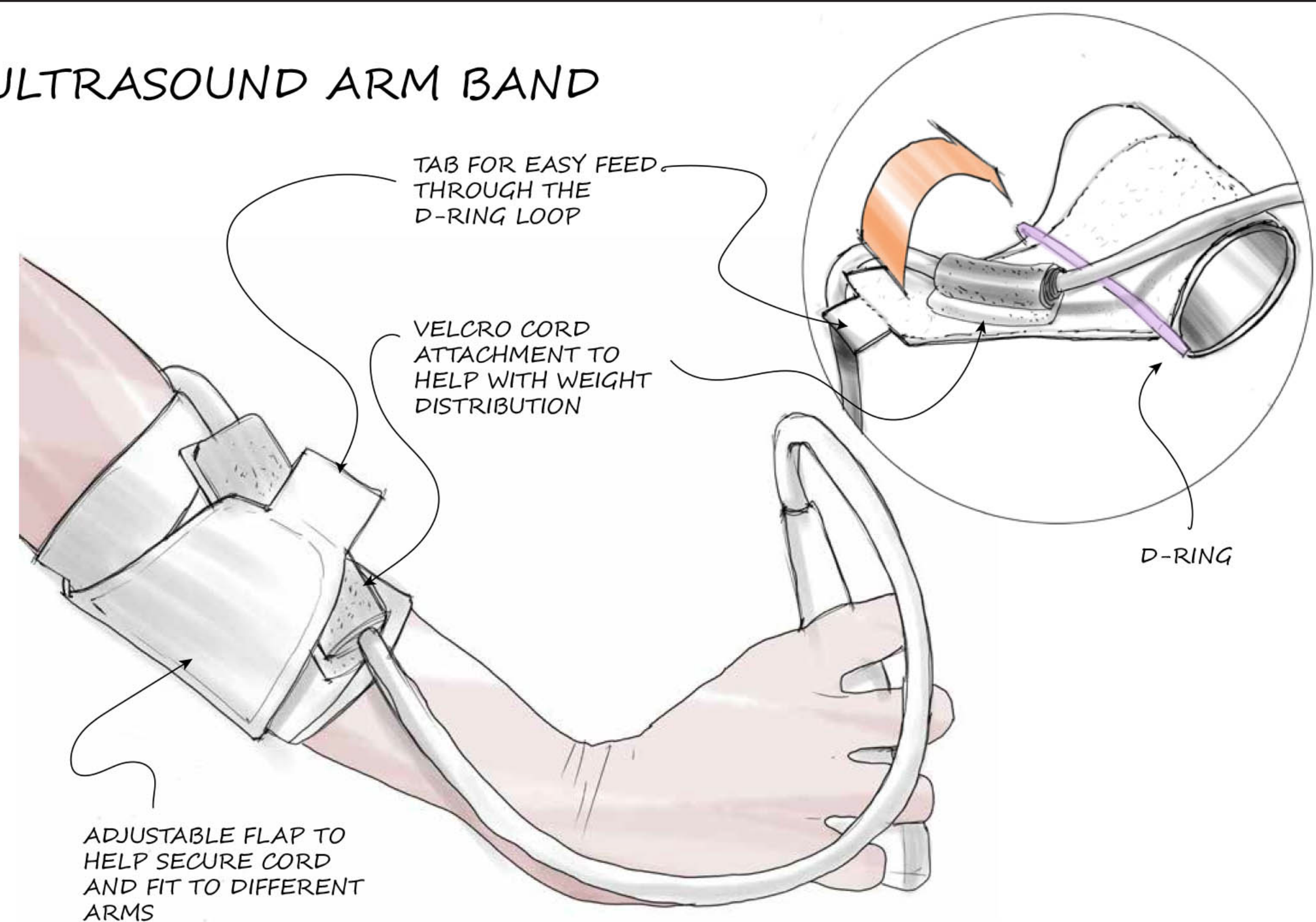
Instructor: Jorge Paricio Garcia PhD, MID, HRM

The students were charged to design a brace that would stabilize the cable of a hand-operated electrical device for different orientations of use.

People who perform repetitive motions daily as part of their job, like ultrasound technicians, tattoo artists, sonographers, and dentists, can experience strain on their hand and wrist from these machines which can lead to musculoskeletal injuries like carpal tunnel syndrome.

