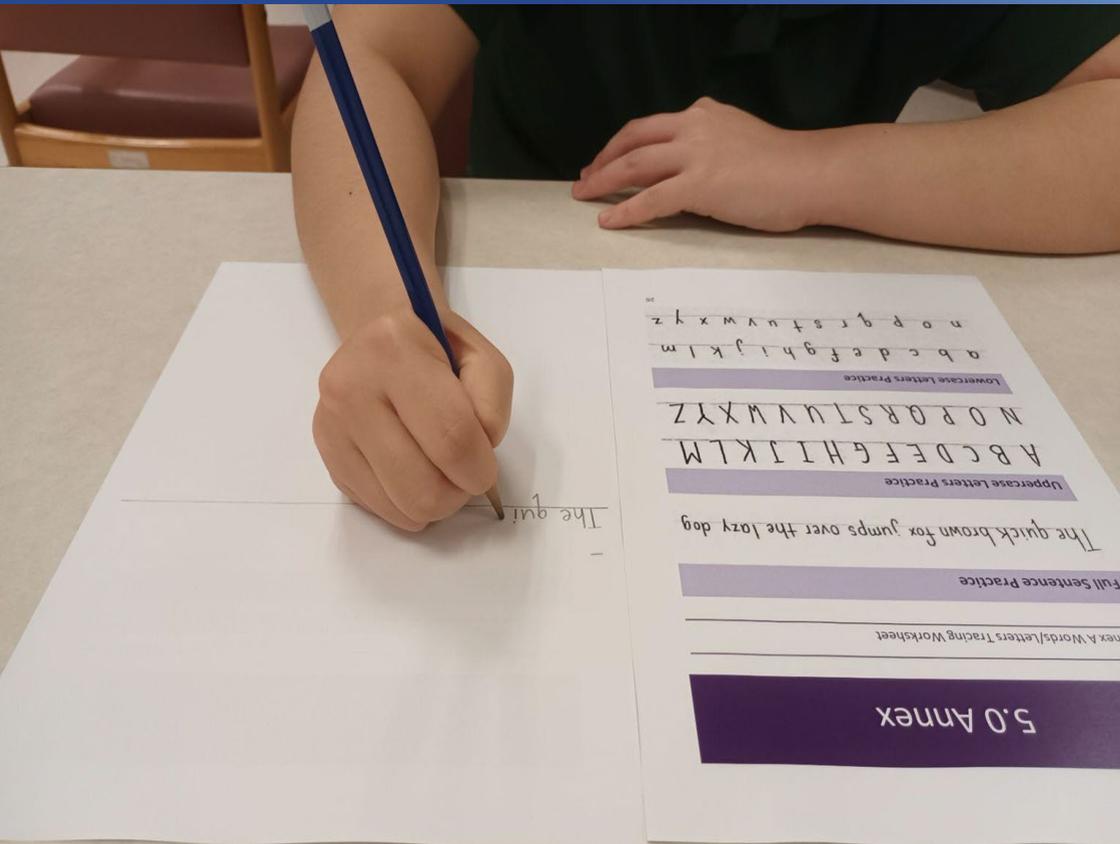


Department of  
**Occupational Therapy**

# Improving Handwriting Post Stroke



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# I.0 Introduction

## I.1 Handwriting Difficulties Post Stroke

After a stroke, you may face difficulties with handwriting due to changes in your physical, cognitive and perceptual abilities.

You may notice difficulties grasping, controlling a pen, writing neatly and quickly. These difficulties can impact your work, school or managing tasks at home.

## I.2 Methods to Overcome Handwriting Difficulties

Task specific practice has shown to be effective in improving handwriting. This refers to repetitive practice of your specific writing goals, rather than just component training (e.g. strengthening).

During practice, adaptive aids (e.g. built-up grips) may be recommended by your therapist to increase ease of gripping and controlling your pen.

# 2.0 Goal Setting

The following section is designed for you to set your handwriting goals, which will guide the focus for therapy moving forward.

Please circle up to 3 activities that you are unable to do or are having difficulties with. If you have other goals beyond these options, please specify on the next page.



