

Home GRASP

Graded Repetitive Arm Supplementary Program

Participant Exercise Manual

(Version 1.1 - November 2021)



Welcome to the GRASP Home Program!

GRASP is a program designed to improve your arm and hand strength, coordination, and your ability to use your stroke-affected arm in daily activities.

Your therapist will help you learn the exercise program and check on your progress weekly. Remember this is a **HOMEWORK-based program** so YOU are responsible for doing your exercises daily and using your stroke-affected hand as much as possible at home.

We hope that your family and friends will support and help you with your exercise program.

Time Commitment:

We are asking you to do 1 hour of prescribed exercises 7 days a week for 8 weeks. You can divide the exercises up into two 30-minute sessions if you wish. We ask that you please check off the exercises that you complete each day on the Log Sheet in your exercise book. **You are also responsible for trying to use your stroke-affected hand as much as possible during the day.**

Why do I need to spend so much time on these exercises?

When you've had a stroke, some of the brain pathways are damaged and the brain will try to repair these pathways as well as use other brain pathways. However, **THOUSANDS of CHALLENGING** repetitions need to be practiced to get these brain pathways active.

The GRASP program will help you activate key arm and hand muscles, so your brain can re-learn how to control these muscles. It can be frustrating to practice difficult exercises over and over again. However, research has shown that the ability to repair the brain is greatest in the first 3 months following a stroke. That is why it is important to do as much as you can safely tolerate now.

Why do I need to spend so much time on these exercises?

Exercises that activate your arm and hand muscles can:

- Repair some of the brain pathways damaged from the stroke
- Strengthen and improve the range of motion of your stroke-affected arm
- Improve your ability to use your stroke-affected arm in daily activities
- Decrease pain in your stroke-affected arm, and improve life satisfaction

We encourage you to use your stroke-affected hand as much as possible during your regular daily activities. See suggestions of how throughout the manual.

How to be successful in this program:

1. Have regular prescribed time for the GRASP exercises
2. Monitor your progress by tracking your GRASP exercise time
3. Ensure the GRASP exercises are challenging
4. Use the stroke-affected arm as much as you can in your waking house

Grading of the Exercises

Work with your therapist to determine which level to start with for each exercise. To make the exercise more challenging, there are multiple levels available for some exercises. The exercises can be made more difficult by using smaller pieces (e.g., smaller Lego, Pick Up Sticks) or by increasing the number of repetitions in a set. Check in frequently with your therapist to ensure that you are doing the exercises at the appropriate level of difficulty.

Family/Caretaker Involvement

We encourage your family to do the exercise program with you. Here are some ways they can be involved:

- ✓ Encourage you to use your stroke-affected hand as much as possible throughout the day when it is safe to do so
- ✓ Help you to organize the exercise equipment for quick changes between exercises
- ✓ Help you to put exercise equipment away after each exercise is done
- ✓ Keep track of your exercise time on the Daily Log Sheet (at end of book)
- ✓ And most of all, help encourage and motivate!

Safety

Please tell your therapist as soon as possible if:

- pain stops you from doing your exercises
- you feel so tired after doing your exercises that you cannot participate fully in your regular daily activities

Equipment

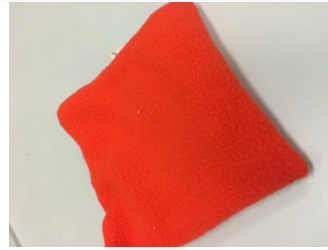
The exercises are meant to be completed in your home. A chair and table are required as the exercises are best completed in a sitting position. The following items are required for the Home GRASP Exercises. Most items are available at your local “Dollar” store. Medical supply stores may have the theraputty, gripper and weight or ask your therapist for advice on where to get the materials.



