Adaptive Equipment Project: A Tool for More Independent Living

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Background of Client

Lyle is 69 year old retired male who worked as a pastor's assistant. Currently volunteers his time developing programs for Sunday school at his church. Lives at home with his wife.

During initial interview process (2/7/19), Lyle expressed concerns with the ADLs of eating and drinking due to increasing tremors.

- Diagnoses include:
  - Lewy Body Dementia
  - Beginning stages of Parkinson's Disease
  - Experienced a Left Transient Ischemic Attack (TIA) in 2013
  - Arthritis in the right shoulder and thumb of left hand

Our Goal:

- to slow progression of Parkinson Disease and Lewy Body Dementia symptoms
- Assessment done on 2/14/19

Subjective Data

Client reported drinking out of a cup to be difficult due his hands shaking.

Objective Data

Pt. seen during 60 min. OT in home assessment.

ADLs: Client's dominant R hand spilled water when attempting to take a drink due to hand tremors in both hands. Client's tremors occurred when self-feeding, as well as at rest. Client compensated for dynamic balance impairments when dressing and bathing by sitting down on a chair.

ROM: L thumb MP palmar adduction not WNL due to arthritis. Client demonstrates cylindrical and spherical grasp WFL

Objective Data

Strength: MMT done on both hands; scores were as follows:

Side	Type and Motion	MMT Score
L	Finger MCP, DIP, PIP flex.	5/5
R	Finger MCP, DIP, PIP flex.	5/5
L	Thumb IP flex	5/5
R	Thumb IP flex	5/5
L	Thumb Radial Abd.	4/5
R	Thumb Radial Abd.	5/5
L	Wrist flex.	5/5
R	Wrist flex.	5/5
L	Wrist ext.	5/5
R	Wrist ext.	5/5

Objective Data

Coordination: Client's tremors in both hands increased when engaging in the finger-to-nose-to-finger gross motor coordination assessment. Client completed it 6/6 times successfully with both hands.

Cognition: Client was attentive during session. Client was also able to follow directions during initial assessment despite progression of Dementia.

Assessment

A: Problems with limited ROM in L thumb MP palmar adduction and hand tremors interfere with client's ability to get food to his mouth and take a drink without spilling. Client's arthritis and tremors inhibit the use of normal silverware and his preferred choice of drinkware. Pt. demonstrates good rehab potential due to intact cognition, strength in hand and wrist, and willingness to follow through with adaptive equipment. Pt. would benefit from skilled OT services to increase stability with use of adaptive equipment when eating and drinking, while compensating for hand tremors.

Plan

P: Client to be seen for OT services 2 more times by 3/7/19 for input on personal goal-setting in ADLs. LTG: Client to be seen for OT services 2 more times by 4/2/19 for skilled instruction and assessment of adaptive equipment. Client will demonstrate proper use of adaptive equipment to compensate for hand tremors by 4/8/19.

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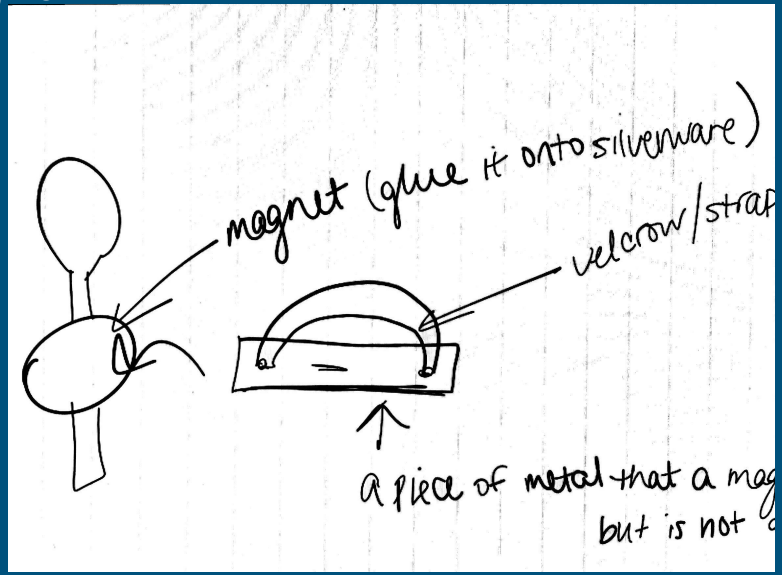
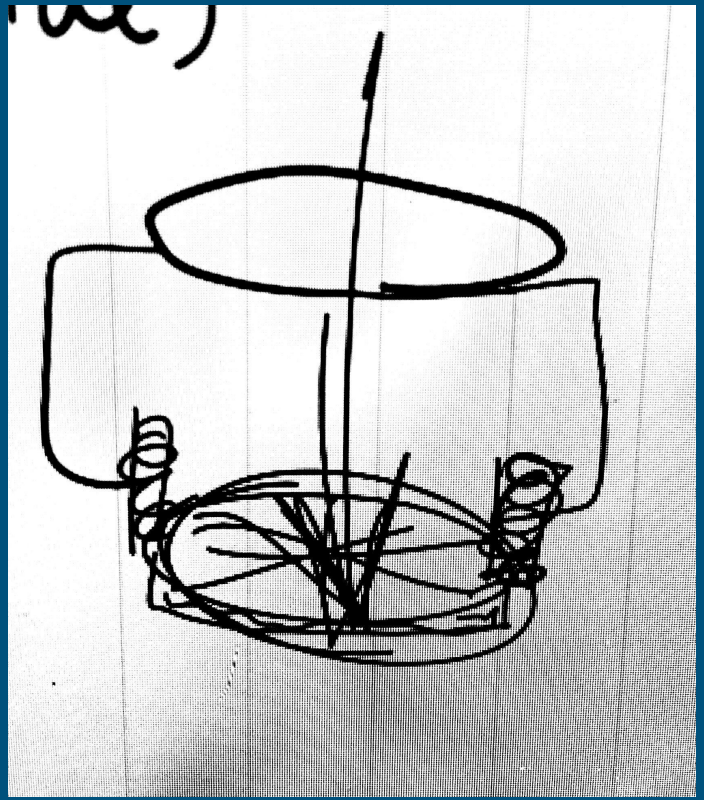
Process of Building: Step One