Signing a Cheque



Signing a Document



Copying Information



Note-taking while listening



Writing a Checklist



Writing a Card



Writing an Essay

# 2.0 Goal Setting

Record your goals in the space below and rate your current performance from a scale of 0 to 10, 0 indicating 'Unable to perform the activity' and 10 indicating 'Able to perform activity at the same level as before injury'.



0 1 2 3 4 5 6 7 8 9 10

Unable to perform

Able to perform at same level before injury

Goal:

---

Pre-therapy rating:

Post-therapy rating:

Goal:

---

Pre-therapy rating:

Post-therapy rating:

Goal:

---

Pre-therapy rating:

Post-therapy rating:

# 3.0 Exercises

## 3.1 Preparation

Before starting your exercises, ensure that you have a good posture for better results. Ensure the following:



Forearms supported on table

Knees and hips bent at 90 degrees

Seated with/without back support

Feet firmly flat on the floor

Please approach your Occupational Therapist for prescribed exercises. Stop doing the exercises and consult your therapist should you feel:



Sharp pain



Extreme fatigue



Unusual sensations

# 3.0 Exercises

## 3.1 Preparation

How to get started



Recommended to perform

3 sets of exercise

10 repetitions for each set

Exercises selected by your therapist will have a tick in the checkbox.

Refer to the step-by-step pictorial guide on how to perform each exercise.

**Exercise 3: Fingers Open and Close**

- Start with your forearm supported on the table.
- Squeeze your hand into a fist and hold for 3 seconds.



Alternatively, scan the QR code for videos tutorials of the exercises.

Perform the harder level exercises if indicated by your therapist in the checkbox.

Make it Harder

Use a gripper or stress ball



# 3.0 Exercises

## 3.2 Warm Up

### Exercise I: Shoulder Shrugs

- Sit on the bed or chair with your back supported.
- Lift your shoulders towards your ears and hold for 3 counts.
- Return to resting position.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.2 Warm Up

### Exercise 2: Arms Up and Down

- Sit on the bed or chair with your back supported.
- Lift your arms out to the sides at a 90 degree angle.
- Return to resting position with your arms by your side.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.2 Warm Up

### Exercise 3: Fingers Open and Close

- Start with your forearm supported on the table.
- Squeeze your hand into a fist and hold for 3 seconds.



Make it Harder

Use a stress ball.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.3 Strengthening Exercises

### Exercise 4: Wrist Up and Down

- Start with your forearm supported on the table.
- Bring your wrist up and hold for 3 counts.
- Lower your wrist back to the starting position.



Make it Harder

Use a hand weight.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.3 Strengthening Exercises

### Exercise 5: Pinch and Release

- Start with your forearm supported on the table.
- Pinch using your thumb, index and middle finger, hold for 3 counts.
- Extend your fingers fully.



#### Make it Harder

Place a rubber band around your thumb, index and middle fingers for resistance when extending them.



#### Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.3 Strengthening Exercises

### Exercise 6: Transferring Pegs

- Use your thumb, index and middle finger to pick up the clothes peg.
- Clip the peg onto the edge of a container or table.
- Repeat to remove the pegs and place them back onto the table.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.4 Coordination and Manipulation Exercises

### Exercise 7: Finger Opposition

- Touch your index finger to your thumb.
- Move to your middle finger, touching it to your thumb and continuing the movement with your ring finger, then your pinky finger.
- Reverse the order, moving from your little finger back to your index finger, touching each finger to your thumb.



---

Recommended to perform

---

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.4 Coordination and Manipulation Exercises

### Exercise 8: Rolling Of Pen

- Hold the pen near its tip.
- Move your thumb to roll the pen forwards and backwards across your fingers.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.4 Coordination and Manipulation Exercises

### Exercise 9: Grasp and Rotation of Pen

- Start with your pen on the table.
- Reach and grasp your pen with your thumb, index and middle finger.
- Rotate the pen into a writing position, such that the tip of the pen is facing downwards.
- Turn the pen back to its original position and place it on the table.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set

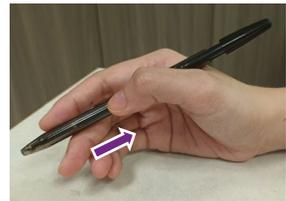


# 3.0 Exercises

## 3.4 Coordination and Manipulation Exercises

### Exercise 10: Translation of Pen

- Hold your pen near its tip.
- Move your fingers upwards until you reach the end of the pen.
- Move your fingers back downwards to the tip of the pen.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set