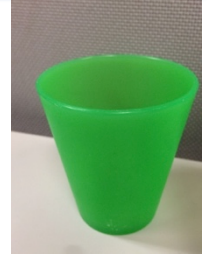
Wrist weight- 0.5-1lb



Tennis ball



Bean bag



Cup



Hand Gripper- 5lb resistance



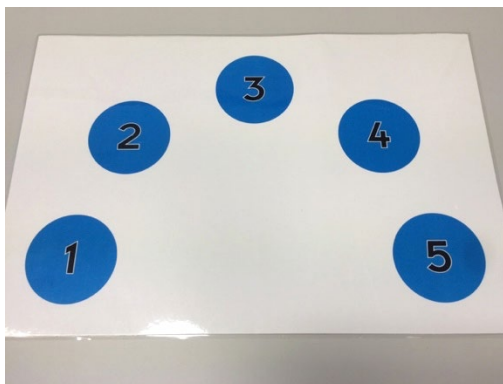
Knife & Fork



Towel



Theraputty

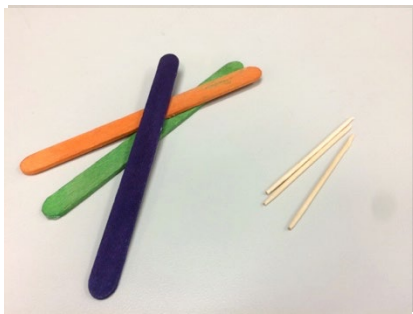


Target Board – See template at end of book for print out

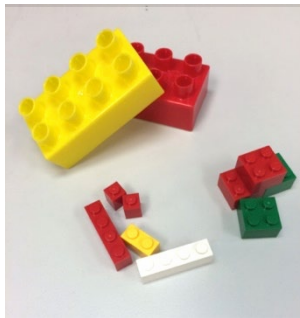


Buttoned shirt

Equipment



Popsicle sticks & toothpicks



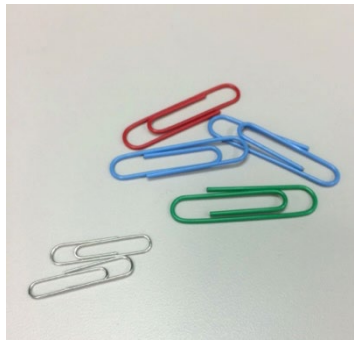
Various sizes of Lego



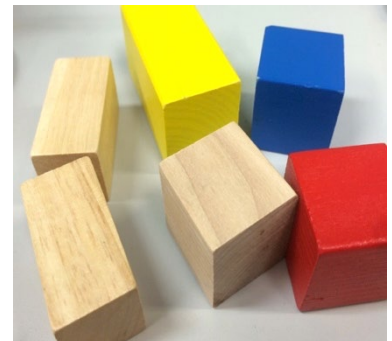
Poker chips, pennies, dimes



Various sizes of clothes pegs



Various sizes of paper clips



Various sizes of blocks



Various jars

Sanitization of Equipment

Ensure equipment used in the GRASP program is frequently sanitized by dish soap, sanitization solution or disinfectant wipes.

Structure of Exercises

The exercises are grouped into 5 sections:



Stretching



Hand Skills



Arm Strengthening



Coordination



Hand Strengthening

Section 1: Stretching

The first section of exercises is to help warm-up your upper extremities.

1.

- Stretches should be done slowly

2.

- Rotate between doing exercise on your weaker and stronger arm/hand

1) Total Arm Stretch

1. Sit straight in your chair and lean forward over your knees.
2. Make sure that your arms hang loosely in a relaxed stretch.
3. You should feel a stretch through your shoulders.
4. Hold the stretch for a count of 10 and then slowly straighten up.
5. Repeat 2 times.



2) Shoulder Shrug

1. Sit in a chair with your arms by your side.
2. Make sure your back is touching the back of the chair.
3. Raise your shoulders towards your ears for a count of 3.
4. Return to starting position.
5. Repeat 10 times



3) The Twist

1. Make sure your back is touching the back of the chair for the whole exercise.
2. Clasp your hands together and pull forward until you feel a stretch through your back.
3. Turn your body to the left and hold for a count of 3.
4. Turn your body to the right. Hold for a count of 3.
5. Repeat 5 times for each side.

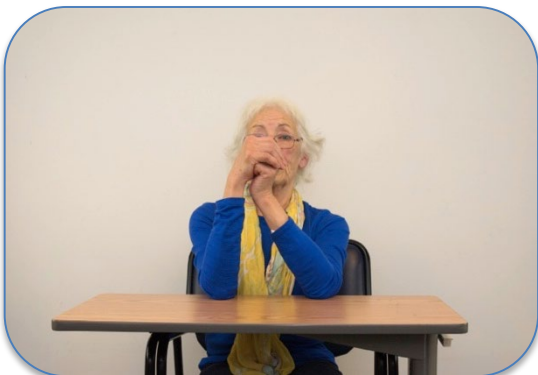
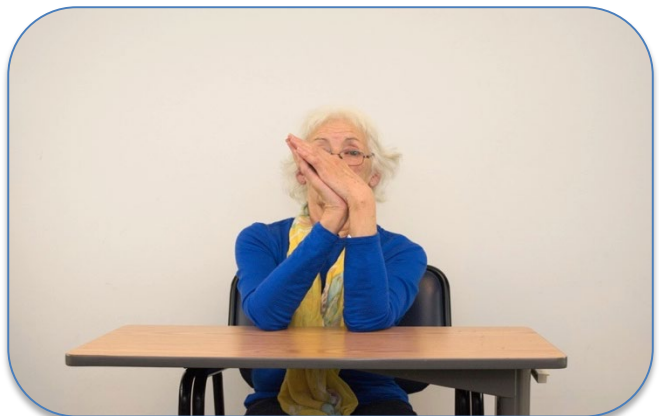


4) Hand & Wrist Stretch

1. Place your palms together.
2. Push the left hand against the right.
3. Hold for a count of 3.
4. Push the right hand against the left.
5. Hold for a count of 3.
6. Repeat 5 times for each side.

Tip:

If it is hard to put your hands flat together, make a fist with your weaker hand and place your stronger hand over top.



Section 2: Arm Strengthening

The next section of exercises is for increasing arm strength. Here are some tips.

1.

- Your muscles should feel tired after each set

2.

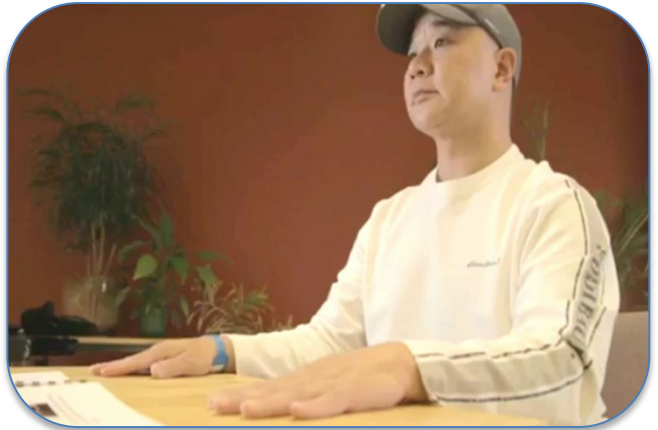
- The exercises should be difficult to do, but not painful in any way

3.

- If your arm is stiffening up (hard to move), perform the Total Arm Stretch to relax your arm (exercise #1 on page 9).

5) Push Ups

1. Place the table against a wall
2. Place the palm of your hands on the edge of the table
3. Lean your chest towards the table for a count of 5.
4. Push away from the table for a count of 5.



