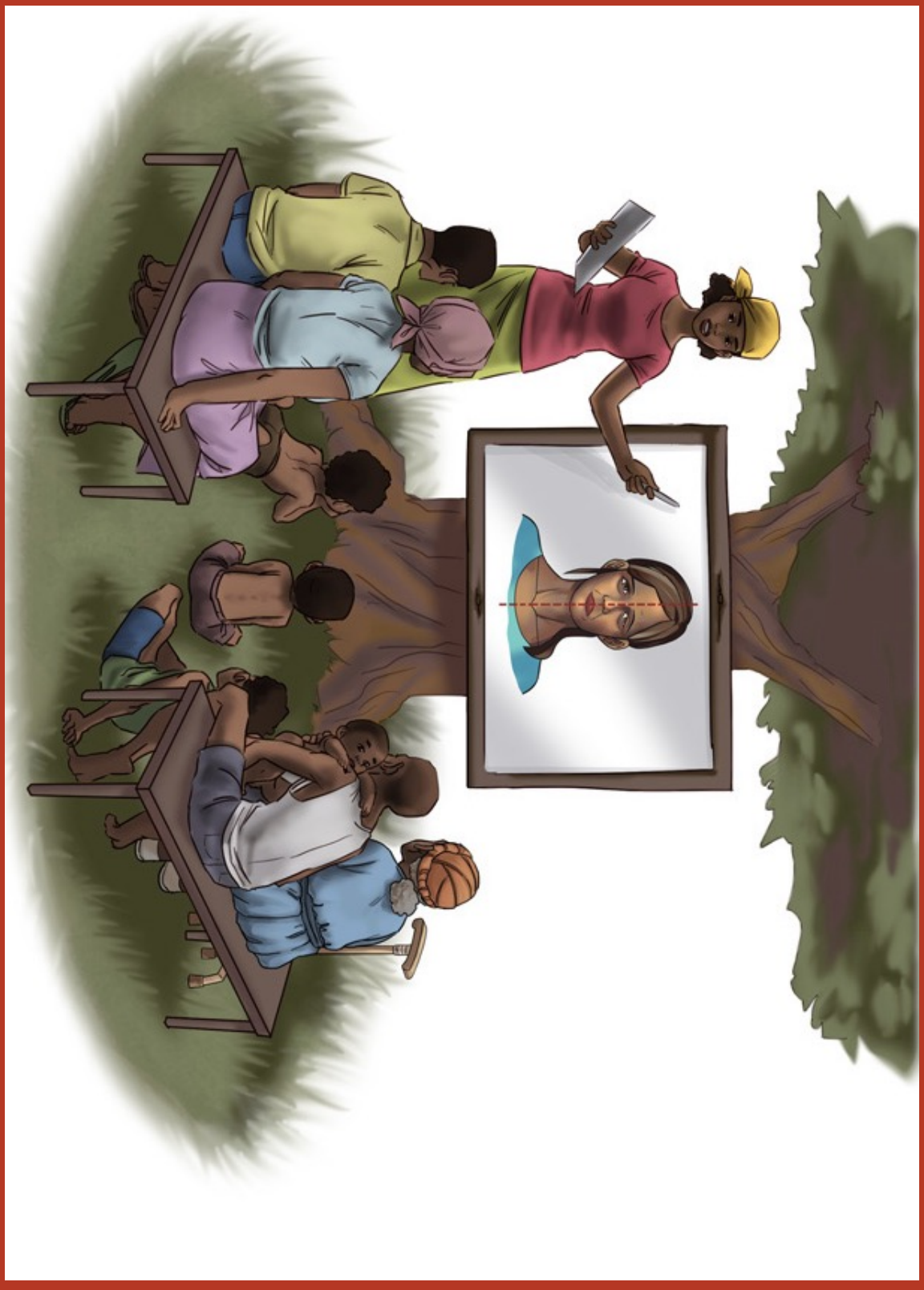
Flashcards Stroke



- **These flashcards contain information about working with people with stroke in low resource areas.**
- **These Flashcards are made for the use of fieldworkers.**
- **These flashcards are based on the information about stroke from the RehApp.**

rehapp

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The goals of the flashcards are:

- To meet the needs of people with disabilities and their families.
- To improve knowledge and skills of fieldworkers in providing basic (functional) rehabilitation services for people with disabilities and their families.
- To enhance participation in daily, family and community life.
- To improve the quality of life of people with disabilities and their families.
- To support you (as fieldworker) in the process of guiding a family by providing you with a resource you can keep with you on your phone (offline) or in your bag.

Index

Stroke

What can you do with these flashcards:

- To help guide your visits to families that have a family member with stroke.
- Make an inventory of the needs of the person with stroke and his/her family.
- Learn about the implications of a disability for the person and their family.
- Use them to do an assessment.
- Use them to set goals for a person with stroke.
- Use them to help you discuss interventions with the family.
- Use them to help you keep client records.
- Use them to help you monitor process.

Index:

Note: These flashcards contain information about stroke. The content is organised according to the ICF domains. These cards don't replace the knowledge and skills of doctors and therapists. We advice you to seek their advice first.

Information about Stroke	
	Introduction
	Body functions & structures
	Activities & participation
	Personal factors
	Environmental factors

Index

Stroke: content

Introduction:

- ❑ Introduction Stroke

Body functions & structures:

- ❑ Spasticity
- ❑ Pressure sores
- ❑ Contractures
- ❑ Shoulder problems
- ❑ Mobility problems
- ❑ Communication: speaking and understanding
- ❑ Cognition: concentration and memory
- ❑ Perceptual problems: body awareness, sensation and inattention
- ❑ Inattention

Activities & Participation:

- ❑ Positioning in lying and sitting
- ❑ Exercises
- ❑ Transfers
- ❑ Activities of daily living
- ❑ Work
- ❑ Leisure activities

Personal factors:

- ❑ Personal feelings
- ❑ Personality changes
- ❑ Counselling

Environmental factors:

- ❑ Family- and caregiver roles
- ❑ Community attitudes
- ❑ Environmental adaptations
- ❑ Mobility aids

Card 1

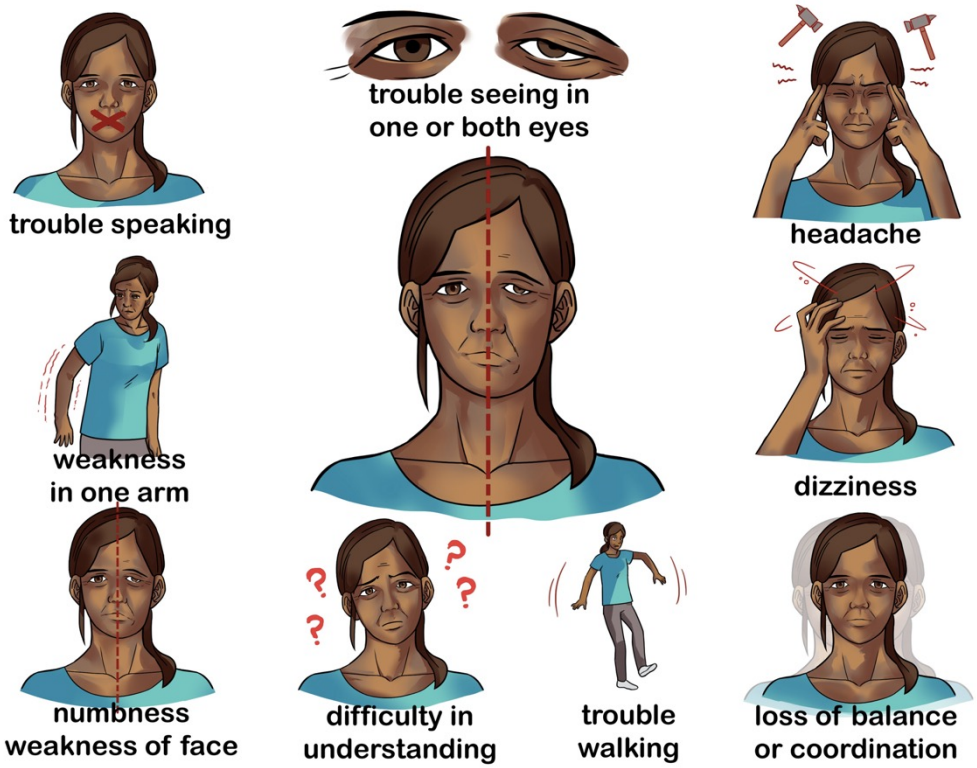
Introduction

Introduction Stroke

Stroke (Cerebral Vascular Accident) is a sudden dysfunction or impairment of physical, cognitive and other functions such as language, perception and sensation. A person experiences a stroke when the blood supply to the brain is interrupted, causing damage to that part of the brain due to lack of oxygen. The result is that one side of the body is weakened or completely paralysed. The side of the body affected is opposite to the side of the brain where the damage is:

- If the stroke occurred on the right side of the brain, then the left side of the body is affected. There is usually loss of physical functions such as walking, balance and hand function.
- If the stroke occurred on the left side of the brain, the right side of the body is affected. In this case, there are problems with speech, understanding, concentration or there can be a change of personality.

The extent of the problems depends on the size and severity of the lesion and how quickly the person has been given first medical attention.



A quick referral to hospital for medical treatment is always needed for a person with an acute stroke. The person needs medical treatment and rehabilitation such as physiotherapy while still in the hospital. The earlier these interventions start, the better the prospects of recovery.



trouble speaking



trouble seeing in
one or both eyes



headache

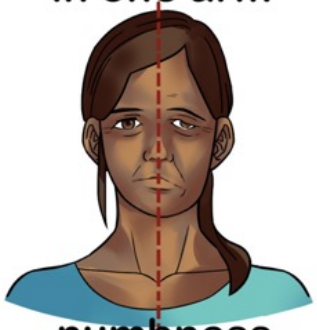


weakness
in one arm





dizziness



numbness
weakness of face



difficulty in
understanding



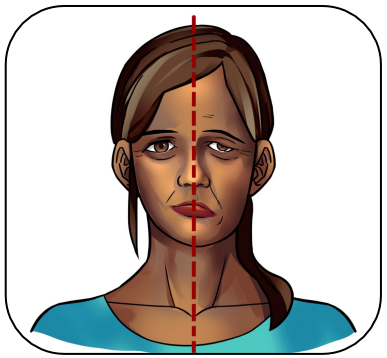
trouble
walking



loss of balance
or coordination

Is it a stroke? Remember to act…

F.A.S.T.



