

Hospital GRASP

Graded Repetitive Arm
Supplementary Program

Exercise Manual



1

Level 1

(Version 2)



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA



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.

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 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 increasing the number of repetitions in a set, increasing the resistance of the weight or increasing the speed of the movement. Check in frequently with your therapist to ensure that you are doing the exercises at the appropriate level of difficulty. As you recover more finger control, ask your therapist if you should move to the level 2 exercise manual which focuses much more on hand and finger exercises.

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

GRASP Commitment

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)

Facility & Equipment

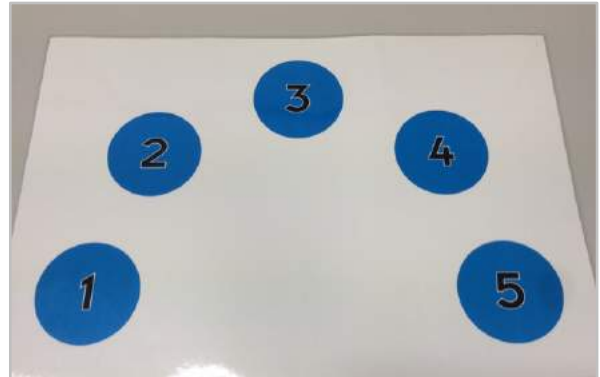
The exercises are meant to be completed in your home. A chair and table are required as the exercises are best completed in a sitting position. The following items are required for the Hospital GRASP Level 1. Ensure equipment used in the GRASP program is frequently sanitized by regular dish soap, sanitization solution or wipes.



Wrist weight- 0.5-1lb



Cup



Target Board – see template at end of book



Towel



Hand Gripper- 5lb resistance



Theraputty



Tennis ball



Beanbag

Structure of Exercises

This manual groups exercises into 4 sections.



Stretching



Coordination



Arm Strengthening




Hand Strengthening

Section 1: Stretching

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

- 
- Stretches should be done slowly.

- 
- Stretches can be done in between other exercises if you feel your muscles are getting tight

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.



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 5 times



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**

Section 2: Arm Strengthening

The next section of exercises is for increasing arm strength.

1.

- Your muscles should feel tired after each set

2.

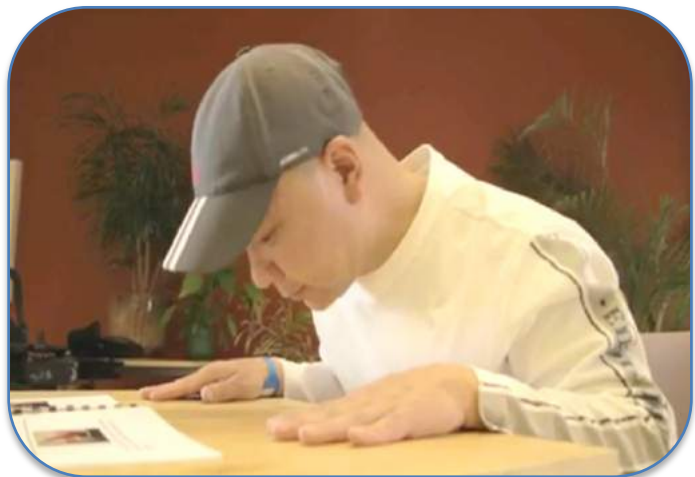
- The exercises should be difficult to do, but not painful in any way

3.

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

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.
6. Repeat 10 times.



Tip:

Try to put as much weight through your weaker arm. If you cannot put your weaker hand flat on the table, place your forearms on the table and then do the push-up.

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.
4. Repeat this exercise 10 times.



Tip:

Try to put as much weight as you can through your weaker hand.

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 5 repetitions
- 3 sets of 5 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. Lower your arm down for a count of 3.



- 2 sets of 5 repetitions
- 3 sets of 5 repetitions

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

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 5 repetitions
- 3 sets of 5 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.

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.



- 2 sets of 5 repetitions
- 3 sets of 5 repetitions

Tip:

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

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 5 repetitions
- 3 sets of 5 repetitions

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...