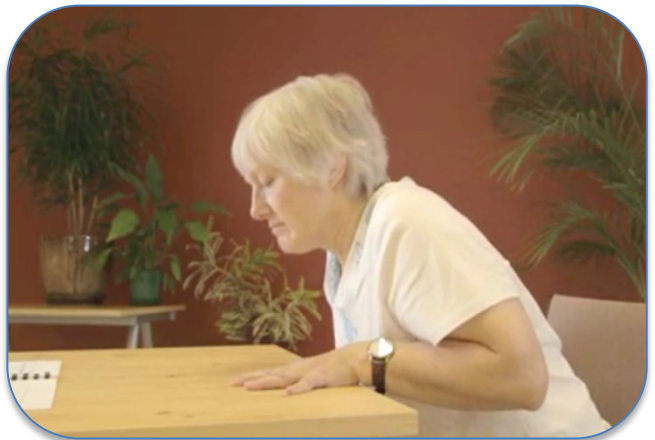
- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

Tip: Try to put as much weight as you can through your weaker arm.

If you cannot put your weaker hand flat on the table, place your forearms on the table and then do a push-up.

6) One Arm Push-Ups

1. Place your weaker hand flat on the table. Use your stronger hand to help keep your hand in place.
2. Lean your chest toward the table for a count of 5.
3. Push away from the table for a count of 5.

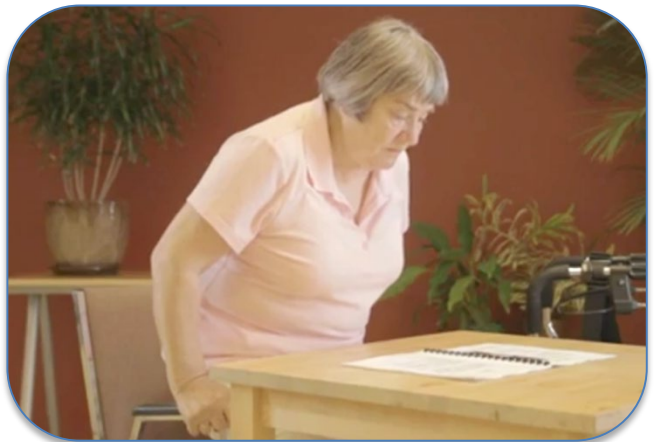


- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

Tip: Try to put as much weight as you can through your weaker arm.

7) Chair-Ups

1. Sit in a chair with both your hands on the arm rests.
2. Using your arms, NOT your legs, push your body upwards so that your bottom comes off the chair.
3. Hold for a count of 3
4. Lower yourself for a count of 3



- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

Tip: Put as much weight as you can through your arms, NOT your legs when you push up.

8) Shoulder Exercises: Arm to the Front

1. Place the weight around your weaker wrist or palm.
2. Raise your arm as high as you can but not higher than your shoulder height, for a count of 3.
3. Lower your arm down for a count of 3.

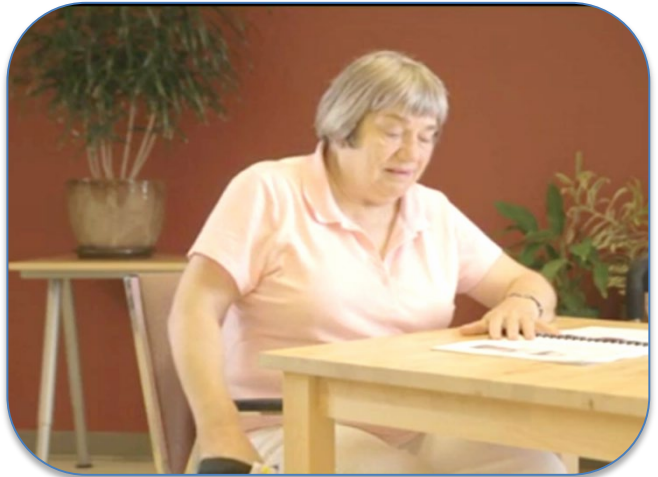
Tip: If you need to, place your stronger hand on your shoulder to prevent your shoulder from hiking up. This is a good exercise to do in front of a mirror.

- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions



9) Shoulder Exercises: Arm to the Side

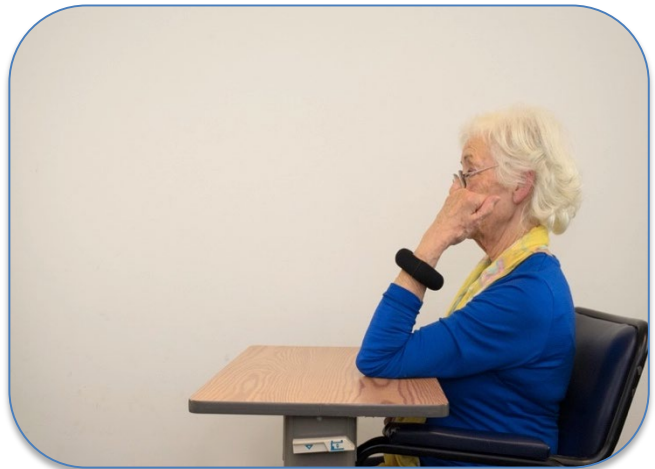
1. Place the weight around your weaker wrist or palm.
2. Raise your arm out to the side as high as you can but not higher than your shoulder, for a count of 3.
3. To prevent your shoulder from hiking up, place your stronger hand on it.
4. Lower your arm down for a count of 3.



- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

10) Elbow Exercises

1. Place the weight around your weaker wrist.
2. Place your hand, palm up, on the table
3. Keeping your elbow on the table, raise your hand towards your shoulder for a count of 3.
4. Lower your hand down for a count of 3.



- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

Tip: If you can't raise your hand to shoulder height, raise it as high as you can and then use the other hand to assist.