FACE
droops



ARM
weakness



SPEACH
difficulty



TIME
is critical

Card 2

Introduction

Once discharged from the hospital, a CBR programme should start home-based rehabilitation; through assessment, understanding the physical and cognitive difficulties and understanding personal and environmental factors. Close collaboration with trained rehabilitation specialists is important for advice, support and follow up of the person with a stroke in the community. These trained specialists can include:

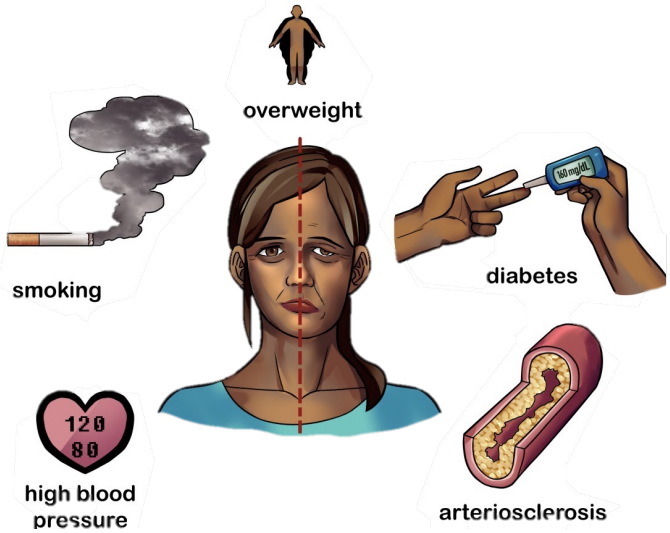
- Physiotherapists
- Occupational Therapists
- Speech and Language Therapists
- Social Workers
- Primary Health Care workers, such as nurses.

Note: some of these risks can be reduced by adopting a healthier lifestyle: reducing stress, doing regular physical activities and eating a healthy and varied diet, such as by reducing excessive salt intake. People suffering from high blood pressure should go for regular control of blood pressure in a local health centre.

Risk factors

There are several risk factors for getting a stroke

- **High blood pressure:** blood pressure higher than 160-200/100-110 over a longer period. High blood pressure needs to be treated with medication by medical staff and regular control of blood pressure is necessary.
- **Diabetes:** is an illness which the body does not produce enough insulin to keep the blood sugar level (glucose) normal. The blood sugar level becomes very high and people need medication to reduce the blood sugar level, as well as have to change their diet.
- **Arteriosclerosis:** this means that the blood vessels clog, leading to reduced flow of blood through the vessel. It can also cause blood clots, which can block a blood vessel in the brain, causing a stroke.
- **Overweight:** people who are overweight (sometimes referred to as obesity) have a higher risk of any of the conditions mentioned above (e.g., high blood pressure, diabetes, or arteriosclerosis). People who are overweight often do not have a healthy diet and do not carry out physical exercises, which further contributes to the risk of getting a stroke.
- **Smoking:** smoking affects blood circulation and breathing, or respiration. It can reduce the needed oxygen in the blood which then can cause damage to the brain.



Card 3

Introduction

Assessment

Because the problems caused by a stroke can be very diverse, it is important to do a good assessment. The assessment helps to know what specific problems the person with a stroke is experiencing and what rehabilitation activities are needed. Keep in mind that each person with a stroke will have different problems and symptoms. If available, a rehabilitation specialist can help with the assessment and setting rehabilitation goals for the home-based rehabilitation programme.

Rehabilitation Goals

The long-term goal of rehabilitation is to improve function so that the person with a stroke can become as independent as possible. The rehabilitation plan should be based on the problems identified, the needs and interests of the person with a stroke. Activities should focus on restoring functions and relearning skills the stroke may have impaired, such as:

- Sitting, walking, standing, balance and hand function
- Activities of Daily Living (ADL): toileting, washing, dressing, cooking, eating/drinking
- Speaking and understanding
- Remembering and concentrating
- Perception and sensation

Ideally, the rehabilitation plan should be implemented together with the caregiver. Consider that goals can change over time.



Note: people make the biggest gains in their recovery during the first six months after a stroke. But continue to set new goals together with the person and the caregiver. Encourage them to exercise every day, because progress in rehabilitation can be seen even years later!



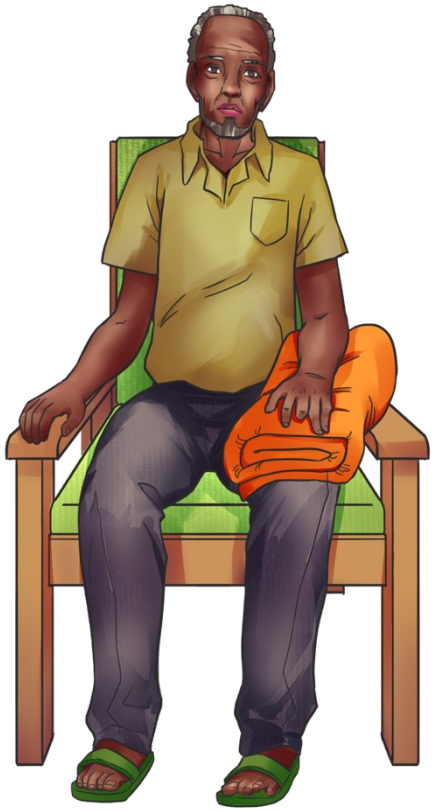






Body functions and structures:

Information and
Actions to take



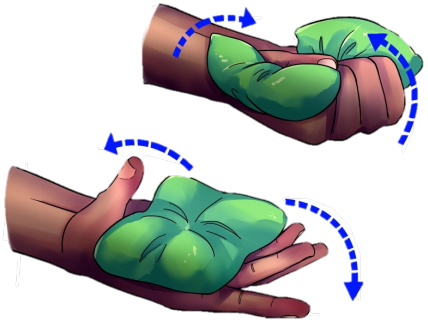




Neglect and Anosognosia



Hand functions



Dressing



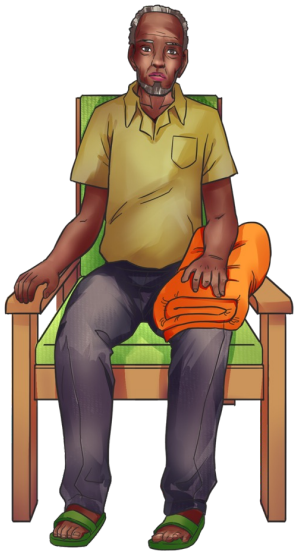
Cooking



Eating



Rehabilitation Goals



Sitting



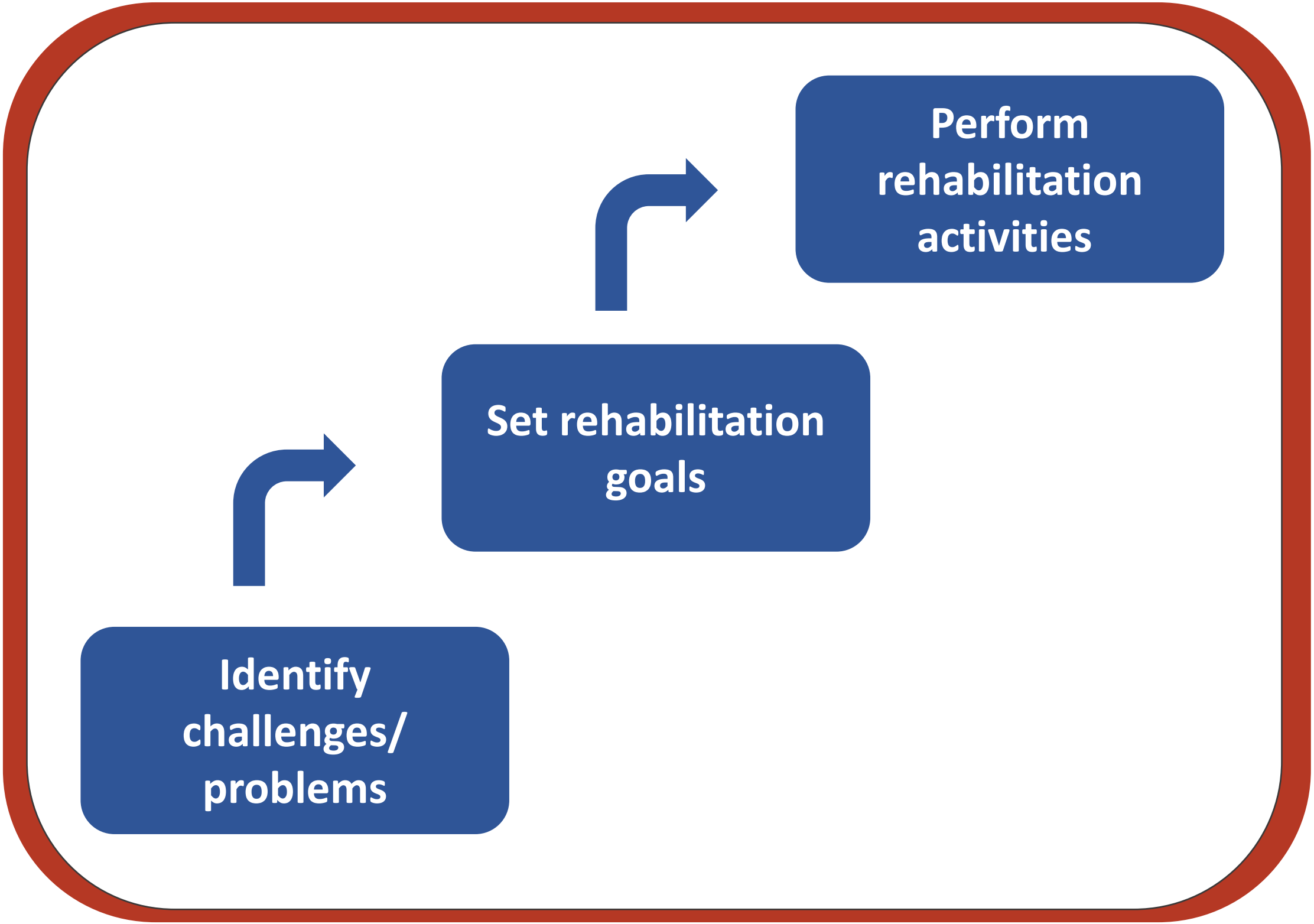
Speaking/ Concentration



Washing



Waking/ Balance


Identify challenges/ problems
Set rehabilitation goals
Perform rehabilitation activities

Card 4

Body functions and structures

A person who experienced a stroke can have various physical and cognitive problems. The extent of these depend on the size and severity of the lesion and the degree of medical attention and rehabilitation received.

Spasticity

A stroke can result in one side of the body being paralysed with either low muscle tone (muscles are loose and floppy) or high muscle tone (muscles are tight and tensed). High muscle tone is also called spasticity. Most people will have low muscle tone shortly after the stroke and develop spasticity in the following 2 months. If the affected body parts are not regularly moved, this can lead to pain, stiffness and eventually contractures.

Signs and challenges of spasticity

Due to the spasticity, there is a typical pattern that can be seen in walking and the use of the arm and hand. This pattern is caused by the way muscle function returns as some muscles are stronger than others.

Arm: a spastic arm is often bent at the elbow, held close to the body with the hand and fingers curled or folded into a fist.

- The person has difficulties stretching the arm from the elbow, lifting the arm away from the body, to open the hand and stretch the fingers.
- The non-affected hand takes hold of the affected hand to be able to lift bigger objects.





- To use the affected hand, the arm is often lifted from the shoulder where there is more strength than in the lower arm, with the trunk bending over to the other side.



spastic gait

Card 5

Body Functions and structures

Leg: spasticity in the leg and foot are seen in that the leg is straight, with the toes curved downward and stiffed.

