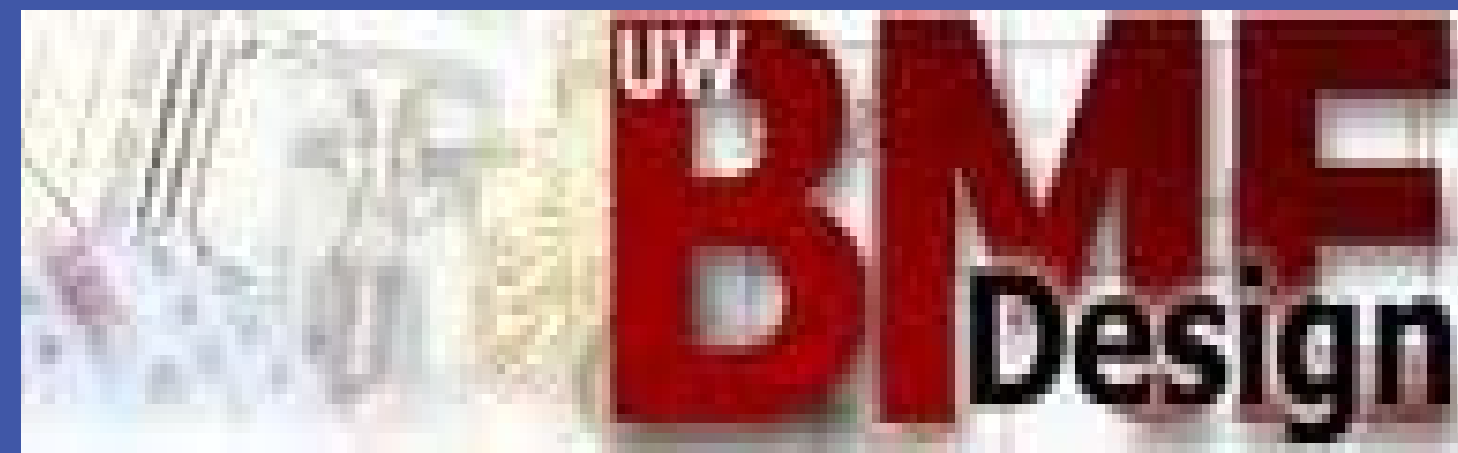


ADJUSTABLE HEIGHT CHANGING TABLE

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 CLIENTS: THE PATTERSON FAMILY ADVISOR: PROF. MITCH TYLER



Abstract

- Growing 7 year old child with cerebral palsy
- Needs to be changed regularly
- Parents cannot lift him on to normal changing table
- Need one that translates vertically, safe, easy to operate, reasonable cost, and aesthetically pleasing
- Unit built with scissor lift, table platform, and storage space unit

Introduction

Background

- Cerebral palsy describes group of disorders that affect brain and nervous system
- Impairs movement, hearing, thinking/learning, vision, and cognitive development
- Affects 800,000 children and adults in US

Motivation

- Clients would like an adjustable height changing table
- Current changing tables range from \$2500-\$5000
- Less costly table to be designed
- Aesthetically pleasing, current changing tables made for clinical settings
- Placed in bedroom and feel more at home
- Others can benefit from use

Final Design

Design Criteria	Design Features	Cost	
Adjustable Height	Scissor Lift	Lift	\$210.99
Storage Area	Cabinet and Drawer	Unfoak Base Cabinet	\$61.94
User Safety	Seatbelt/Lift Frame Cover	Other Wood Products	\$152.62
Comfort	Table Padding	4 FT Lashing	\$2.11
Aesthetically Pleasing	Stained Oak	Total	\$427.65
		Labor Total:	\$963.25
		Profit Total:	\$1500