11) Wrist Exercises- Part I

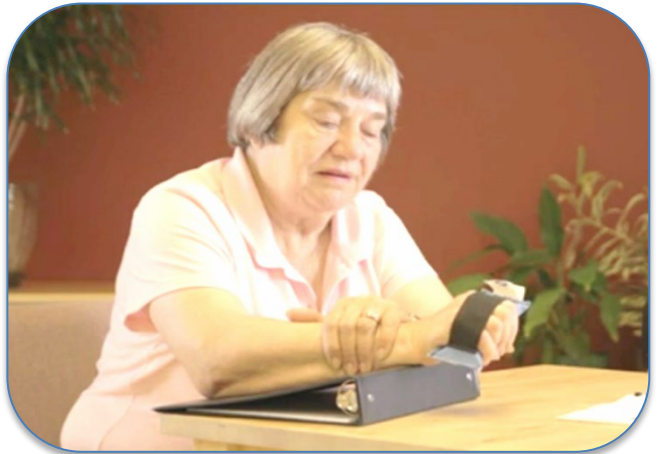
1. Place the weight around the fingers and knuckles of your weaker hand.
2. Place your forearm on the table, palm facing down.
3. Stabilize your weaker arm with your stronger hand.
4. Keeping your wrist on the table, lift your palm as high as you can for a count of 3.
5. Lower your palm down for a count of 3.



- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

12) Wrist Exercises- Part 2

1. Keep the weight on your hand.
2. Place your arm on the table with your hand over the edge of a table or binder.
3. Stabilize your weaker forearm with your stronger hand.
4. Lift your palm as high as you can for a count of 3.
5. Lower your palm down for a count of 3.



- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions



Use your stroke-affected hand as much as possible today

How often did you use your stroke-affected hand yesterday? (for example, 50% of the time during tasks that required hand use)

Think of some challenging (but safe) ways that you can use your stroke-affected hand more. For example, use your stroke-affected hand today to...

Open the Door

Brush your teeth

Eat your lunch

If your stroke-affected hand is your non-dominant hand (left, for most people), you might not use it much. To maximize your hand recovery, brush your hair or hold your phone in your stroke-affected hand, even if you usually use your other hand.

Section 3: Hand Strengthening

The next section of exercises is for increasing the strength of your hand.

1.

- Your muscles should feel tired after each set

2.

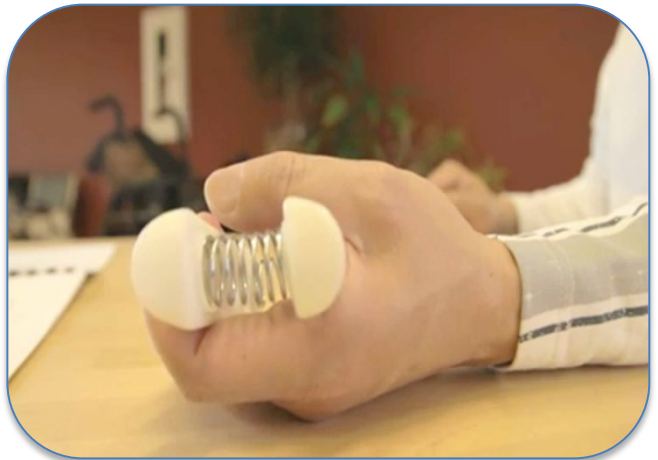
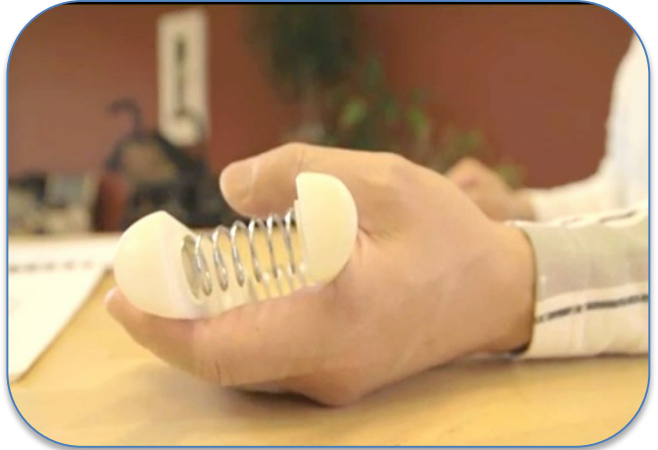
- If your hand muscles are stiffening up, try the hand and wrist stretch (exercise #4 on page 12)

3.

- If your hand muscles are stiffening up while using the gripper (for exercise #13), try using a ball.

13) Grip Power

1. Place your weaker arm on the table.
2. Place the gripper in your palm between your knuckles and your thumb pad.
3. Squeeze the gripper as hard as you can for a count of 3.
4. Relax and open your hand for a count of 3.



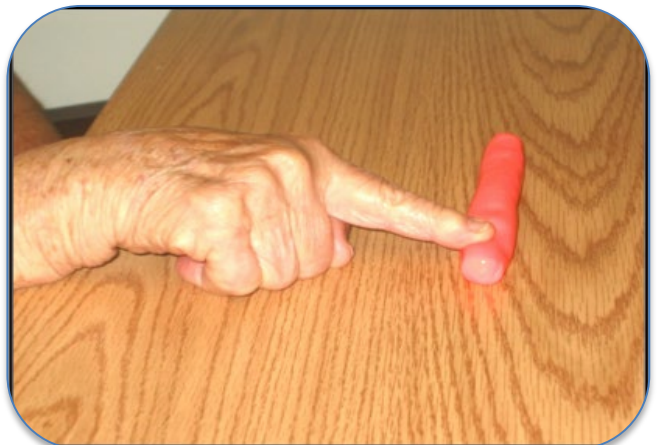
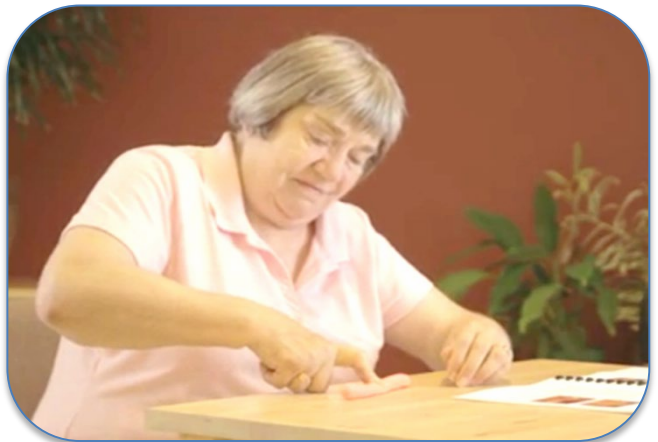
- 3 sets of 5 repetitions
- 3 sets of 8 repetitions
- 3 sets of 10 repetitions

Tip: Remember to open your hand after gripping. Try to keep other muscles relaxed, especially your shoulders.