- The person has difficulties bending the hip or knee and moving the toes.



- To walk, the affected leg is moved with an outwards swing instead of bending at the knee and lifting the leg in front of the body.



Supporting a person with spasticity

Suggestions to support a person with spasticity

- Stimulate the person with a stroke to practise normal movements as compensatory movements can create secondary problems such as back pain. Moreover, normal movements train the affected side better.
- Stimulate the person to regularly exercise the shoulder/elbow, hand/fingers and legs.
- Look how the environment at home can be adapted to help to live with spasticity.
- Ensure good positioning of the affected arm and feet while lying and sitting.
  - Let the person hold a small rolled-up towel or 500 ml bottle. This supports the opening of the hand and reduces spasticity in the hand and fingers.



  - When lying, support the feet with sandbags so the ankle is positioned at 90 degrees. This prevents contractures and reduces spasticity in the feet.



Card 6

Body Functions and structures

Pressure sores

People with a stroke are at risk of developing pressure sores or ulcers (wounds) because of their limited mobility, loss of sensation, the inability to reposition themselves or having significant cognitive impairment. Also, when the body is exposed to urine (due to incontinence problems), wounds can develop.





Actions to take

- Regularly check the skin for colour changes (red marks), variations in heat. When this is detected, start immediate treatment.
- Change the position of the person, when sitting or lying, at least every 3 - 4 hours.
- If they are unable to reposition themselves, offer help to do so. **Note:** never pull at the person's affected arm or leg!
- Assist the person to sit up as much as possible.
- Avoid or reduce pressure on body parts with the use of pillows.
- Keep the skin dry and clean. **Note:** do not massage the skin or rub it too hard when cleaning.

Contractures

A contracture is a permanent shortening of a muscle or joint caused by a lack of active movement. As a result, the contracted body part is fixed in one position and the person is unable to move it. In a person with a stroke, contractures occur either because people cannot move the arm or leg due to spasticity, or pain prevents people from moving the joint. Contractures in people with a stroke are mostly seen in the elbow or wrist.



Actions to take

- Stimulate the person to regularly move the joints that are prone to contractures. Assist when needed.

Card 7

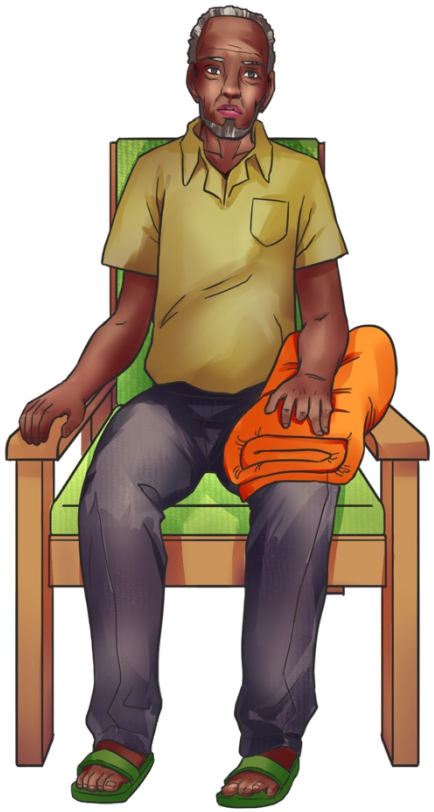
Body functions and structures

Shoulder problems

After a stroke, people can experience a shoulder problem in the paralysed part of the body. This especially occurs if there is low muscle-tone: muscles are loose and floppy. This can cause great pain and results in the person avoiding movement of the affected arm and hand.

Actions to take

- Stimulate the person to regularly exercises the shoulder, and support them where needed.
- Prevent shoulder problems by ensuring good positioning of the arm: avoid the paralysed arm/hand hanging down the side of the body without support. Otherwise, the weight of the arm hangs down and pulls on the shoulder.
    - **When sitting** or resting, the affected arm/ hand should be placed on the armrest of the chair.



    - **When walking or standing**, the affected hand can be put in the pocket of the trouser or tucked in the skirt or shorts. Also, an arm sling can be used for support, protection against injury and to prevent or reduce pain. There are various types of slings for shoulder problems, discuss the most appropriate option with a rehabilitation specialist.



Card 8

Body functions and structures

Mobility problems

People with a stroke often experience difficulties with their mobility such as standing, walking and picking up objects. This is caused by various things:

- Difficulty using the hand or leg due to lost sensation.
- Inability to lift body parts due to weakness or paralysed limbs or spasticity.
- Poor balance, resulting in a risk of falling when sitting up or standing.
- Loss of awareness of the affected side of the body, resulting in not using these body parts while they still might be strong enough to move.
- Fear to use the affected side, even though they have enough muscle strength and control over that part of the body.



Actions to take

- Stimulate the person with a stroke to do muscle strengthening exercises.
- Train the person to use the affected side as much as possible in daily activities.
- Ensure good positioning in sitting, standing and walking.
- Identify appropriate walking aids if needed.
- Create appropriate environmental adaptions.



Communication: speaking and understanding

Communication problems such as difficulties speaking and lack of understanding can result from a stroke. **Note:** most people are aware that they are making mistakes, but they cannot correct it.

Common communication difficulties

- The person does not know which words to use and remains with just a few words which they repeat continually.
- The person uses the wrong words to indicate things.
- People can also face communication challenges due to weakness of the muscles used to speak or the inability to move these muscles in the correct order. These people have difficulties to speak clearly.
- There can also be a problem in understanding the spoken language, where the person does not understand what others are saying.

Card 9

Body Functions and structures

Actions to take

- Encourage the person with a stroke and their caregivers to practise communication skills.
- Look for appropriate communication aids such as communication charts.
- Practise the use of alternative ways of communication besides speech. This may involve gestures and drawings.

Coping with communication problems

The following can help a person with a stroke to understand you

- Keep language clear and simple; use short sentences
- Talk about one topic at a time and don't ask too many questions at a time.
- Give the person time to process what you say and to respond.
- Use all forms of communication, including gestures and drawings.
- Use communication aids such as a communication board with pictures of objects.
- Use 'adult language' and don't 'talk down' to the person; even if someone understands little or nothing, treat them as you would treat normal people and not as a child.
- Do not pretend to understand the person if you have difficulty; be honest and tell them.

The following can help a person with a stroke to express themselves

- Encourage the person to repeat words they use a lot. Start with single words before full sentences.
- Make a list of words or pictures to select to help them communicate.
- Do not interrupt the person; give them enough time to express themselves.
- If they prefer, guess the word they cannot find and ask if it is correct.
- If easier, ask questions that only require a 'yes' or 'no' answer.
- Ask the person to point, use gestures, write or draw to help the other understand.



Card 10

Body functions and structures

Cognition: concentration and memory

Cognitive problems such as poor memory and concentration can result from a stroke. People may also have difficulties in planning and taking decisions. They can only process simple information and one thing at a time.

Common cognitive difficulties

- Remembering names of family and friends, conversations one has had before, what day it is, how to find the way around the community, how to do everyday things like getting dressed or cooking.
- Deciding what to pay attention to during activities or conversations or being easily distracted.
- Doing and thinking about different things at the same time (multi-tasking). E.g. when going to the market the person needs to walk, read labels and make decisions.
- Difficulties with reading, writing or counting, understanding the information and processing it.
- Making choices or decisions.

Actions to take

Stimulate the person to:

- stay in contact with other people to keep the mind active;
- become part of a support group for people who have had a stroke
- stay active and do regular exercises to improve cognitive skills.



Coping with cognitive problems

Suggestions to cope with concentration and memory problems

- Break tasks down in simple steps.
- Keep a routine in daily activities at set times of the day.
- Make notes of things that need to be remembered.
- Repeat important information like names of family members.
- Practise the route to e.g. work, church or market.
- Ask people to use simple words and short sentences.
- Minimise background noise.
- Take sufficient time to do things.
- Do one thing at the time.

Card 11

Body Functions and structures

Perceptual problems: body awareness, sensation and inattention

Perceptual problems are a combination of limited awareness of the body parts, movements of the affected side and delayed response to inputs or sensations such as smell, touch, taste, sight and hearing. After a stroke, people may experience difficulties in picking up information through these senses, interpreting that information and accessing the memories about it. Therefore, people generally need more time to do their regular tasks. **Note:** some perceptual problems seem like a memory loss or a communication problem, but they are not!

Common perceptual difficulties

- Inability to recognising things such as familiar faces (like family members) or when shown a cup, the person does not know what a cup is.
- Requiring more time to respond to being touched or recognise sensations like hot or cold on the affected side of the body.
- Loss of movement of in arm or leg can give the feeling that this is not part of the body anymore or that it belongs to someone else. This might result in **inattention** or **neglect** of the affected side of the body. This is mostly seen in a left-sided stroke.

Actions to take

- Practise recognition of different sensations such as hot or cold and being touched on different parts of the affected side of the body.
- Allow time for the person with a stroke to process sensations and perceptions.
- Stimulate the person with a stroke to explain to other people about the perceptual problems experienced.
- Advise the person to use features such as hair colour, body shape or voice to recognise people.



Card 12

Body functions and structures

Inattention

Inattention can affect how a person experiences the world:

- Not seeing objects or people on the affected side. For example, the person only finishes half a plate of food, or when a person approaches the affected side, she might not realise the person is there.
- Neglect can result in injury because the person might bump into objects when she is not aware of things on the affected side of the body.



Normal View

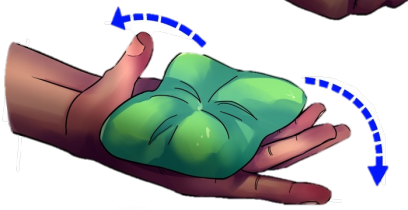


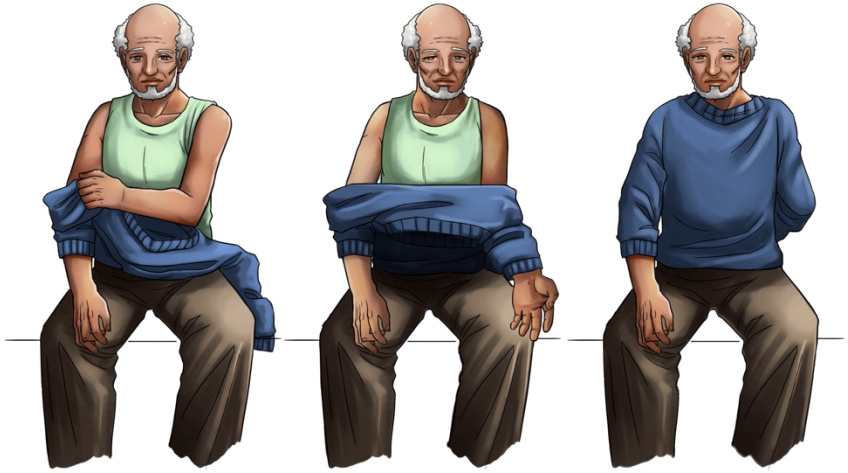
Neglect and Anosognosia

Actions to take

- **Train the person with inattention for the affected side of the body:**
  - To actively look to the affected side by e.g. grasping objects on the left side of the body with the unaffected right arm;
  - To turn the head around to see all the objects around;
  - To turn the plate of food to make sure all food is eaten;
  - To check whether both sides of the body are washed.
- **Train to the caregivers of a person with inattention problems:**
  - To always talk to the person when approaching;
  - To encourage the person with a stroke to turn the head and look towards the voice they hear.
- **Ensure good positioning in a chair or bed**
  - The affected side of the body should be positioned on the outside, not towards the wall. This stimulates the person with an inattention problem to turn the head actively when looking for things.
  - Position the affected arm in front of the body where it can be seen e.g. on the table or the lap;
  - Face the head forward so they see someone coming towards them. The person may be scared if they hear someone approaching but cannot see who it is.













