Welcome to the GRASP 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. While GRASP is often started in the hospital and continued at home, it can be started in the home setting.

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 during your waking hours. This is the second version of the Hospital GRASP which provides more guidance on progressing the exercises and using your stroke-affected arm as much as possible for day to day tasks. 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 4 weeks. You can divide the exercises up into two 30-minute sessions if you wish. 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.
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.

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

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

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 hours
Progressing 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
As GRASP requires substantial commitment, it may not be appropriate for everyone. We ask you to assess your own commitment to determine if this program is realistic for you.

Participant living with a stroke

I will do the GRASP exercises ONE hour each day, seven times a week starting _______________(date) and ending ______________(date).

How confident am I that I will do this? _______
Use a scale of 0 to 10, with 0 being not at all confident and 10 being completely confident.

Signed ____________________ (patient)

Family/Caregiver (if available)

I will assist ________________(patient name) with the GRASP exercises ________times per week starting ______________(date) and ending ______________(date)

How confident am I that I will do this? _______
Use a scale of 0 to 10, with 0 being not at all confident and 10 being completely confident.

Signed ____________________ (family/caregiver)
The exercises are meant to be completed in your hospital room or home if you have been discharged. A chair and table are required as the exercises are best completed in a sitting position. The following items are required for the Hospital GRASP Manual #3:

- **Wrist weight-** 0.5-1lb
- **Cup**
- **Target Board-** see template at end of book
- **Towel**
- **Hand Gripper-** 5lb resistance
- **Theraputty**
- **Tennis ball**
- **Beanbag**
- **Various sizes of clothes pins**
- **Various sizes of paper clips**
Equipment (continued)

- Popsicle sticks & toothpicks
- Various sizes of Lego
- Poker chips, pennies, dimes
- Buttoned shirt
- Various jars
Structure of Exercises

This manual groups exercises 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. Stretches can be done in between other exercises if you feel your muscles are getting tight.
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.
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
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.
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.
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.

Try the below suggestions today. Try to use your stroke-affected hand as much as possible with minimal help from your stronger hand.

Dry yourself with towel after shower
Push lever to flush toilet
Close a cupboard door
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 (page 10).**
Push Ups

1. Place the table against a wall
2. Place your hands on the table, palms down or you can place your palms on the edge of the table.
3. Lean your chest towards the table for a count of 5.
4. Try to put as much weight as you can through your arms/
5. Push away from the table for a count of 5.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

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

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

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

GRASP Level #3 Arm Strengthening
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

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

Tip: Put as much weight as you can through your arms, NOT your legs when you push up.
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, for a count of 3.
3. Lower your arm down for a count of 3.

Tip: To help keep your shoulder from hiking up, place your stronger hand on it.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions
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 help keep your shoulder from hiking up, place your stronger hand on it.
4. Lower your arm down for a count of 3.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

GRASP Level #3  Arm Strengthening
Elbow Exercises

1. Put 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.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

Tip: If you can’t raise your hand to shoulder height, raise it as high as you can.

GRASP Level #3  Arm Strengthening
Wrist Exercises- Part I

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

Tip:
Keep your forearm flat on the table and focus on lifting only the hand.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

GRASP Level #3 Arm Strengthening
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 arm with your stronger hand.
4. Lift your wrist as high as you can for a count of 3.
5. Lower your wrist down for a count of 3.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

GRASP Level #3 Arm Strengthening
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

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 (page 13).

3. Instead of using the gripper (for exercise page 27) use the ball.
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 your hand for a count of 3.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

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

GRASP Level #3  Hand Strengthening
1. Place the putty on the table and roll into a thick rope. Use your weaker hand as much as possible.
2. Take each finger of your weaker hand, starting with your thumb, and push into the putty.
3. After your finish all 5 fingers, re-roll the putty with your weaker hand.
4. Do this whole sequence 5 times.

**Tip:** Get a stiffer putty if this exercise is easy. Do not hyper-extend the fingers – that is don’t bend the fingers backward.
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.

☐ 2 sets of 8 repetitions
☐ 2 sets of 10 repetitions
☐ 3 sets of 10 repetitions

GRASP Level #3 Hand Strengthening
1. Roll the putty into a ball with weaker hand.
2. Hold the putty ball in your stronger hand.
3. Take one finger at a time of your weaker hand, start with your thumb, and push it into the putty ball.
4. Do not hyperextend the finger – don’t bend finger backwards.
5. Repeat sequence 10 times.
Cutting

1. Take the putty and flatten it on the table
2. Take the knife and fork, as you would usually do, and cut the putty into even shaped pieces
3. Re-shape into a pancake and repeat steps.

☐ Repeat 5 times
☐ Repeat 10 times
Use your stroke-affected hand as much as possible today during waking hours.

Below are more ideas. Your stroke-affected hand should be doing as much of the work as possible.

- Fold laundry
- Turn on a tap
- Brush hair
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 (hard to move), try the following:

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

2. Rotate between doing exercise with your weaker and stronger arm/hand.
1. Place a cup in your weaker hand.
2. Place the cup on the 1st dot. Leave the cup on the dot and return your weaker hand in your lap.
3. Then reach with your weaker hand to pick up the cup, placing it on 2nd dot. Continue this pattern until you have placed the cup on each dot. Release and return your hand to your lap each time.
4. Once you have finished the arc, start at dot 5 and re-trace your steps. Release and return your hand to your lap each time.
5. Repeat the whole sequence 3 times. Then repeat as fast as you can 2 times!