14) Finger Power

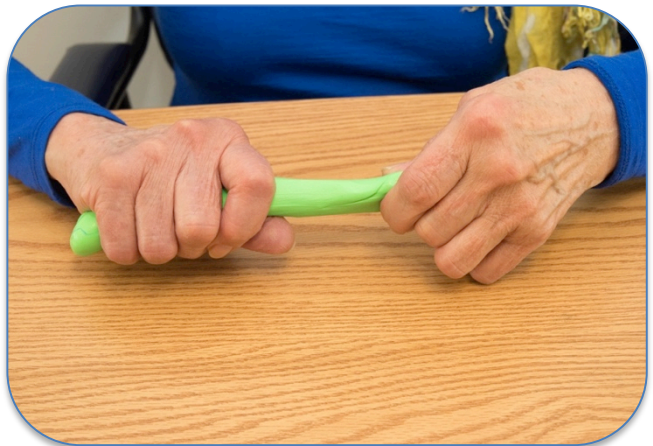
1. Place the putty on the table and roll into a thick rope.
2. Take each finger of your weaker hand, starting with your thumb, and push into the putty. Do not allow the finger tip to hyper-extend.
3. Re-roll the putty.
4. Repeat this exercise 3 times.

Tip: Does the theraputty provide enough resistance for you? The exercises should be challenging so ensure you use a grade of putty that has the right level of resistance.



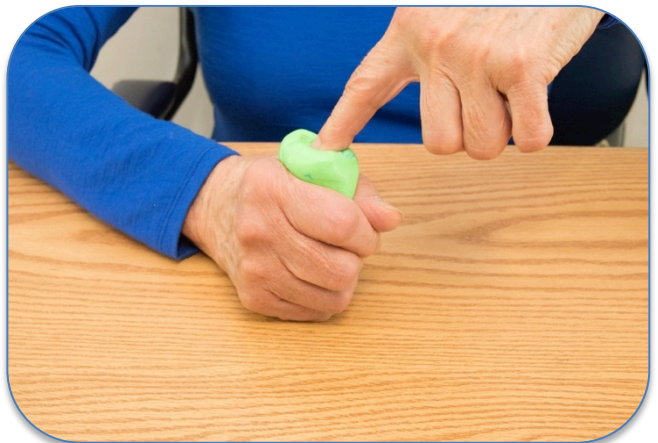
15) The Twist

1. Place the putty on the table and roll into a thick rope.
2. Hold the putty rope in your strong hand.
3. Using the thumb, index, and middle finger of your weaker hand, twist the putty along the rope.
4. Reroll and repeat 10 times.



16) Finger Strength

1. Roll the putty into a ball.
2. Hold the putty ball in your stronger hand.
3. Take one finger at a time, start with your thumb, and push it into the putty ball. Do not allow the finger to hyper-extend.
4. Reroll and repeat 3 times



17) Cutting

1. Take the putty and flatten it on the table with your weaker hand
2. Using the knife and fork as you would usually do, cut the putty into 4 evenly shaped pieces
3. Re-shape into a pancake with your weaker hand and repeat 5 times



Section 4: Coordination

The next section of exercises is to help increase coordination and increase your ability to do your day to day activities. If you find your arm is tired or stiffening up, try the following:

1.

- Take a rest break of 30 seconds after each exercise.

2.

- Rotate between doing exercise with your weaker and stronger arm/hand.

3.

- Decrease the amount of repetitions you perform, but increase the number of sets with rests in between

18) Waiter

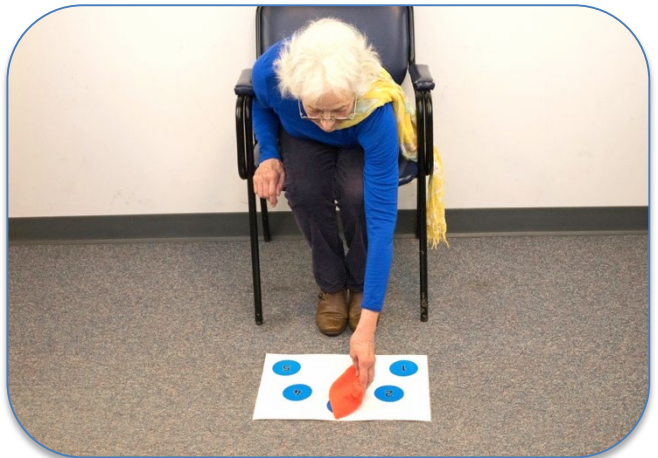
1. Place the target board on a table.
2. Using your weaker hand, place the object on the 1st dot. Leave the object on the dot and return your weaker hand to your lap.
3. Then, reach again with your weaker hand to pick up the object and place it on dot 2. Release the object and return your hand to your lap.
4. Continue until you have placed the object on each dot.
5. Once you have finished 5 dots reverse the order moving the object from 5, 4, 3, 2, 1. Always release and return your hand to your lap each time.
6. Repeat 3 times.