Activities and Participation:

Information and Actions to take









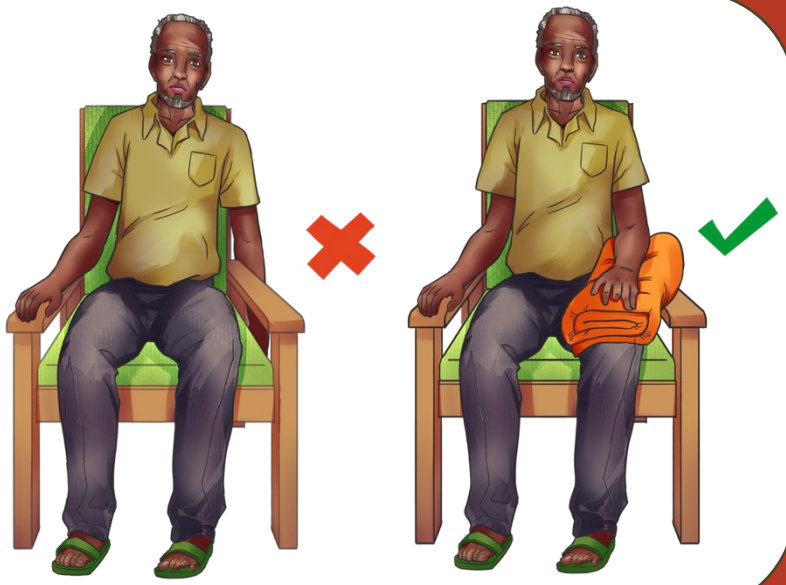
Card 13

Activities and participation

Positioning in lying and sitting

The aim of positioning the person with a stroke is to promote optimal recovery of movement of the limbs and prevent complications such as pressure sores, contractures or pain.

Especially with lying and sitting, a risk exists in having the affected shoulder and arm falling outwards. This may cause strain on the joints and hinder the recovery process. Therefore, good positioning in lying and sitting require attention.





Lying on the affected side

Always encourage lying on the affected side. Keep the affected shoulder forward so that the bodyweight is supported on the flat side of the shoulder blade and not on the point of the shoulder.

Actions to take

Support the person with a stroke in findings a good lying position on the affected side:

- Bend the head a bit forward and place one or two pillows under it.
- Place the affected leg with the thigh so that it is in line with the trunk and bend the knee slightly.
- The unaffected leg should be brought forward and placed with the knee bent on a pillow in front of the affected leg to prevent rolling onto the back.
- Place a pillow behind the back to prevent the person from rolling onto their back.

Card 14

Activities and participation

Lying on the unaffected side

Always encourage lying on the affected side. However, to prevent pressure sores , it is needed that the person regularly changes position to the unaffected side.



Actions to take

Support the person with a stroke to find a good lying position on the unaffected side:

- Bend the head a bit forward and place one or two pillows under it.
- The affected arm should be placed forward, keeping the elbow straight and supported on a pillow.
- The affected leg should be brought in front of the body to with the knee bent, and leg supported on a pillow.
- Place a pillow behind the back to prevent the person from rolling onto the back.
- A small pillow can then be placed under the person's waist to maintain the line of the spine.

Lying on the back

Always encourage lying on the affected side. However, to prevent pressure sores , it is needed that the person regularly changes position, including lying on the back.



Actions to take

Support the person with a stroke to find a good lying position on the back:

- Place a pillow under the person's head, in line with the neck and trunk.
- Place a small pillow under the buttock of the affected side and keep the leg in a neutral position. This will relax the leg and prevent it from turning out at the hip.
- Place a pillow under the affected arm which is kept straight at the elbow and if possible, the palms of the hand facing upwards.
- Consider extra support using pillows or towel roll under the knees.

Card 15

Activities and participation

Sitting in bed/ chair

It is important to promote a good sitting position in bed or a chair with the arms being supported.

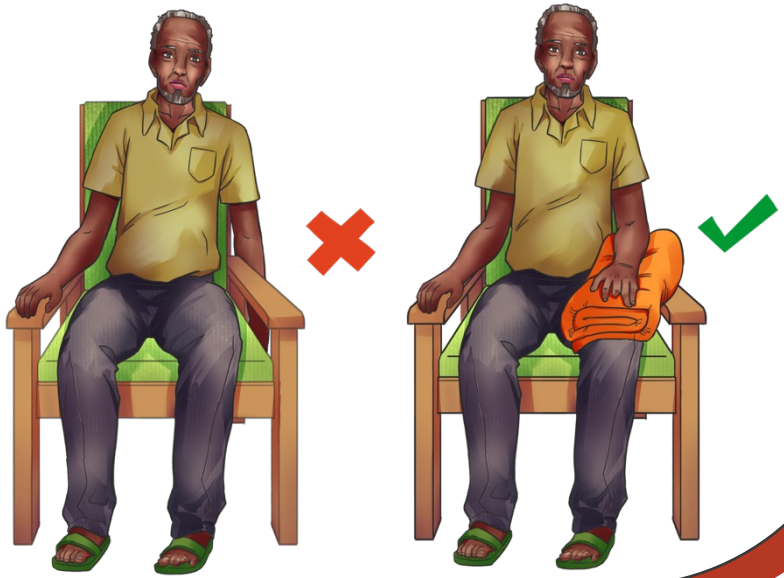


Actions to take

Support the person with a stroke to find a good sitting position:

- **Sitting in bed** is desirable for only short periods, up to 1 hour.
  - The back and affected arm should be well supported by pillows.
  - Consider extra support using pillows or towel rolled under the knees.
  - Support the feet with sandbags so the ankle is positioned in 90 degrees.
- **Sitting in a chair** with backrest is preferred.
  - Sitting must be upright, knees bent and with both feet on the ground.
  - Place the arm and hand on the armrest of a chair, using pillows for extra support.
  - Avoid sitting on the floor with the legs stretched out in front of the body.





Note: care of the shoulder is a priority, so it is important to support the arm to reduce the strain on the shoulder. Place the lower arm on pillows, in a forward bend position.

Card 16

Activities and participation

Exercises

A home-based rehabilitation programme should include a variety of different exercises to restore functions and retrain skills. It should not only focus on physical skills but also include activities to practise memory, concentration and understanding.

- Start the physical exercises by mobilising the arm and hand to reduce spasticity. Note that with all exercises, one should start from the shoulder, then the elbow, then the wrist and lastly the hand. Try to work from bigger easier movements to smaller fine movements or exercises. In this way frustration about not being able to perform the exercise can be avoided.
- Aim to integrate the activities into daily life as much as possible and stimulate the person to do them on a daily basis. If necessary, they can be performed with support from the caregiver or fieldworker.

Note: fieldworkers can ask for support from physiotherapists and occupational therapists to further explain and guide them on the appropriate exercises based on the individual rehabilitation plan for the person with a stroke.

Shoulder and elbow exercises

Stimulate active movement of the affected arm and hand through bilateral activities: both sides of the body should be used at the same time.

Suggested exercises

- Clean or wipe the table by moving a piece of cloth with both hands joined together.



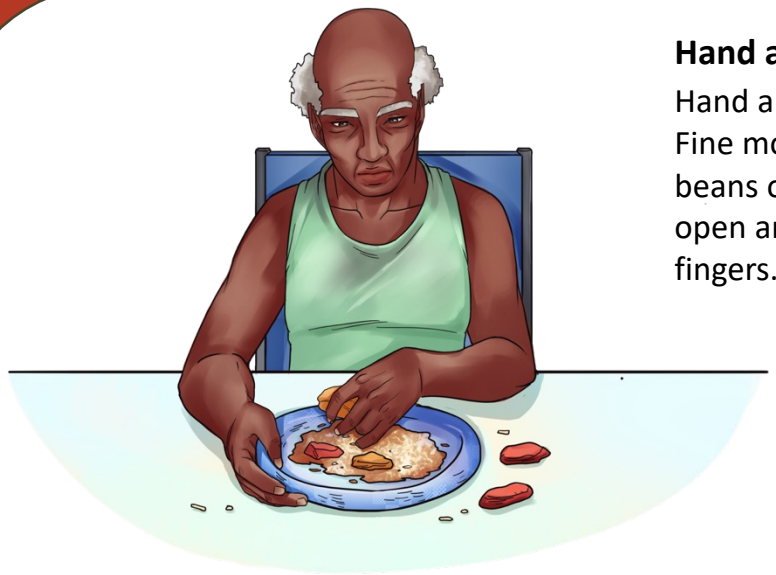
- Use a big ball to roll forward or sideways with hands joined together.





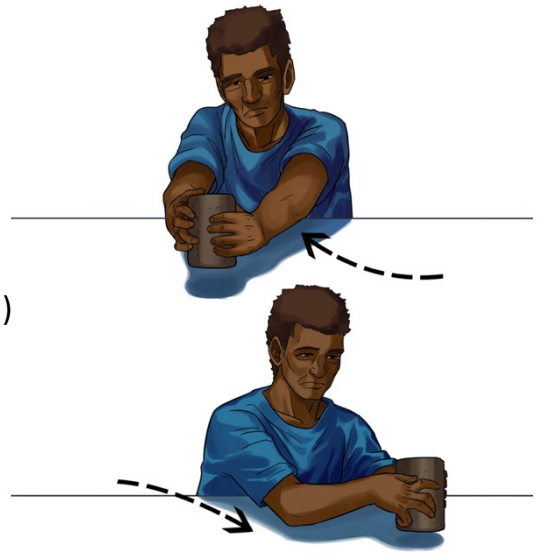
Card 17

Activities and participation



Hand and finger exercises

Hand and finger function can be trained with the activity it is needed for. Fine motor skills can be practised through picking up stones from rice or beans or braiding hair or pieces of string for example. One can also try to open and close the buttons, zips or shoelaces with the affected hand and fingers. There are various variations possible.



Suggested exercises

Lift a cup or bottle: first, practise picking up the cup/ bottle (500ml) and release it again. Then picking up the cup/bottle and putting it down on the other side of the table. When this becomes easy, the cup/ bottle can be filled with water, sand or small stones. If using a cup with handle, make it larger to grip more easily.



Suggested exercises (cont'd)

- Hold a big spoon with both hands to stir in a pot with food. Make sure that the person does not have a loss of sensation to avoid injuries if cooking on an open fire.