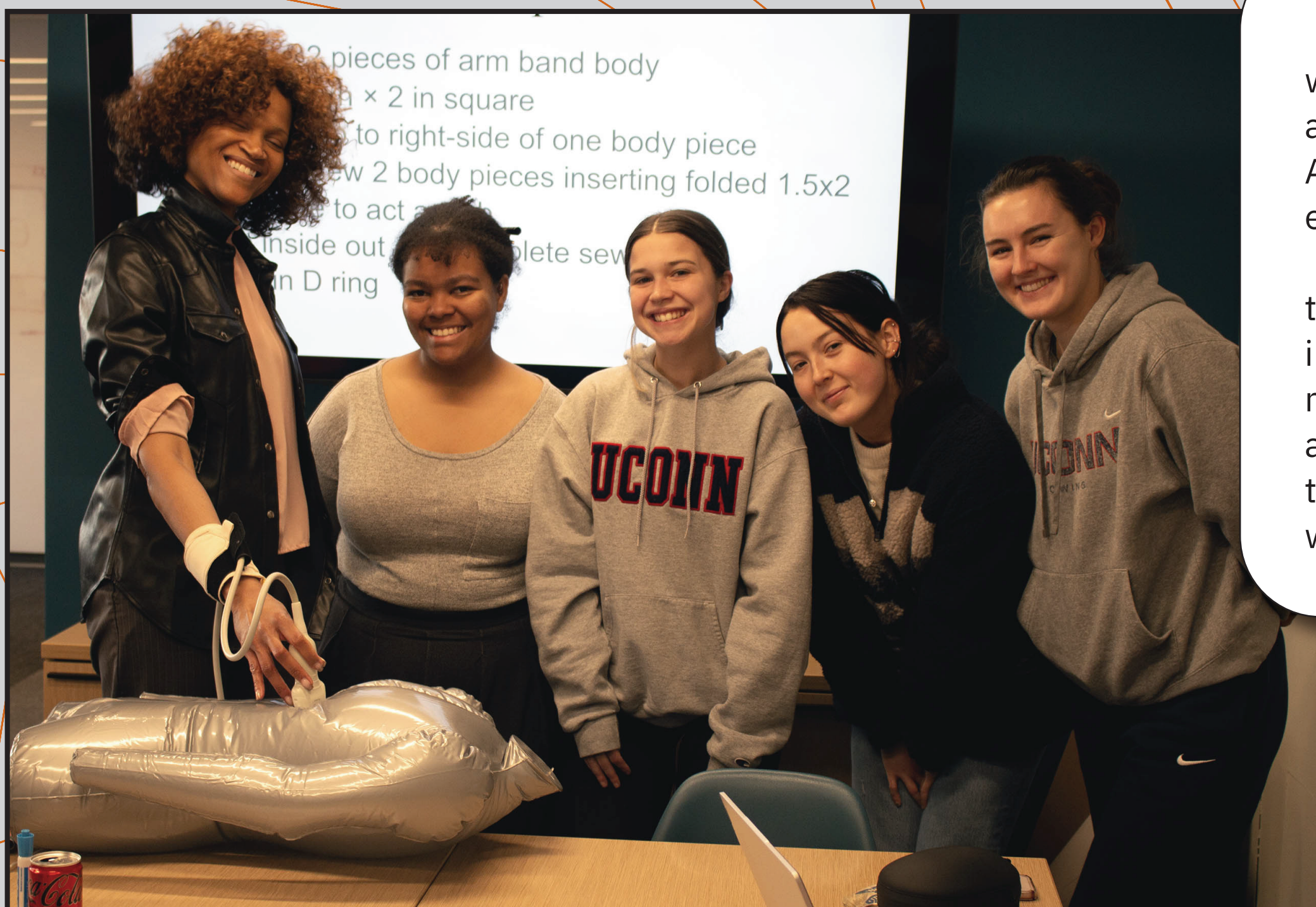
This brace was designed to provide ergonomic support for occupations like those previously mentioned, and with an intention to reduce injuries caused by repetitive hand-operated electrical equipment operations.

## ULTRASOUND ARM BAND



The design that was presented to the client included a description of materials that would be used in the manufacturing process, as well as a special effort to make it comfortable, adjustable and easy to don and doff, while still allowing for unhindered wrist motion. Additionally, the choice of the material provided the technician a chance to sanitize it after each use.

The product was designed in this first version as a right-hand use but to fit all percentiles, and with an intention to use it independently of the dominant hand in use. The resulting design improved the donning process with minimal help of the second hand and fitting multiple forearm sizes. Once in use, the expectation would be that the operator would be able to change the orientation of the cable to obtain accurate readings for different areas of the body. The final design included the delivery of a final prototype, a final concept drawing with callouts of key features, and computer-generated files.



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