**Brush
your hair**

**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. Here are some tips:

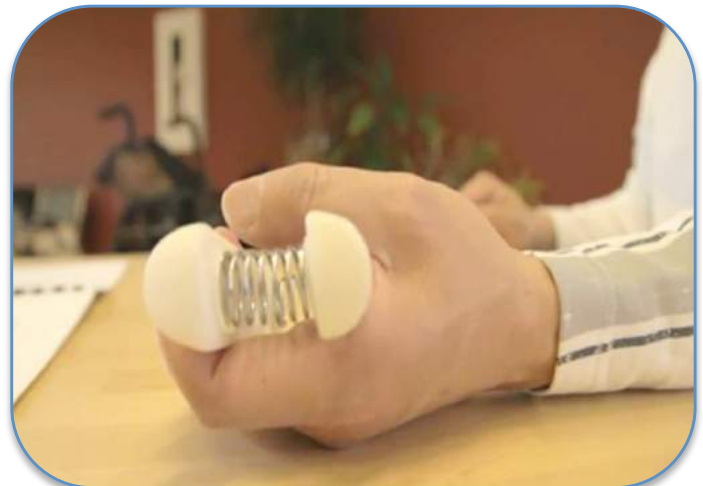
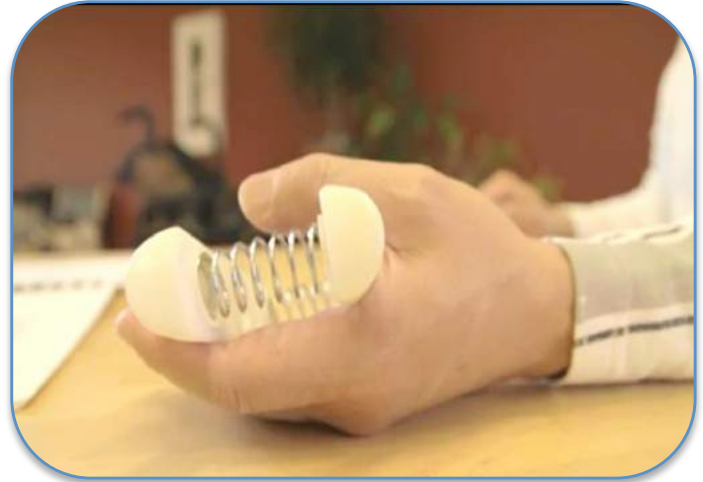
- 
- Your muscles should feel tired after each set

- 
- If your hand muscles are stiffening up, try the hand and wrist stretch (page 11).

- 
- Instead of using the gripper (on page 24), 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 5 repetitions
- 3 sets of 5 repetitions
- 2 sets of 8 repetitions

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

Squeeze the Ball

1. Place your weaker arm on the table.
2. Place the ball in your hand and squeeze as hard as you can for a count of 5.
3. Relax your hand for a count of 5.



- 2 sets of 5 repetitions
- 3 sets of 5 repetitions
- 2 sets of 8 repetitions

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

Finger Power

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 you 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.



**Use your stroke-affected hand
as much as possible today
during walking hours**

**Think of 3 challenging (but safe) ways that
you will use your stroke-affected hand
today.**

**Open the
Door**

**Brush your
teeth**

**Eat your
lunch**

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 (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.

Waiter

1. Place the object (beanbag or ball) in your weaker hand.
2. Place the object on the 1st dot. Leave the object on the dot and return your weaker hand in your lap.
3. Then reach with your weaker hand to pick up the object, placing it on 2nd dot. Continue this pattern until you have placed the object 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.
6. Then, repeat the whole sequence as fast as you can 2 times!



- Use ball
- Use beanbag

Waiter – Cup

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 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

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 10 times.
4. Now do it as fast as you can 10 times.



Start the ball rolling- no partner

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.

If this is hard for you, use the bean bag and push it towards each hand.



Start the ball rolling- Advanced

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.



Wash Cloth Twist

1. Take the towel and fold in half length wise.
2. Place one hand on each end of the towel.
3. Twist the towel back and forth like you are wringing out a wet wash cloth. Make sure your weaker hand is doing the work.



- 2 sets of 5 repetitions
- 3 sets of 5 repetitions
- 2 sets of 8 repetitions

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 (Wash Cloth Twist) 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:

- **Increase the repetitions**
- **Increase the weight**
- **Try to do the exercises faster**
- **Ask your therapist if the Level 2 Manual might be appropriate for you if you are finding the exercises easy**



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**

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	_____	_____	_____	_____	_____	_____	_____

GRASP Progress Tracker

	Items	#Sets	#Reps	Easy? Hard?	Note/Tips
1	Total Arm Stretch				
2	Shoulder Shrug				
3	Hand and Wrist Stretch				
4	Push-ups				
5	One Arm Push-ups				
6	Shoulder exercise: Arm to Front				
7	Shoulder exercise: Arm to Side				
8	Elbow Exercise				
9	Wrist Exercises – Part 1				
10	Wrist Exercises – Part 2				
11	Grip Power				
12	Squeeze the Ball				
13	Finger Power				
14	Waiter				
15	Waiter- Cup				
16	Start the Ball Rolling				
17	Start the Ball Rolling – no partner				
18	Start the Ball Rolling – Advanced				
19	Wash Cloth Twist				

Target Board Print-Out