Card 18

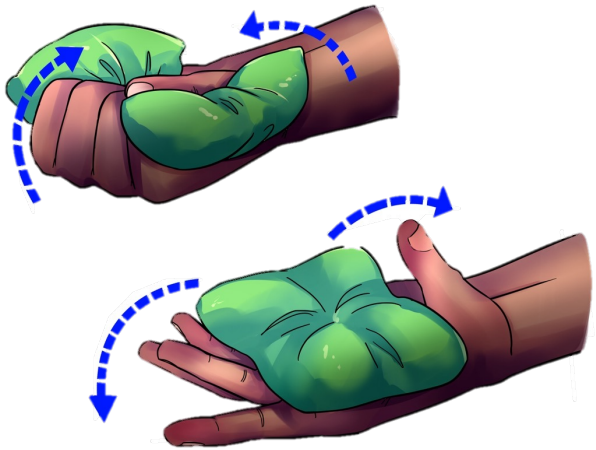
Activities and participation

Suggested exercises (cont'd)

- **Lift hand or cutlery to mouth for eating:** this can be practised by touching the mouth with the affected hand, touch the nose, ears or other parts of the face. Use a soft object in the hand and make sure the person is following the movement with their eyes.



- **Hold and release of grip**: use a small ball or beanbag and try to pick it up with the affected hand. Hold for a few seconds and release it again. The same can be done with other objects.



- **Write or draw:** this can be done with a pen on paper or with a finger/ stick in the sand. One can also try to trace the lines of the pen or drawings in the sand with the affected hand.



Card 19

Activities and participation

Leg exercises

There are numerous examples of exercises that can be used to strengthen the muscles on the affected side. Walking around the house and garden is already a good exercise for a lot of people with a stroke.

Suggested exercises

Stimulate the person with a stroke to do these exercises daily, with or without the help of the caregivers:

- Kick a football, start with kicking with the affected leg, then with the other leg.





- Walk to the market and a few carry items in a small bag in the affected hand.



- Carry a small jerry can. Start with 1 litre with the affected hand and arm. This should not be done if there are shoulder problems as this would pull the shoulder joint even more.



Card 20

Activities and participation

Balance exercises

A person with a stroke often has poor balance because one side of the body is much weaker, with poor muscle strength and control. Balance is also affected by poor sensation and the inability to sense movements on the affected side of the body. Sensory input (knowing where the body is and in what position) is needed for control of movements and balance.

Suggested exercises

Practise balance in sitting and standing, with the following exercises:

In sitting

- Lift the legs one by one while keeping the knee bent. Start with lifting the affected leg first then the non-affected leg. If the balance is poor, one can start by shifting the weight from side to side. **Note:** try to keep a straight back.



- Keep hands clasped together and reach them straight forward to the point the whole body is working. Hold for a few seconds and lean back in the chair. This can also be practised sideways. **Note:** do not lean forward too much to prevent from falling.



Card 21

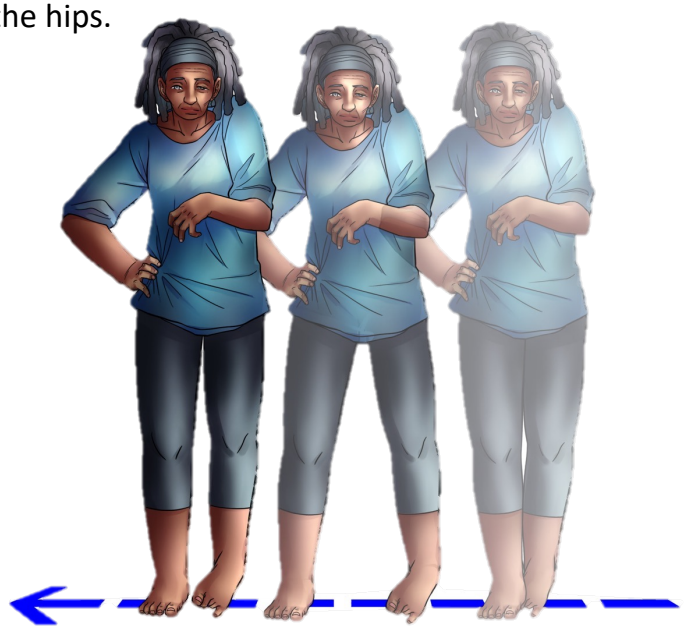
Activities and participation

In standing

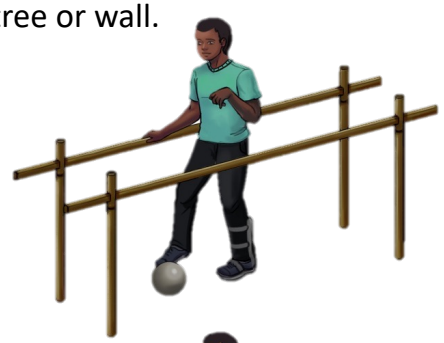
- Lift the legs one by one. Start with lifting the affected leg first then the non-affected leg. If the balance is poor, one can start by shifting the weight from one leg to the other leg without lifting the feet from the floor.



- Practise taking big or small steps, walking sideways or backwards. It might help to remain balanced by placing the hands on the hips.



- Kick a ball, each turn using a different leg to kick. If the balance is poor, hold on to a tree or wall.





- Step over obstacles, use things like a rope, a branch of a tree or just draw a line on the floor to step over.



Card 22

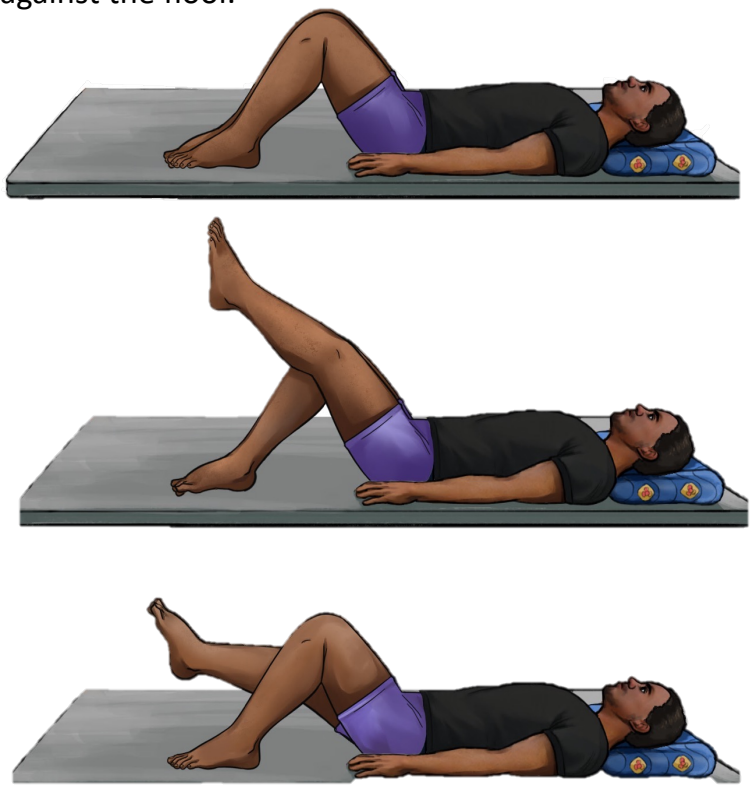
Activities and participation

Walking exercises

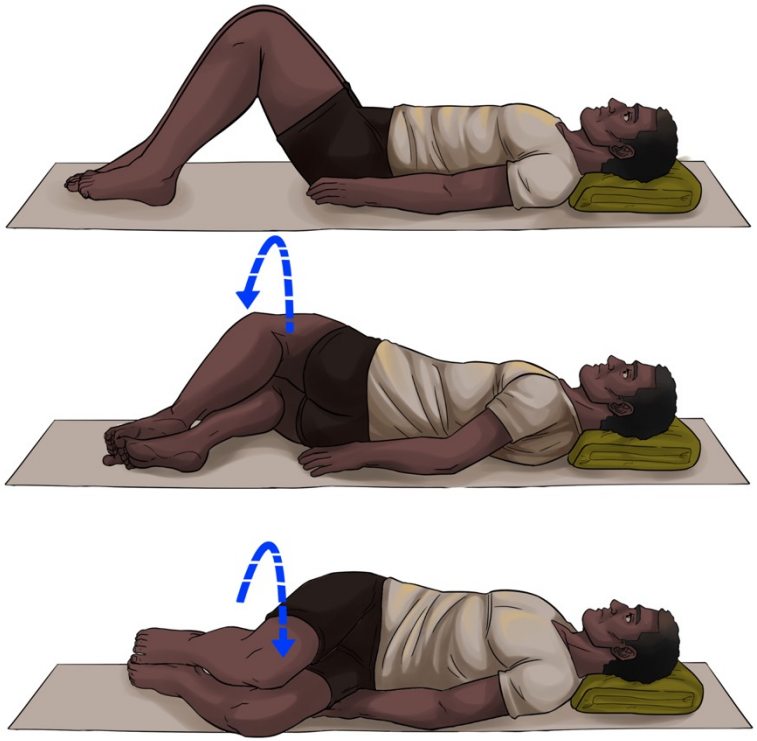
Practising walking with the use of both legs is important and better than the typical 'hip swing'. The first step is to train the person to be able to lift the affected leg by strengthening the leg muscles. These exercises should ideally be done on a daily basis.

Suggested exercises

- Lie on the back with knees bent, and hands and feet resting on the floor. Try to lift each leg as high as possible, starting with the affected leg. If strength improves, cross the legs at the feet and try to lift both legs while keeping them straight**. Note:** try to keep the lower back pressed against the floor.



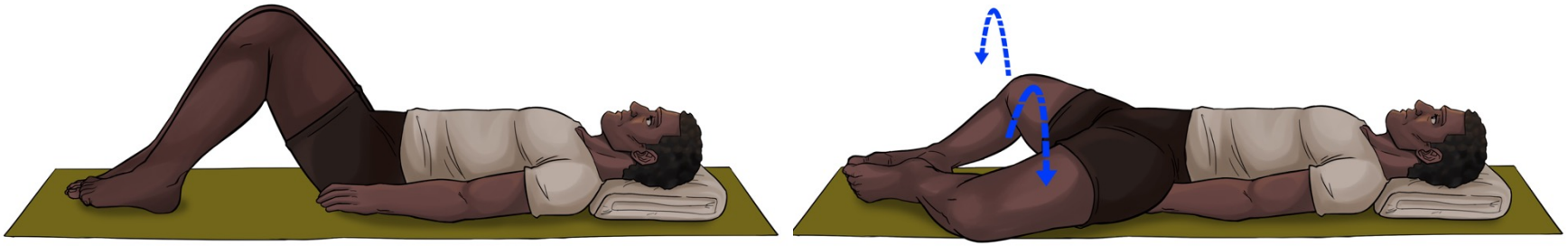
- Lie on the back with knees bent, and hands and feet resting on the floor. Roll the legs to the right, then to the left and then back to the centre.



Card 23

Activities and participation

- With bent knees, open and close the legs.



Cognitive and perceptual exercises

Many people who suffered from a stroke have cognitive and perceptual problems. This might include poor concentration, memory or understanding. Some people also suffer from inattention or neglect.

Suggested exercises

- Make a puzzle or another game with many different pieces. The person must combine all the pieces spread out over the table until it forms one image.