Tip: If possible, grasp the side of the cup as if you were going to drink from it, not the top of the cup.
1. Place the target board on the ground about 6 inches in front of your chair.
2. Place the ball in your weaker hand.
3. Hold on to the arm rest with your stronger hand and lean forward.
4. Place the ball on dot 1 - now sit upright with back against chair.
5. Lean forward and pick up the ball placing it on dot 2, sit up. Repeat this process for each dot. Sit upright between each reach.
6. Repeat the whole sequence 3 times.

Tip: If at any time you feel dizzy, STOP and rest for one minute. Try again if you continue to feel dizzy or go to next exercise.
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. Pour the water into the empty cup. Pour back and forth 20 times

**Modification:**
If using water is hard for you, use paper clips instead.
Start the ball rolling with a partner

1. Sit at each end of the long side of the table.
2. Roll or push the ball back and forth with your weaker hand.
3. Roll the ball between you so each person catches the ball 20 times.
4. Now do it as fast as you can 20 times.

GRASP Level #3  Coordination
1. Place your hands 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 20 times.

Modification:
If this is easy for you, try rolling the ball faster or placing your hands further apart.
1. Place your weaker hand in your lap and your stronger on the table.

2. Roll or push the ball and try to catch the ball with your weaker hand.

3. Return your weaker hand to your lap between each roll. Continue until you have caught the ball with your weaker hand 20 times.
Drop and Catch

1. Place the ball in your stronger hand.
2. Raise this arm as high as you can but not higher than your shoulder.
3. Place your weaker hand on the table.
4. Drop the ball and try and catch it with your weaker hand.
5. Repeat 20 times
6. Then switch and drop the ball with your weaker hand 20 times.

Modification:
If the ball is hard for you, use the bean bag instead.

GRASP Level #3 Co ordination
Bouncing Ball with a partner

1. Sit at each end of the long side of the table.
2. Using your weaker hand bounce the ball to your partner.
3. Bounce back and forth, catching the ball with your weaker hand.
4. Bounce the ball so that each of you catches the ball 20 times.

Modification:
If the ball is too difficult, try throwing the bean bag back and forth.

GRASP Level #3 Coordination
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.
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 every 5 repetitions. Otherwise, you need to make it more challenging.

2. Most exercise 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 (page 13)
Buttons

1. Take a shirt with buttons out of your closet.
2. Put it on and do up all the buttons.
3. Now undo the buttons.
4. Repeat 5 times.

**Tip:** Start with large buttons and move to smaller buttons when you are able.
Hanging up the Clothes

1. Hold a cup with your stronger hand.
2. Using your weaker hand, take each clothes peg 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.

Tip: If this is EASY, ask your therapist for smaller pegs.

- 10 pegs (clip on and off cup)
- 20 pegs
- 30 pegs
1. Put your Lego on the table.
2. Using your weaker hand, stack the big Lego blocks into a tower. You can stabilize the Lego with your stronger hand.
3. Using your weaker hand, un-stack the tower.

Modification: if you are not mishandling or dropping the Lego, switch to small or even tiny Lego

☐ 10 Lego (stack 5 Legos twice)
☐ 20 Lego (stack 5 Lego 4 times)
☐ 30 Lego (stack 5 Lego 6 times)
Pick up Sticks

1. Put the sticks and a cup on the table.
2. Using your weaker hand, take each stick and place in cup.
3. Using your weaker hand, turn the cup upside down and dump them out.

Tip:
If this is easy, use the smaller sticks or toothpicks.

☐ 10 sticks
☐ 20 sticks
☐ 30 sticks
1. Put your paper clips and a cup on the table.
2. Using your weaker hand, place each paper clip, one at a time, into the cup.
3. Now string them together.
4. Then separate them.

String 4 to 5 together at a time

- □ 10 clips total
- □ 20 clips total
- □ 30 clips total

☐ Large clips
☐ Small clips

GRASP Level #3
Hand Skills
1. Put your poker chips on the table in a line.
2. Using your weaker hand, flip each chip over one at a time. Do not flip them using the end of the table.
3. Do it as fast as you can.

Tip:
If this is easy, use dimes or pennies instead of poker chips.
1. Place the jar on the table.
2. Hold the jar with your weaker hand and take off the lid with your stronger hand.

☐ 10 openings and closings

3. Hold the jar with your stronger hand and take off the lid with your weaker hand.

☐ 10 openings and closings
☐ 20 openings and closings
☐ 30 openings and closings

Tip: Use a variety of sized jars. For instance, have 1 narrow and 1 wide mouth jar available.
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 like you are drying after a shower.

☐ 10 times (each lifting towel over head)
☐ 20 times
☐ 30 times

**Tip:** Focus on using weaker hand to move the towel across neck and minimize use of stronger hand.
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!

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

Here are some ideas to increase the challenge:

- Use smaller Lego blocks
- Use toothpicks for pick-up sticks
- Use dice or sugar cubes for block towers
- Use dimes for the flip-over exercise
- Increase the weight
- Try to do the exercises faster
Congrats on finishing your exercises today. Record the number of minutes you practiced the exercises today in your log sheet (next page).

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
- Turn off light switch
- Open a drawer
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: __________

<table>
<thead>
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<th>Day</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thur</th>
<th>Fri</th>
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<td>GRASP minutes</td>
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Target Board Print-Out

1
2
3