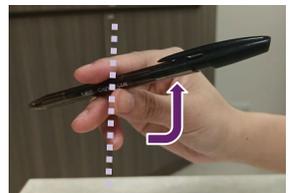


# 3.0 Exercises

## 3.4 Coordination and Manipulation Exercises

### Exercise II: Rotation of Pen

- Hold the pen near its middle using your thumb, index and middle finger.
- Shift the position of your fingers to spin the pen, such that the tip goes from facing downwards to upwards and back.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



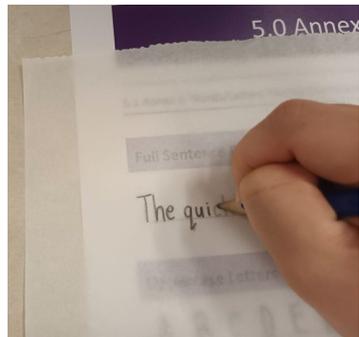
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# 3.0 Exercises

## 3.5 Eye Hand Coordination Exercises

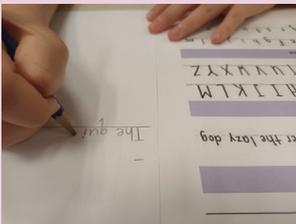
### Exercise I2: Tracing Letters and Numbers

- Prepare a printed sheet of letters and words to practice writing (See Annex A for example).
- Place a tracing paper above the printed sheet.
- Trace over the letters and sentences.



**Make it Harder**

Copy the letters and sentences on a separate piece of paper instead of tracing.





---

Recommended to perform

---

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set

# 3.0 Exercises

## 3.6 Joint Sensation Exercises

### Exercise I3: Bearing Weight on Arms

- Sit on the bed or chair with your back supported and arms resting on your lap.
- Lean your body forward until your face is parallel to the ground. Hold for 3 seconds.
- Return to resting position.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.6 Joint Sensation Exercises

### Exercise 14: Wringing of Towel

- Grip the center of the towel.
- Wring the towel by bending your wrists in opposite directions.
- Hold for 3 seconds in each direction.
- Return to the starting position.



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



# 3.0 Exercises

## 3.6 Joint Sensation Exercises

### Exercise 15: Writing on a Soft Surface

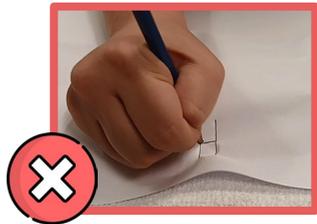
- Place your writing paper on a soft surface (e.g. Styrofoam, towel).
- Write using a 2B pencil.
- Adjust the amount of pressure you apply on your pencil based on these observations:



Words appear faint and barely visible



Apply more pressure



Hole in paper or page is crumpled



Apply less pressure



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set



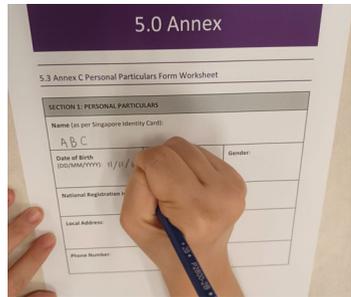
# 3.0 Exercises

## 3.7 Functional Task Practice

Practice writing and signing a cheque (See Annex B).



Practice writing your particulars including your name, age, birthdate, NRIC, phone number (See Annex C).



Practice writing a 5 item shopping list (See Annex D).



Recommended to perform

\_\_\_\_\_ sets of exercise

\_\_\_\_\_ repetitions for each set

# 4.0 Adaptive Handwriting Aids

Aids	Purpose is to	Suitable for persons with
<p>Pens with Wider Bodies (e.g. Bipgrip)</p> 	<p>Increase ease of gripping pen</p>	<p>Reduced coordination and grip strength</p>
<p>Heavy Weight Pen</p>	<p>Increase ease of gripping pen and improve control of writing</p>	<p>Reduced coordination and joint sensation</p>
<p>Y-shaped Pen (e.g. PenAgain)</p>	<p>Increase ease of gripping pen (especially over long periods of time)</p>	<p>Reduced grip endurance and difficulty in keeping the space between the index finger and thumb open to grip the writing tool</p>
<p>Handwriting Grips</p> 	<p>Increase ease of gripping pen and positioning of fingers on pen</p>	<p>Difficulty with positioning fingers effectively to grasp pen</p>
<p>Clip Board</p>	<p>Stabilise writing paper</p>	<p>Weakness over non writing hand that cannot assist with stabilising page</p>