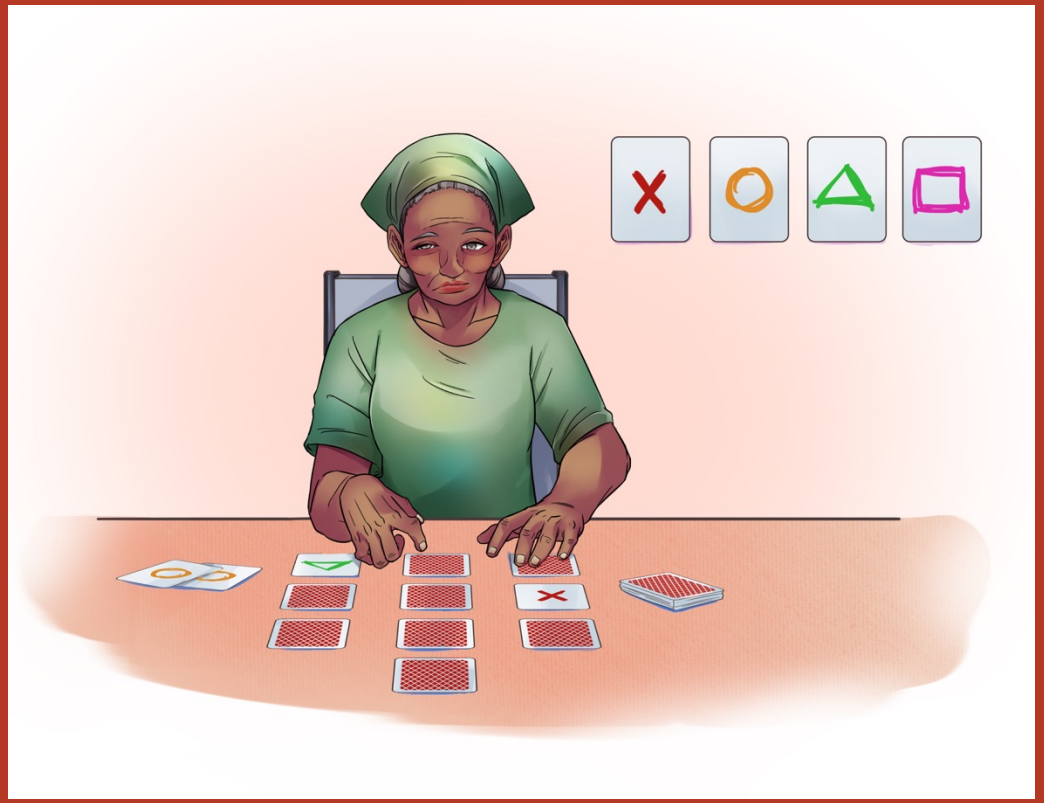
Card 24

Activities and participation

- Place a number of household items in front of the person (the more items, the more challenging the game). Ask the person to have a close look at the items and name them together; the more you discuss the items, the more people will remember them so you could ask them what colour or shape each item is or what it is used for. Ask the person to close their eyes and cover one of the items with a tea towel. Ask them to open their eyes again and ask the person: what object is under the tea towel?



- Make a memory game with pairs of cards of 2 pictures that are the same. Spread out the cards on a flat surface, facing down. The players take turns to choose any two cards. Make a successful match and the person gets to take another turn. No match, the cards are returned to their original position. The game continues until all the pairs have been found. This game can be played with 2 or more people.



Card 25

Activities and participation

Transfers

Transfers involve moving from one position to another, for example from lying on a bed to sitting in a wheelchair or standing up from a chair. Encourage the person with a stroke to do the transfers independently as much as possible.

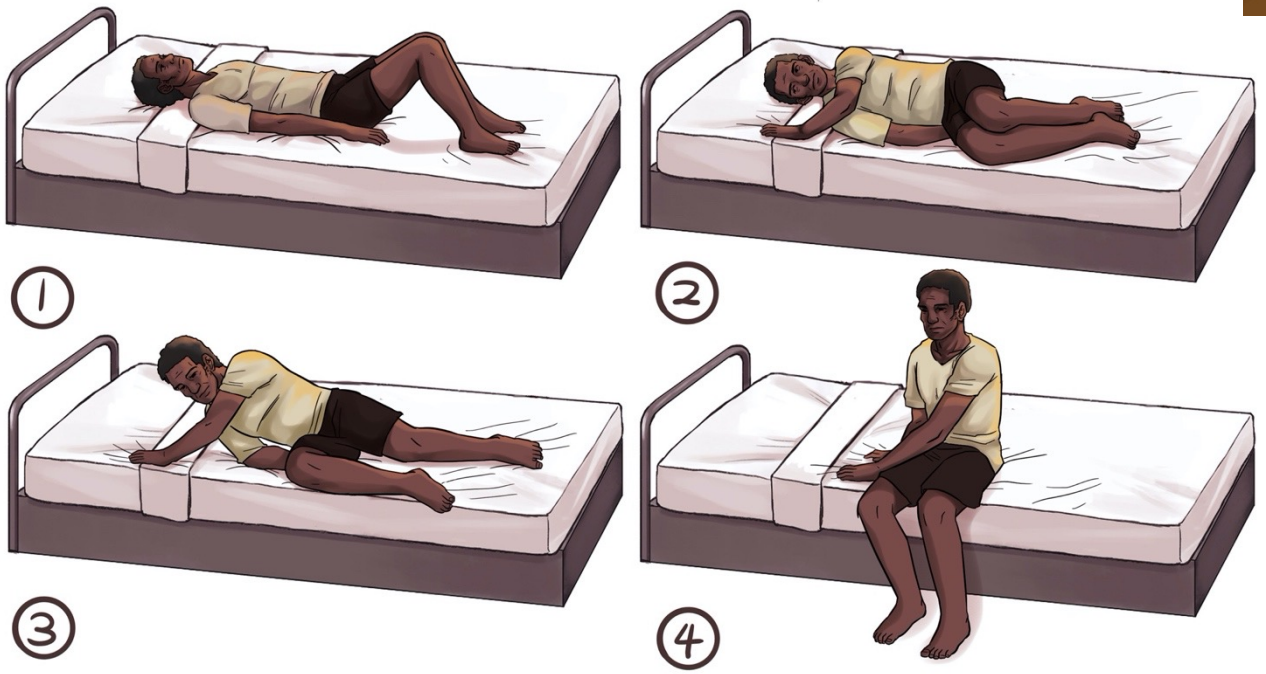
If required, fieldworkers can train caregivers on how to transfer a person without hurting their own back. It is important **not** to support the person with a stroke by pulling on their arm or neck!



Getting in and out of bed

1. Bend the knees while lying in bed.
2. Roll towards the right side by rotating the knees towards the side of the bed and reach across with the left arm.
3. Use the left arm to push up from the bed.
4. Lower the legs off the bed while pushing up with the right elbow.
    - To get into bed, do these steps in reverse.

Note: a railing can be used at the side of the bed to push oneself up or a rope tied to the base of the bed to pull oneself up into sitting.



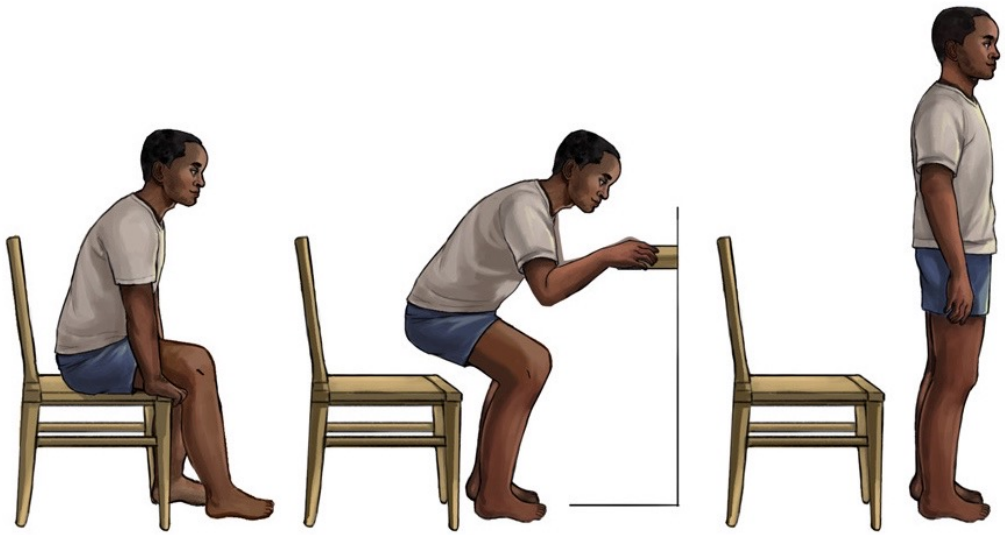
Card 26

Activities and participation

Standing up / sitting down

1. Shift the body towards the edge of the chair.
2. Place both feet flat on the floor next to each other.
3. Position the arms in front, with clasped hands.
4. Bend the trunk forward and get up.
    - For sitting down, do these steps in reverse.

Note: a chair or a bar in front of the person can help to stand up. Ensure the person uses both arms and not only pulls or pushes on the non-affected arm.



Activities of Daily Living

One of the most important parts of the recovery after a stroke is relearning skills to carry out Activities of Daily Living (ADL) independently. These include, among others, toileting, bathing, dressing and household activities. Good hand function and active movements of the arm and hand are needed to be able to perform these activities. It is essential to work together with the person and the caregiver to learn ways of adapting activities or ways to carry out activities differently by using only one hand and arm.

A person with a stroke should be encouraged to do daily activities by herself as much as possible. The caregiver can help with parts of the activity that the person cannot do alone or that are dangerous.

Toileting

The ability to use the toilet depends on a variety of personal and environmental factors, including the person's ability:

- to maintain balance ;
- to sit down and stand up from the toilet;
- to arrange clothes before and after toilet use;
- to clean themselves after toilet use;
- to cover the distance to get to the toilet, inside the house or outdoors.

Note: some people feel embarrassed when they have to ask for help to go to the toilet.



Card 27

Activities and participation

Actions to take

- Discuss the needs of the person with a stroke to find out what toilet training is needed.
    - Mobility and other exercises might be needed to improve functions in order for the person to be able to use the toilet independently.
- Some people with a stroke might have lost the sensation of having to urinate and do not know when they should go to the toilet.
    - If needed, plan for incontinence pads for the night or when going out of the house. It is useful to have a toileting routine to minimise problems.
    - If a person has menstrual periods or constipation, it is useful to hold a diary of the toileting habits in the early stages of rehabilitation.
- Assess the home environment to determine whether adaptions are needed to make the toilet accessible.



Bathing

Suggestions to support bathing

- If the balance is poor, the person can sit on a (plastic) chair whilst bathing.
- Practise washing the body by using 2 hands to hold a sponge or cloth. This helps to stimulate movement in the affected side of the body. If necessary, support the person practising these movements by holding together a sponge or washcloth.
- To wash the non-affected arm, a sponge or cloth can be attached to the wall or a tree for the person to move the arm and hand against the sponge. Encourage the person to use remaining movements in the affected side as much as possible.