- Use bean bag
- Use cup

19) Advanced Waiter

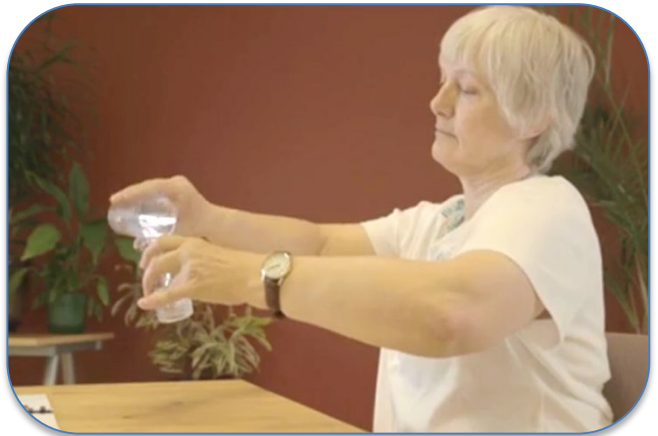
1. Place the target board on the ground about 6 inches in front of your chair
2. Hold the bean bag in your weaker hand.
3. Hold on to the arm rest with your stronger hand and lean forward.
4. Place the bean bag on dot 1. Return to an upright position with your back against chair.
5. Lean forward and pick up the bean bag and place it on dot 2, sit up. Repeat this process for each dot.
6. Repeat the process until dot 5.
7. Repeat 3 times



Tip: If at any time you feel dizzy, STOP and rest for one minute. Do not continue this exercise if you still feel dizzy.

20) Pouring

1. Place two cups on the table, one half full of water.
2. Hold the empty cup with your stronger hand, pick up the cup with water with your weaker hand.
3. Do 3 sets of 10 pours



Tips:

If using water is hard for you, use paper clips in the cup instead. Focus on using your hands to pour. Don't tilt your trunk or elbow to pour.

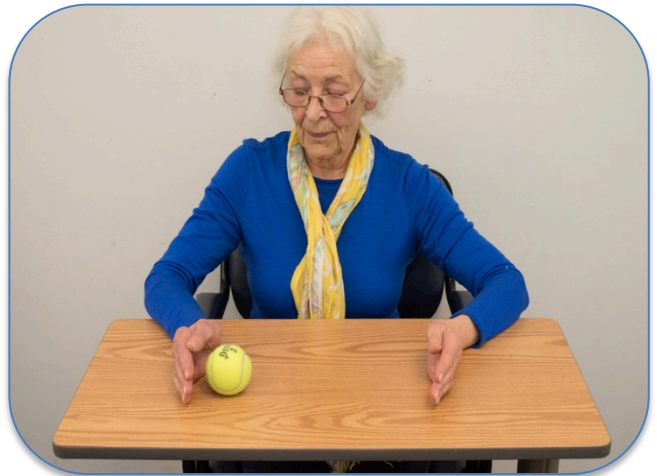
21) Start the ball rolling

1. Place your hands on a table, shoulder width apart.
2. Roll or push the ball back and forth between your hands.
3. Continue until you have caught the ball with your weaker hand 10 times.

Modification:

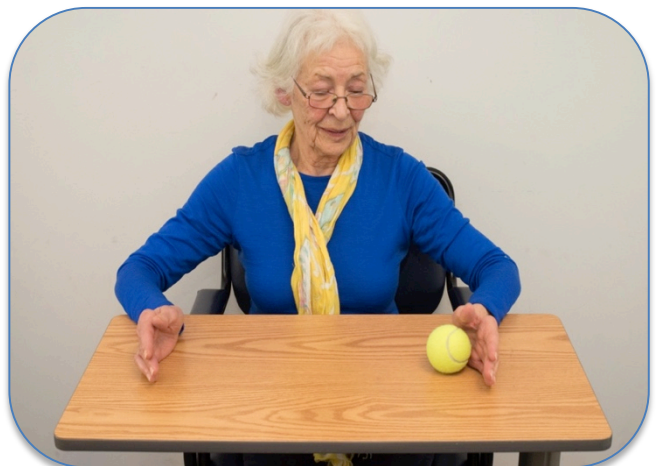
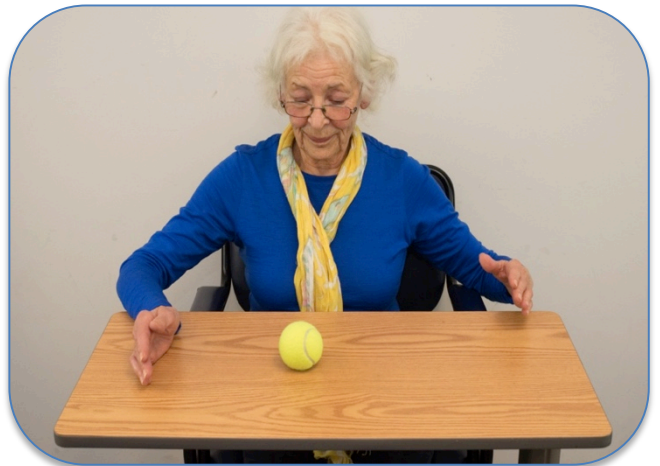
If this is easy for you, try rolling the ball faster or placing your hands further apart.

If this is hard for you, use the bean bag instead of the ball.



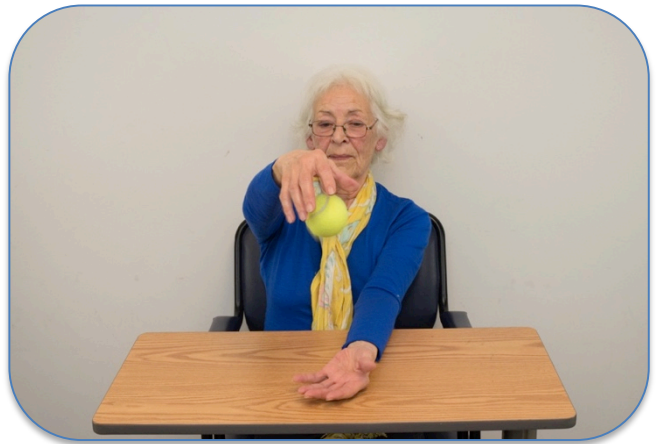
22) Start the ball rolling- Advanced

1. Start with your weaker hand in your lap and your stronger on the table.
2. Roll or push the ball. Quickly lift your weaker hand from your lap and try to catch the ball.
3. Return your weaker hand to your lap. Continue until you have caught the ball with your weaker hand 10 times.
4. Do 3 sets of 10 catches.