# 4.0 Adaptive Handwriting Aids

## Recommended Aids to Purchase

1) \_\_\_\_\_  
2) \_\_\_\_\_

Vendors	Address
September 21 Enterprise Pte Ltd	Address: No. 13 Toa Payoh Lorong 8, #04-06 Braddell Tech, Toa Payoh, SG, 319261, Singapore Contact: (65) 62560226 Weblink: <a href="http://www.educationalresources.com.sg/">http://www.educationalresources.com.sg/</a>
RyselToys	Address: 1016 Geylang East Ave. 3 # 04-149 Singapore 389731 Contact: (65) 6339 4219 Weblink: <a href="https://ryseltoys.com.sg/">https://ryseltoys.com.sg/</a>
Amazon Singapore	Weblink: <a href="https://www.amazon.sg/">https://www.amazon.sg/</a>
eSpecial Needs	Weblink: <a href="https://www.especialneeds.com/">https://www.especialneeds.com/</a>

# 5.0 Annex

## 5.1 Annex A Words/Letters Tracing Worksheet

### Full Sentence Practice

The quick brown fox jumps over the lazy dog

### Uppercase Letters Practice

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

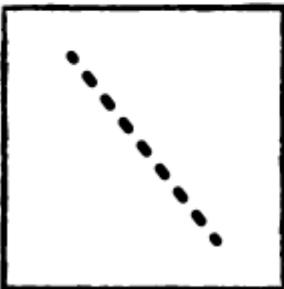
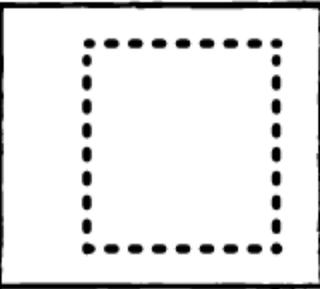
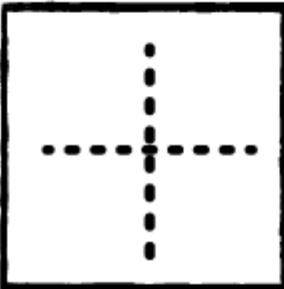
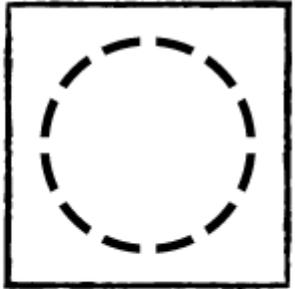
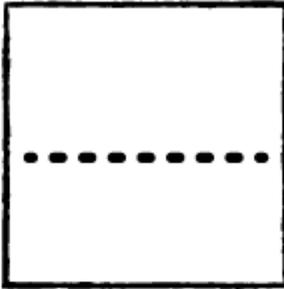
### Lowercase Letters Practice

a b c d e f g h i j k l m

n o p q r s t u v w x y z

# 5.0 Annex

## 5.2 Annex B Shapes Tracing Worksheet







# 5.0 Annex

## 5.4 Annex D Personal Particulars Form Worksheet

SECTION 1: PERSONAL PARTICULARS		
<b>Name</b> (as per Singapore Identity Card):		
<b>Date of Birth</b> (DD/MM/YYYY):	<b>Age:</b>	<b>Gender:</b>
<b>National Registration Identity Card</b> (NRIC):	<b>Marital Status:</b>	
<b>Local Address:</b>		
<b>Phone Number:</b>	<b>Email Address:</b>	

# 5.0 Annex

## 5.5 Annex E Shopping List Worksheet

### SHOPPING CHECKLIST

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Clinic BIC  
TTSH Medical Centre, Level B1  
Contact:  
6357 7000 (Central Hotline)



Scan the QR Code with your smart phone  
to access the information online or visit  
<https://nhghealth.com.sg>



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