Dressing

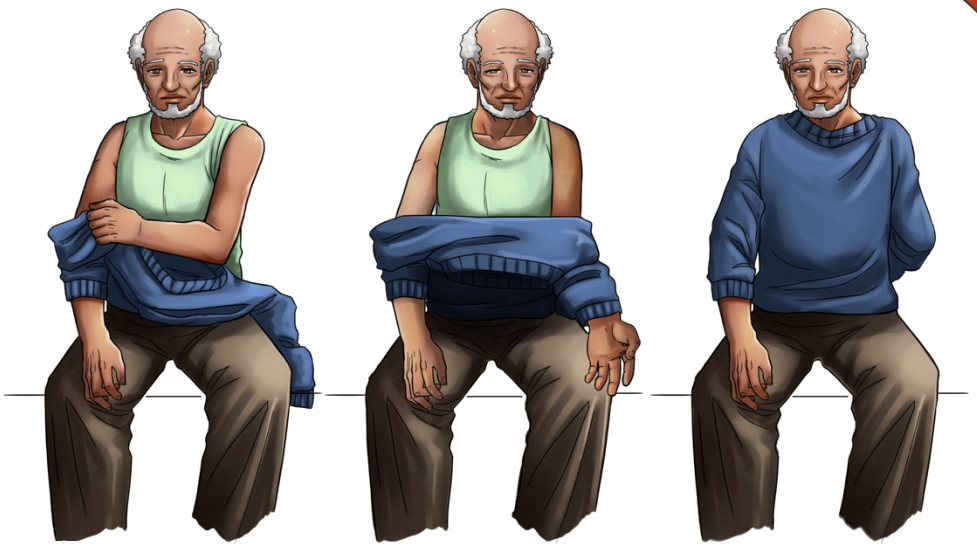
It is easiest and safest to practise dressing while sitting. Start by removing clothes, as this is often easier than putting them on. Use wide clothes without buttons as they are easier to handle for a person with a stroke.

Card 28

Activities and participation

How to put on a shirt?

1. Place the shirt on the lap, the front of the shirt on the knees and the backside facing the person.
2. Put the affected hand and arm in the sleeve, move the fabric towards the shoulder as much as possible, the sleeve should be moved completely up to free the hand.
3. Put the non-affected hand and arm in the other sleeve and finally pull the shirt over the head.
4. Pull the sides of the shirt down and adjust the back if needed.





How to put on trousers, shorts or a skirt

1. Place the trousers, shorts or skirt on the lap, the right way up.
2. Put the affected leg in the correct side of the trouser leg. If the person with a stroke cannot lift the leg themselves, then use the hand to lift the leg and then pull up the leg of the trouser.
3. Pull the trouser leg up as high as possible.
4. Put the non-affected leg in the other trouser leg and pull up the trouser towards the waist as much as possible.
5. Hold the trouser with the non-affected hand and stand up to pull it over the buttocks. The person can stand-up to close the trouser. If the balance is poor, this can also be done while sitting.

Card 29

Activities and participation

How to put on shoes, socks or slippers

1. Lift the affected leg and cross it over the other leg.
2. Rest the leg on the thigh so that the socks, shoes or slipper can be put on the foot.



Household activities

Household activities are practical activities that can be used as part of a rehabilitation programme to restore movements and function. Most household activities require the use of both hands which stimulates the use of the affected arm and hand. It also gives the person a sense of achievement if they can participate in household activities as they did before the stroke.

Suggested activities

Stimulate the person with a stroke to do the following activities within the household setting:

- **Washing clothes by hand:** this exercise stimulates movements of the hand and arm. Start with small items like underpants or socks.



- **Washing plates:** this exercise also stimulates the use of the hand and arm. The person with a stroke holds the plate with the non-affected hand and then holds the sponge or cloth with the affected hand to wash the plate.



- **Sweeping the floor:** this can be done first in sitting and later in standing and walking. It is a good activity to train balance both in sitting and standing.



- **Preparing food:** for example, the person can help by cutting vegetables, by putting the vegetables on a board and hold them with the affected hand in position and cutting with the other hand.



- **Picking stones from rice or beans:** this is a fine finger exercise for a person with some functional movements in the hand.



- **Stirring in a pot with food**: this exercise is useful where the non-affected hand can support the affected side. Make sure that the person does not have a loss of sensation to avoid injuries if cooking on an open fire.



Card 30

Activities and participation

Card 31

Activities and participation

Participation

Various challenges result from a stroke, which can make it difficult for a person with a stroke to participate in community life, e.g.:

- Difficulties in walking, moving arms and hands, talking, or seeing might hamper people from moving around the community.
- Problems with bladder control might also prevent people from participating because of the fear of unintentionally soiling themselves.
- People with a stroke might have lost many abilities and have to do things differently from before, which might make them more conscious of their own movements and skills. This may lead to a lack of participation in activities they used to do both at home and in the community.
- People with a stroke often need more time to do things or need assistance to be able to participate. They might not want to ask for help and feel unable to.
- Poor communication, memory, or understanding can make people with a stroke avoid participating in activities they used to participate it. This can be because they don't remember how to do it, need help or more time.

However, it is very important that a person with a stroke regains an active life through rehabilitation and participation in social activities. Especially in the first phase of rehabilitation, a person with a stroke might need assistance and encouragement to participate. This can give a sense of dependence on others or result in a lack of confidence. People may, therefore, avoid joining activities.

Work

The ability of a person with a stroke to be able to return to work depends on the type of work and the challenges they experience. A fieldworker can discuss the type of work that the person was doing before the stroke and identify what skills are needed for the job. These skills include, for example, the ability to walk for a certain time or distance or to type on a computer.



Card 32

Activities and participation

Actions to take

- Approach the employer of a person with a stroke to encourage them to take the person back where possible. They can also discuss possible adaptations for the person with a stroke to be able to return to work. Practise the skills the person needs for the type of work that the person was doing.
- Find alternative ways to work, or to compensate for some skills that are lost. For example:
    - Doing work sitting down instead of standing if mobility and balance are poor. E.g. a teacher can sit in front of the classroom instead of standing.
    - A person with a stroke can learn to write with the left hand if the right hand is paralysed. One can do handwriting exercises for the left hand as part of the rehabilitation programme.
    - Many gardening or agricultural activities can be done sitting down instead of kneeling. This will help with poor balance. Also, tools can be adapted to meet the needs of the person with a stroke.
- Identify other activities the person with a stroke can do if they cannot return to their previous work. For example:
    - Working together with other family members around the house, in the garden or the community.
    - Helping the children in the home with homework and school activities.
    - Helping with shopping, cooking or cleaning. All these activities are also important to regain or train many abilities that might have been affected by the stroke.



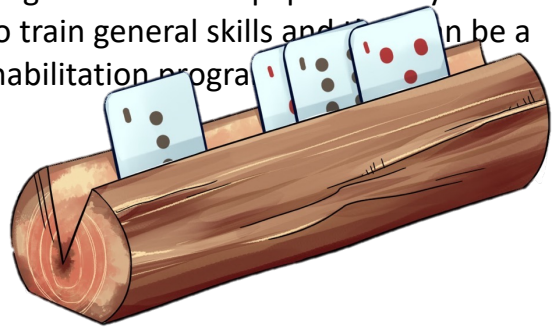
Card 33

Activities and participation



Leisure activities

Leisure is an important part of life and offers opportunities for a person with a stroke to participate in activities together with friends and family. Most people will already have a few leisure activities they do, for example, listening to music, dancing and singing, watching TV, playing cards, and reading books or newspapers. Many leisure activities can be used to train general skills and [illegible] be a motivating part of a rehabilitation progra[illegible]



Actions to take

- Discuss the interests of the person with a stroke and identify which leisure activities she would like to participate in. The skills needed for this can be trained as part of the home-based rehabilitation activities.
- Adapt activities to make it easier for a person with a stroke to participate. For example, a piece of wood can be used to hold cards. Musical instruments like a drum or guitar can be played while sitting down.
- Discuss the participation challenges with the family and friends of a person with a stroke and explore how they can be adapted to participate as they did before.

Sport activities

Like other people with disabilities, a person with a stroke can participate in sports activities. The kind of sports activity depends on the interest and abilities the person with a stroke has, and what sports were played before the stroke. Many sports can be adapted to be suitable for people with a stroke.



Actions to take

- Explain the importance of playing sports for people with a stroke.
- Find out what interests the person has in playing sports.
- Explore how the (previously played) sport can be adapted to meet the abilities of the person with a stroke.
- In collaboration with a physiotherapist or occupational therapist, discuss what the person needs to practise before they participate in sports again. For example, throwing and catching a ball with only one hand.

The importance of sports

There are various reasons why playing sports is important, especially for people with a stroke:

- **Physical skills:** playing (adapted) sports helps develop physical skills like mobility, balance, and the use of the hand and arm.
- **Cognitive skills**: sports activities can also be used to train and develop cognitive skills like concentration, understanding and memory. It stimulates thinking and attention as well as reaction speed.
- **Social skills:** being part of a sports team or participating in sports can help develop communication and social skills.
- **Self-esteem:** participation in sports activities is important for developing self-esteem and confidence. Many people with a stroke might fear participating because they are afraid they cannot do as well as others on the team. Or they believe to be unable to play sports due to their disability. Being able to play sports, both with people with and without disabilities, can help in the acceptance of the changes in the body and restriction in function due to the disability.



Card 34

Activities and participation

Card 33

Activities and participation

Social activities

Social activities are another example where participation is important. Sometimes, a person with a stroke is (unintentionally) excluded from social activities. There might be several reasons why people with a stroke do not participate in social activities, for example:

- Other people think a person with a stroke is not able to participate.
- The location where the social event is taking place is inaccessible, or the distance is too big to get there.
- Some people with a stroke forget about social events due to their poor memory or understanding.
- The social activities are avoided because some people with a stroke feel depressed or embarrassed.

Actions to take

- Discuss together with the caregiver and the person with a stroke what social activities they would like to join. Explore what is needed to join these social activities.
- Stimulate the person with a stroke to become part of a self-help group, or another type of social group, to share their experiences and find solutions to the difficulties they experience. **Note:** being part of a group helps develop self-awareness and confidence and can also be helpful to practise speaking and communication, for example.









Personal factors:

Information and

Actions to take







Card 34

Personal factors

Personal feelings

Frustration and sadness are common feelings of the person with a stroke, e.g. when they lose physical abilities, cognitive- and/or social skills. This is especially true for people with speech problems that lead to difficulties in communication. They can get frustrated with the lack of ability to express themselves, or with the difficulties of others in their environment to understand them.

Feelings of frustration and sadness can lead to depression which in turn can lead to withdrawal from family- or social activities. Depression is a mental illness characterised by persistent feelings of anxiety, sadness, irritability and fatigue. When this situation occurs, it is important to refer the person to a specialist or relevant service.





Actions to take

- Support the person with a stroke to regain skills and independence. This also helps the person to feel more confident and able to participate in family and community activities.
- Talk with the person with a stroke about the changes in life and how to cope with them.
- Help the person to identify support in the community for example:
    - Religious groups like a church, mosque or temple.
    - Self-help groups, especially groups with other people with a stroke. In some hospitals, there are groups for people with a stroke to do physiotherapy.
    - Support services from the local clinic or health centre, such as a social worker or psychologist.