23) Drop and Catch

1. Place the object in your stronger hand.
2. Place your weaker hand on the table.
3. Raise the object in the air as high as you can.
4. Drop the object and try and catch it with your weaker hand.
5. Then switch and drop the object with your weaker hand.



- Use bean bag
- Use ball

- 3 sets of 5 catches on each side
- 3 sets of 8 catches on each side
- 3 sets of 10 catches on each side

24) Total Arm Stretch

1. Sit straight in your chair and lean forward over your knees.
2. Make sure that your arms hang loosely in a relaxed stretch.
3. You should feel a pull through your shoulders.
4. Hold the stretch for a count of 10 and then slowly straighten up.
5. Repeat 2 times.



**Use your stroke-affected hand
as much as possible today**

Set your daily target

**Today, I will use my stroke-affected hand
_____ % of the time whenever I need to do
something with my arms or hands.**

**Some more challenging (but safe) ways that you can use
your stroke-affected hand more. Try the below suggestions
today.**

Turn a key

Brush your hair

Open a drawer

Section 5: Hand Skills

The next section of exercises is to help improve your hand skills.

1.

- The exercises need to be difficult – you should mishandle or drop an item at least once per set. Otherwise, you need to make it more challenging. It is normal to feel some frustration with these exercises.

2.

- Most exercises can be made more difficult by reducing the size of the item (smaller button, lego or coin)

3.

- If your hand is cramping, try the hand and wrist stretch (exercise #4 on page 12)

25) Laundry

1. Use both hands for the following exercise.
2. Take the towel provided and place it on the table.
3. Fold it in half and then in half again using your weaker hand as much as possible.
4. Unfold it.
5. Fold and unfold the towel 5 times.



Tip: Focus on using your weaker hand as much as possible.

26) Buttons

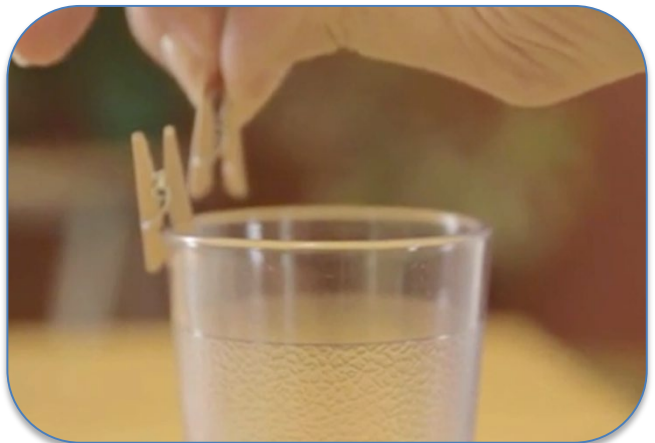
1. Take a shirt with buttons out of your closet.
2. Put it on and do up 3 buttons. Use your weaker hand to push the button into the hole.
3. Now undo the 3 buttons.
4. Repeat 5 times.
5. Now use your stronger hand to push the button in the hole, and use your weaker hand to stabilize the cloth.
6. Now undo the 3 buttons.
7. Repeat 5 times.



Tip: Start with large buttons and move to smaller buttons when you are able.

27) Hanging up the Clothes

1. Place a cup on the table.
2. Using your weaker hand, take each of the 5 clothes pegs and clip it on the edge of the cup.
3. Using your weaker hand, take each peg off the cup and place on the table.
4. Repeat 5 times.



- Large Peg
- Small Peg

28) Lego

1. Place 5 Lego blocks on the table.
2. Using your weaker hand, stack the Lego blocks into a tower.
3. Using your weaker hand, un-stack the tower.
4. Repeat 5 times.



- Large Lego
- Medium Lego
- Small Lego

29) Block Towers

1. Place 5 wooden blocks on the table.
2. Using your weaker hand, stack the blocks into a tower.
3. Using your weaker hand, un-stack the tower.
4. Repeat 5 times.

- Medium Blocks**
- Small Blocks or Dice**

Tip: Try to use your fingers to pick up the blocks, not your whole hand.



30) Pick up Sticks

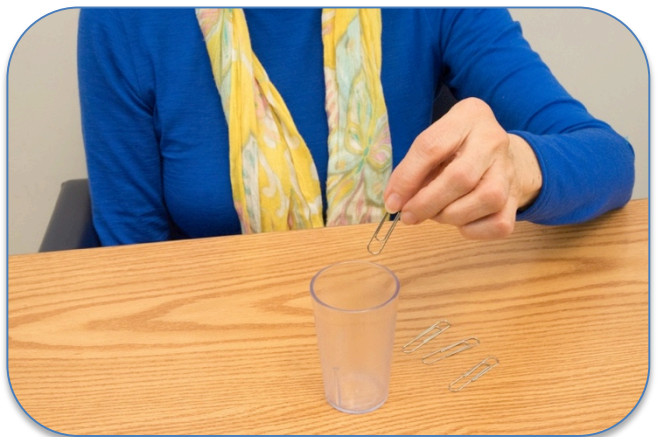
1. Place 5 popsicle sticks and a cup on the table.
2. Using your weaker hand, pick up each stick and place in the cup.
3. Using your weaker hand, turn the cup upside down and dump them out.
4. Repeat 5 times.



- Large sticks
- Small sticks (toothpicks)

31) Paper Clips- Part 1

1. Place 5 paper clips and a cup on the table.
2. Using your weaker hand, pick up each paper clip and place them in the cup.
3. Using your weaker hand, turn the cup upside down and dump them up.
4. Repeat 5 times .