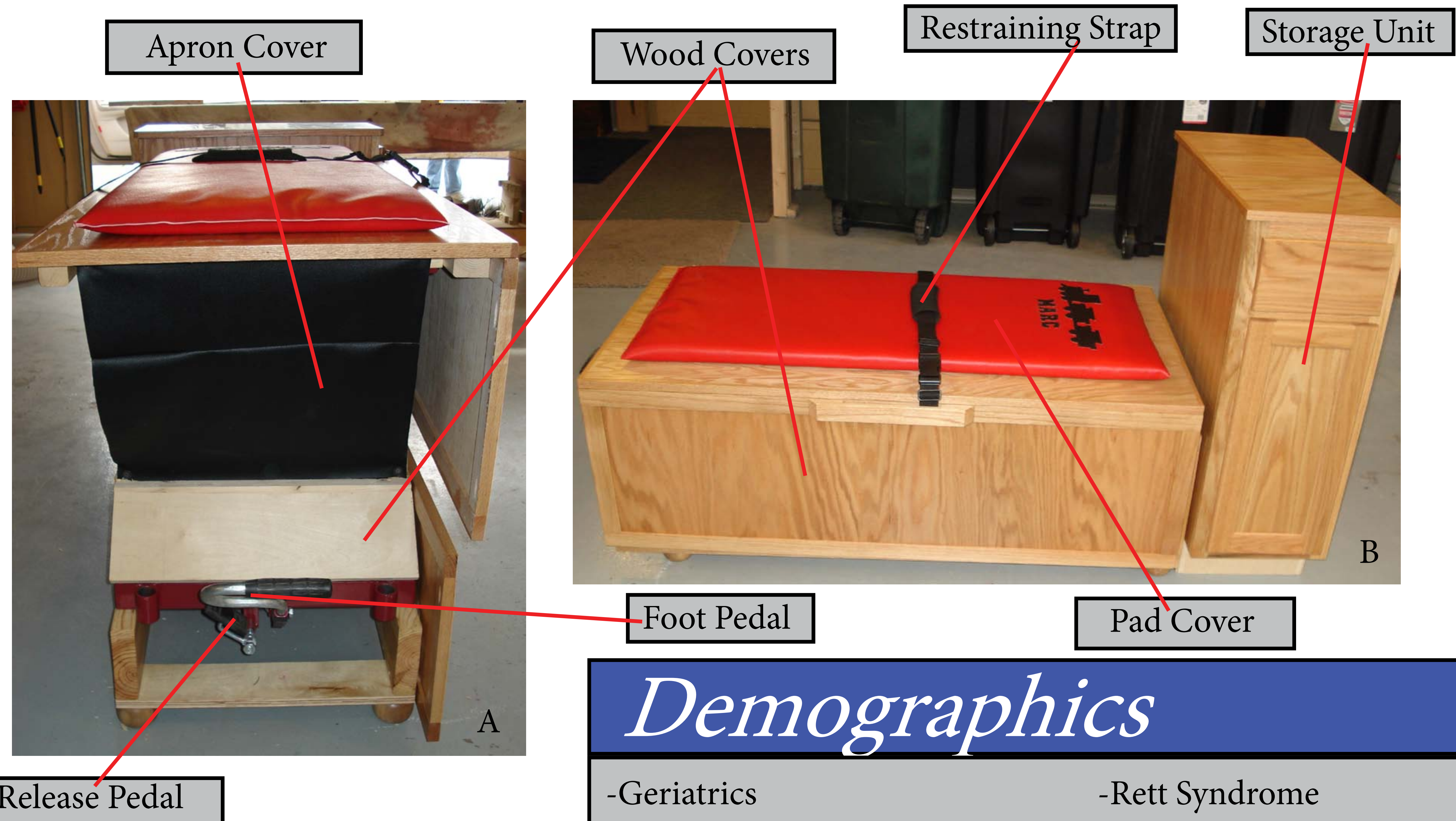


FIG 1: Labeled features of the side view (A) and front view (B) of the table.

Demographics

- Geriatrics
- Cognitive Disabilities
- Muscular Dysrophy
- Amputees
- Rett Syndrome
- And many more...
- Home, School, Hospital

Testing

FIG 2: Gives the time it took to use the lift in a rigorous manner (A) and a more casual manner (B).

(A) Rigorous Tempo				(B) Slow Tempo			
Trial #	Time Up (secs)	Pumps	Time Down (secs)	Trial #	Time Up (secs)	Pumps	Time Down (secs)
1	9.5	22.0	4.0	1	22.0	21.0	4.6
2	9.9	24.0	2.7	2	17.4	21.0	4.5
3	8.7	23.0	2.7	3	21.2	22.0	5.1
4	8.7	23.0	2.7	4	20.0	22.0	6.5
5	8.5	21.0	2.7	5	19.1	22.0	6.1
Average	9.1	22.6	3.0	Average	20.0	21.6	5.4

Conclusion

Improvements

- Lighter Overall Weight
- Roller Track System for Added Stabilization
- More Storage Space

Next Steps

- Patent
- California School District
- Delivery to Client