Card 35

Personal factors

Personality changes

In some people with a stroke, mostly where the left side of the brain is affected, there can be changes in the person's personality. Common personality changes are:

- Becoming impatient
- Taking more risks
- Becoming overly friendly
- Getting angry without any clear reason

Personality changes are often most apparent to close relatives and can be very disturbing and difficult for them to deal with. A person with a stroke does not realise that they have changed, so they do not understand why others are upset.

Actions to take

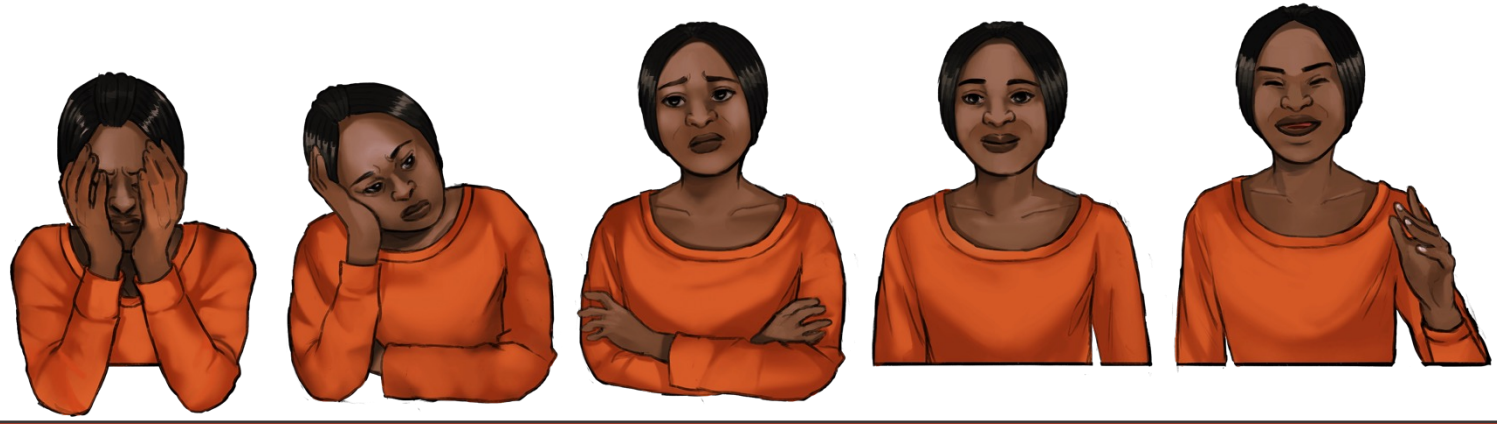
- Explain both the person with a stroke and the caregiver that personality changes are part of a stroke and the result of the person being difficult or different on purpose.
- Offer counselling and support to the caregiver how to deal with the changes in personality.

Counselling

Counselling is a way of problem-solving through step-by-step discussion and working on the problem. Many different counselling strategies can be learned. However, common sense, being able to listen and taking time to sit and discuss with the family and the person with a stroke are important skills that can be very helpful.

It is important to offer emotional support to the person with a stroke and the caregiver. And to know which specialist services are available in the community if the fieldworker cannot offer the support needed to the person and family.















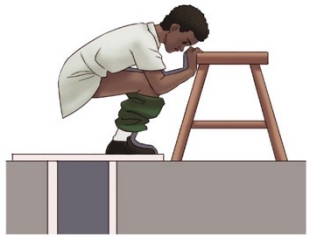


Environmental factors:

Information and

Actions to take











Card 36

Environmental Factors

Family- and caregivers' roles

In some families with a person with a stroke, there can be a reversal of family roles. For example, the person with a stroke, who was the breadwinner of the family, may depend on their family members as a result. Other members will have to work while taking care of the person with a stroke.

This situation can create stress for the entire family: taking over the responsibility for the family can be a burden to the partner of a person with a stroke, just like the lost ability to care for the family can be a source of frustration for the person with a stroke. It takes time for everybody in the family to adjust to these changing roles. Also, in many situations, families need support with their roles as caregivers to a person with a stroke.



Actions to take

- Encourage the family to talk about the changing family roles, to share their feelings and to look for solutions together. If all members of the family know how others feel, it becomes easier to look for ways to cope and share the responsibilities.
- Explain to the person with a stroke the importance of learning to do things themselves, in their own way. The family should only offer help if the person asks for it and is unable to do activities themselves. Many activities can be practised and adapted so that the person with a stroke can do them with little to no help.
- Work with the family to identify how best to support the person with a stroke to develop their independence through rehabilitation exercises and participation in daily life activities. Also, offer practical advice on how to create a more accessible home environment.

Card 37

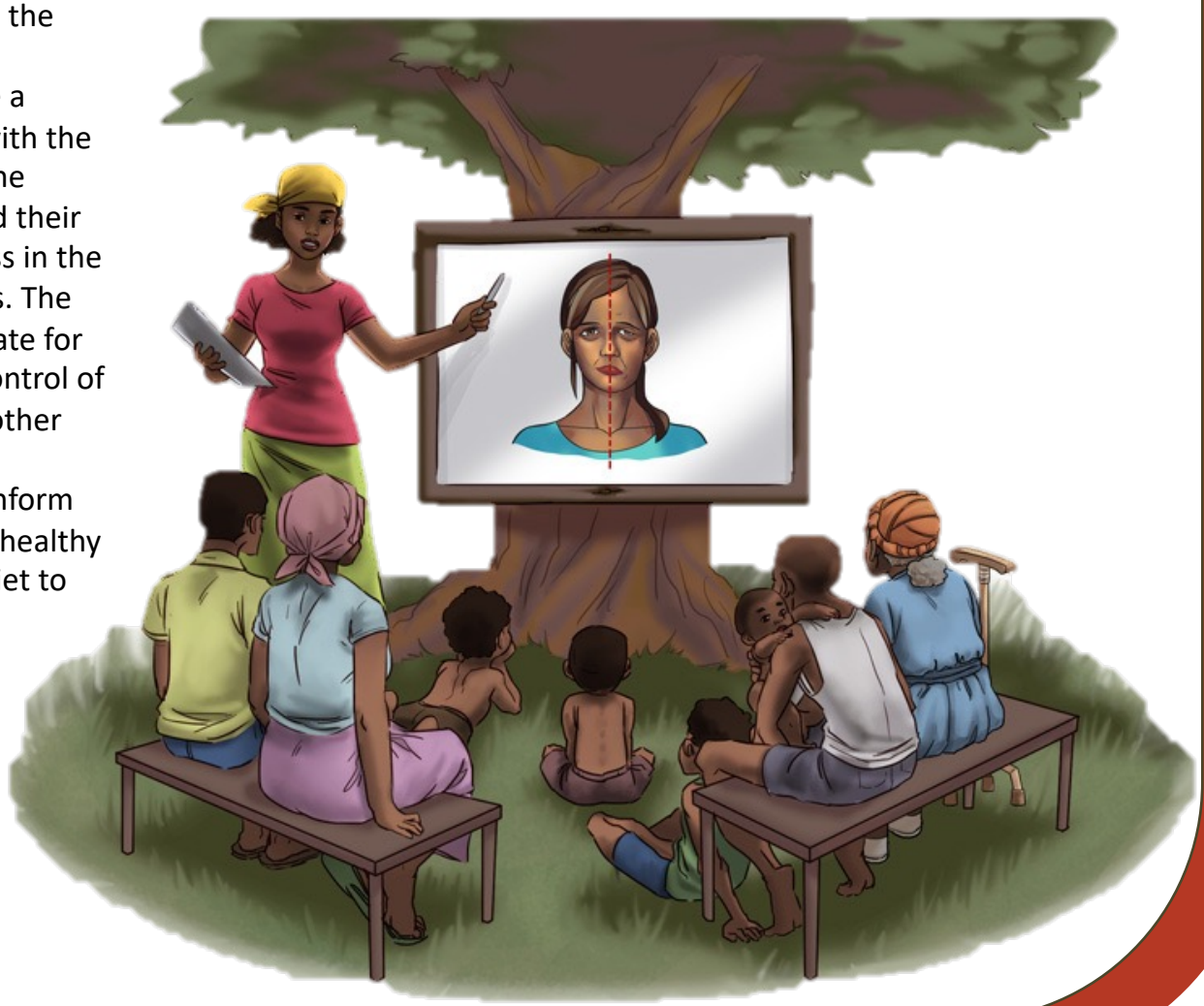
Environmental Factors

Community attitudes

People with a stroke can experience a multitude of barriers to inclusion in the community at all levels in society and different stages in life. For example, they can have difficulty in speech or a 'strange way of walking', which might result in bullying. It is important to overcome these barriers by raising awareness in the community about the causes and nature of a stroke, as well as possible solutions concerning how participation in the community can be improved and discrimination or stigma reduced.

Actions to take

- Create awareness about the risks, such as high blood pressure, that can cause a stroke. Work together with the local CBR programme, the person with a stroke and their family to raise awareness in the immediate surroundings. The person can be an advocate for regular follow-up and control of high blood pressure or other health risks.
- A CBR programme can inform the community about a healthy lifestyle and a healthy diet to prevent a stroke.



Card 38

Environmental Factors

Environmental adaptations

Depending on the problems that a person with a stroke has, the environment can be adapted to the individual needs. It is important to work together with the caregiver, the family and the wider community to raise awareness and create more accessible environments for people with a stroke. This will allow them to be more independent and increase their self-confidence and mental health.

Suggestions for environmental adaptations

- Attach grab bars or rails to the wall within the house to give support when walking. A bar can be built to reach an outside toilet.
- Remove loose obstacles within the house if the person is using a mobility aid to walk.
- Adapt the bathroom and toilet to offer support when the person has a poor balance:
  - If the toilet is a pit latrine install a bar for the person to hold onto while squatting.
  - Use a toilet chair which has a hole in the seat and place it over the toilet. Otherwise, fix a bucket under the seat for the urine or faeces.





Card 39

Environmental Factors

Mobility aids

Many people with a stroke learn to walk again, but some will need the assistance of a crutch or walking stick. A physiotherapist or occupational therapist can advise the fieldworker what type of mobility aid would be appropriate for the person. This depends on the recovery of muscle strength, balance and the environment where the person lives; some mobility aids are more appropriate in rural areas, or for use indoors or outdoors.

Examples of mobility aids

- **Parallel bars** can be made locally at the home of the person with a stroke. They are helpful to practise standing and walking. They can also be used to carry out physical exercises.



- **Walking frame,** suitable for a person who can lift both arms to hold onto the frame. It offers more stability than a crutch.



- **Elbow crutches** can be used to support the person on the paralysed side of the body.



- **A wheelchair** is suitable for a person who is unable to stand or walk due to insufficient muscle strength in the legs. They can also be used as a mobility device for people who cannot walk over longer distances.



- **Tripod,** this stick with 3 legs offers support for people with poor balance.



Colophon

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