- Large clips
- Small clips

32) Paper Clips- Part 2

1. Take 5 paper clips and string them together to make a chain. Use your weaker hand to push each clip on.
2. Now take the chain apart.
3. Repeat using your stronger hand to push each clip on.



- Large clips
- Small clips

Tip: If this is too difficult, practice using 2 clips.

33) Flip over

1. Put 5 objects on the table in a line.
2. Using your weaker hand, flip each object over one at a time. Do not slide them off the end of the table to flip them over.
3. Do it as fast as you can.
4. Repeat 10 times.



- Use large Lego
- Use poker chip
- Use dime or penny

34) Jars

1. Place the jar on the table.
2. Hold the jar with your weaker hand and take off the lid with your stronger hand.
3. Replace the lid.
4. Repeat 5 times.
5. Now hold the jar with your stronger hand and take off the lid with your weaker hand.
6. Replace the lid with your weaker hand.
7. Repeat 5 times.



Tip: Use a variety of sized jars. For instance, having 1 narrow and 1 wide mouth jar available.

35) Drying off

1. Place the towel on the table. Fold in half length wise.
2. Place a hand on each end of the towel and lift the towel over your head so it touches your neck.
3. Move the towel back and forth across your neck and your shoulders 10 times, as if you are drying after a shower.
4. Repeat 5 times.

Tip: Focus on using your stroke-affected hand as much as possible.



Have you completed one hour of exercise?

If it took you less than one hour to complete your exercises, you can start with the last exercise (Drying off) and move backwards in the book until at least one hour has passed.

The MORE you activate your muscles and move your arms and hands, the more your brain re-learns how to control the muscles!

Set your daily target.

Today, I will use my stroke-affected hand _____% of the time whenever I need to do something with my arms or hands.

Use your stroke-affected hand as much as possible today!
Try these examples below today:

Make your
bed

Fold laundry

Load the
dishwasher

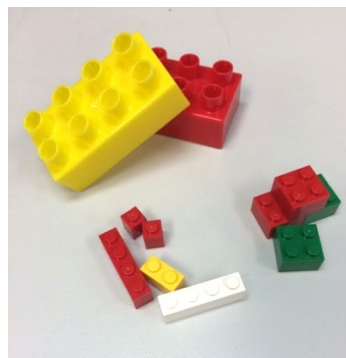
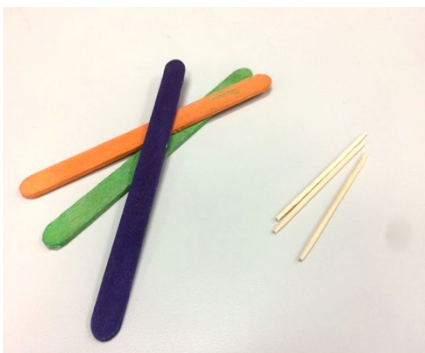


These hand exercises need to be challenging to improve your brain's function. If you completed a hand exercise set without making any mistakes, such as mishandling or dropping the object, you need to make it MORE difficult.

Here are some ideas to increase the challenge:

- Use smaller Lego blocks
- Use toothpicks for pick-up sticks
- Use dimes for the flip-over exercise
- Use smaller paper clips for paper clip exercise
- Use small blocks, dice or sugar cubes for block towers
- Increase the weight for the strengthening tasks
- Try to do the exercises faster

The exercises should be so difficult that you drop or mishandle an object 1 out of every 5 repetitions.



GRASP Log Sheet

Customize the calendar by writing in month and dates on the lines. Write the number of minutes you did GRASP exercises each day. Note unusual events such as flu or surgery that may have prevented GRASP practice. Also note if pain or excessive fatigue.

Month: _____

Day	Mon	Tues	Wed	Thur	Fri	Sat	Sun
GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____

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GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____
GRASP minutes	_____	_____	_____	_____	_____	_____	_____



GRASP Progress Tracker

Participant name: _____ Instructor name: _____

Item	#Sets	#Reps	Note/Tips
Section 1: Stretching			
1 Total Arm Stretch			
2 Shoulder Shrug			
3 The Twist			

4	Hand and Wrist Stretch				
Section 2: Arm Strengthening					
5	Push-ups				
6	One Arm Push-ups				
7	Chair-ups				
8	Shoulder exercise: Arm to Front				

9	Shoulder exercise: Arm to Side				
10	Elbow Exercise				
11	Wrist Exercise – Part 1				
12	Wrist Exercise – Part 2				
Section 3: Hand Strengthening					
13	Grip Power				

14	Finger Power					
15	The Twist					
16	Finger Strength					
17	Cutting					
Section 4: Coordination						
18	Waiter					

19	Advanced Waiter					
20	Pouring					
21	Start the ball rolling					
22	Start the ball rolling – Advanced					
23	Drop and Catch					
Section 5: Hand Skills						



24	Laundry				
25	Button				
26	Hanging Up the Clothes				
27	Lego				
28	Block Towers				
29	Pickup Sticks				



30	Paper Clips – Part 1				
31	Paper Clips – Part 2				
32	Flip Over				
33	Jar				
34	Drying Off				

Please identify to which extent you agree or disagree with the following statement:
“How much did you use your affected arm and hand in your daily activities in the last 7 days?”

	A lot less than last week	A bit less than last week	Same as last week	A bit more than last week	A lot more than last week
Week 2					
Week 3					
Week 4					
Week 5					
Week 6					
Week 7					
Week 8					
Week 9					
Week 10					

List activities that you will do with your affected hand and continue to do the activities in your daily life:

Note 1: Some more challenging (but safe) ways that you can use your affected hand more. Try the below suggestions: Turning a key, brushing your hair, opening a drawer, eating your lunch, brushing your teeth, making your bed, folding laundry...etc.

Note 2: If your affected hand is your non-dominant hand (left, for most people), you might not use it much. To maximize your hand recovery, brush your hair or hold your phone in your affected hand, even if you usually use your other hand.

Target Board Print-Out

3

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