1. Drawing a Sketch
2. Shopping for Supplies





Process of Building: Step Two

Fabrication of Silverware Handle:

1. Glued magnets onto metal plate
2. Glued felt onto Velcro© straps
3. Attached everything to the metal base

Process of Building: Trials

Trial of Silverware Handle:

Before:

After:

Cost Analysis of Universal Magnetic Silverware Handle

Item	Purchase Cost	Amount Needed	Per-project Cost	Source
- Disc Magnets (12 pack)	$13.99	2 magnets	$2.33	www.amazon.com
- Felt	$0.23	1	$0.23	Wal-Mart
- DB Strike Plate	$1.99	1	$1.99	Menards
- Super Glue	$4.97	1	$4.97	Wal-Mart
- Velcro Straps	$2.89	1	$2.89	Menards

Per-Project Cost: $12.41

Products Found on the Market Today:

Good Grips Weighted Utensils:

Price: $21.79

5 utensils included

Products Found on the Market Today:

Utensil Hand Holder:

Price: $16.95

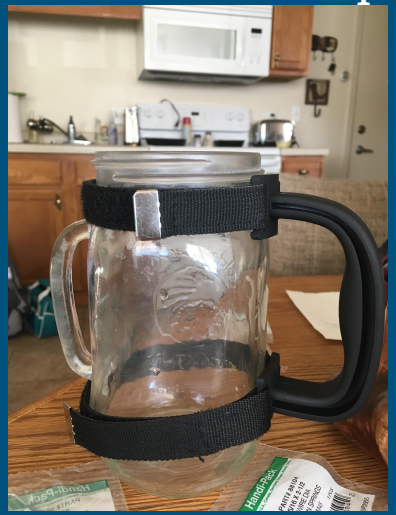
Adjustable when heat is applied

Utensil Pocket

Process of Building: Step Two (cont.)

Fabrication of the 1st Cup Handle:

1. Placed cup into adjustable handle
2. Attached weighted base to handle with springs



Process of Building: Trials (cont.)

Trial of 1st Cup Handle

Before:

After:

Process of Building: Step Two (cont.)

Fabrication of the Final Version of the Cup Handle:

1. Increased the slot space of velcro straps
2. Incorporated a stainless steel plate
3. Attached the adjustable handle to the weighted base by the steel plate with screws
4. Attached the the non-slip from the handle unto the steel plate

Cost Analysis of Universal Cup Handle

Item	Purchase Cost	Amount Needed	Per-project Cost	Source
- Adjustable Velcro Handle (2 pack)	$13.98	1	$6.99	www.amazon.com
- 3” End Cap	$3.39	1	$3.39	Menards
- Screws	$0	4	$0	Donated by group member
- Piece of Stainless steel	$0	1	$0	Donated by group member

Per-Project Cost: $10.38

Total Adaptive Equipment Per-Project Cost: $22.79

Products Found on the Market Today:

Weighted Insulated Mug

Price: $18.95

Large single handle mug with lid

Holds 12 oz.

Products Found on the Market Today

U-Drink Adaptable Holder

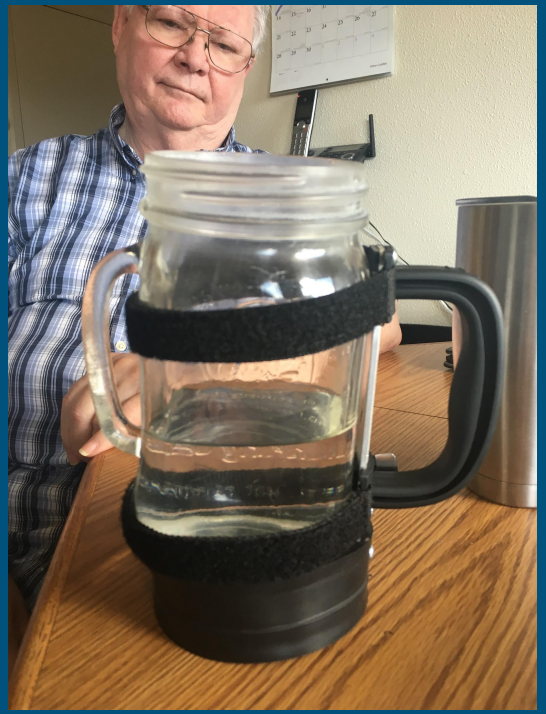
Price: $23.95

Adjustable non-slip stainless steel grip handle

Holds various beverage containers

Lyle’s Perspective…

A Universal Design!



Success!!!!!

Trial of Final Cup Handle:

Questions?

References

www.indemedical.com

www.rehabmart.com

www.caregiverproducts.com