



## USAID Okard ໂອກາດ

# Health Conditions and their effects on Functioning



USAID Okard (ໂອກາດ) supports Disability Inclusive Development in Lao PDR

**USAID Okard (ໂອກາດ) (Introduction to Health Conditions and  
their Effects on Functioning) Handbook**

## Summary: USAID Okard Training and Capacity Building Approach CBID Demonstration Model

### 1. USAID Okard Activity

USAID Okard Activity, a five-year project funded by the U.S. Agency for International Development (USAID), aims at improving and sustaining the independent living and functional ability of persons with disabilities and their household regardless of factors such as age, sex, gender expression and ethnicity. The Activity partners with the Lao government, civil society organizations and the private sector to develop and implement national disability inclusive policies so that no one is left behind.

USAID Okard promotes equal access to health and related rehabilitation, economic opportunities and social services in the Lao People's Democratic Republic and interventions will be targeted in Vientiane Capital and in the provinces of Xieng Khouang and Savannakhet.

To ensure long-term sustainability, USAID Okard uses **a systems-centered approach** by focusing on government ownership of disability inclusive policies and of rehabilitation services and mental health and psychosocial support (MHPSS). The project also applies **a person-centered approach** particularly through case management to address the individual needs of persons with disabilities and the communities that support them, and most importantly to assess and remove barriers for persons with disabilities to become self-sufficient and to achieve their optimal functional ability.

Persons with disabilities are often among society's most vulnerable and marginalized populations. Some of the major causes of disabilities in Laos are unexploded ordnance accidents (UXO), road traffic crashes and increasingly, non-communicable diseases such as Type 2 diabetes, stroke and stunting. Equal access to health and social services will foster inclusion of persons with disabilities in their communities and allow them to contribute more effectively to society on an equal basis with others.

The Activity works towards creating an environment in which persons with disabilities are empowered to actively participate in society, with the following outcomes anticipated:

- Improved access to health and rehabilitation services for persons with disabilities and their households.
- Strengthened health systems with rehabilitation and MHPSS included in the continuum of care
- More persons with disabilities and their households employed or self-employed.
- All stakeholders including persons with disabilities actively involved in creating and enabling a more supportive and inclusive environment for the sustainability of health and economic empowerment improvements

## 2. USAID Okard Overall Training and Capacity Building approach

World Education believes in working through local partners for sustainability, so the USAID Okard Activity will be implemented through sub-recipients from the Government of Lao PDR, INGOs and NPAs. In order to ensure quality and consistency across the project's interventions and to build capacity of the partners both technically and in terms of organizational development, World Education places great importance on training and capacity building, which will be operationalized through the Training Unit, headed by a Training and Capacity Building Coordinator and guided by the Technical Management Committee.

The training unit will oversee all training and capacity building development and implemented by USAID Okard, primarily in three main areas:

1. **Capacity building for GoL ministries, departments, and service providers** through technical assistance and mentoring as well as formal training so that institutional processes are created, and staff developed to continue to deliver inclusive services beyond the life of the program.
2. **Targeted capacity building, training and mentoring (including organizational assessments and capacity building plans) for sub-recipients, including DPOs and NPAs** to strengthen the ability of organizations to manage sub-grants, navigate USAID regulations, manage their organization in a sustainable and accountable way, so they can sustain their fund raising to deliver disability inclusive services and provide effective advocacy on disability rights, laws, and policies that influence GoL policy implementation.
3. **Training and ongoing capacity building for the Community Based Inclusive Development (CBID) teams of QLA and ARMI** so they can effectively deliver quality case management and build awareness and engagement in communities for community action and mobilization towards more inclusive communities.

Measurable capacity-building is one of the core components of USAID Okard, and inputs by World Education and Humanity & Inclusion will take many forms. One approach is individual coaching, where a USAID Okard staff member who has the required expertise works closely with one or several members of an organization regularly over a longer period of time, to discuss a specific issue, either by phone, email or in person, or a combination of those methods. Other times, the training unit organizes formal trainings for all sub-recipients, for example USAID Regulations, Financial Management, Monitoring, Evaluation and Learning, and Gender Inclusive Development.

All USAID Okard trainings are participatory, reflective and allow as much time as possible for 'learning by doing' and practical application of skills and knowledge. The Training Unit and Technical Management Committee (TMC) carefully develop curriculum outlines and materials that reflect clear learning objectives and build on other trainings. In addition, USAID Okard recognize the importance of reflection, goal setting, and the long-term, regular follow up needed for effective capacity building, and the need for effective measurement of capacity building to demonstrate result

### 3. Community Based Inclusive Development (CBID)

One of the key features of the USAID Okard Activity is the **Community Based Inclusive Development (CBID)** Demonstration Model. Community Based Inclusive Development (CBID) is an approach that aims to build and promote an inclusive society by bringing about changes to the lives of persons with disabilities in local communities, working with and through persons with disabilities themselves, local groups and institutions. CBID strategy encourages inclusive, resilient and equitable communities where persons with disabilities are empowered to contribute to address the challenges they and their families face.

The CBID demonstration model is an evidence-based approach that includes two key components – case management and community mobilization. The CBID demonstration model districts in Xieng Khouang (Kham District) and Savannakhet (Xayphouthong District) will be conducted by civil society organizations Quality of Life Association (QLA) and Association for Rural Mobilization and Improvement (ARMI) respectively, with the technical support of WEI and HI and overarching technical guidance by the USAID Okard Technical Management Committee (TMC).

The CBID teams of QLA and ARMI will directly support persons with disabilities to identify barriers to their economic self-sufficiency and optimal functioning, and work with families, communities, local authorities and relevant service providers, so they understand these barriers and interact together to remove barriers and meet these needs.

### 4. Competencies required for the CBID team

To effectively implement the CBID demonstration the CBID facilitators need to have the appropriate knowledge, attitudes, skills and behaviors focused on five (5) core competencies:

1. Practice with professionalism
2. Practice in an ethical manner
3. Use critical thinking and professional judgment
4. Embrace and respect human diversity
5. Advance rights of persons with disabilities

By acquiring and mastering the required range of knowledge, attitudes, skills and behaviors, over time as part of a continued learning process, the CBID team will be competent to engage in an ongoing, interactive process with persons with disabilities, their families, the community, local authorities and organizations on sustainable disability inclusion development.

#### **Core competencies expected of a CBID Team member**

##### **1. CBID Facilitators practice with professionalism.**

- Advocate and organize access to the needed services for the person with disabilities and their household that contribute to increased independent living, optimal functional ability and wellbeing.
- Demonstrate a professional manner in behavior, appearance, and compassionate communication with persons with disabilities and their household members, and with community actors.
- Engage in learning and reflection with team leaders and USAID Okard technical unit for continued professional development.

## **2. CBID Facilitators practice in an ethical manner (see section below for more information)**

- Have an obligation to conduct themselves ethically and to engage household members in ethical decision-making.
- Demonstrate empathy and effective compassionate communication when working with individuals with disabilities, families, local authorities, organizations, communities and colleagues.
- Are knowledgeable about the rights of persons with disabilities, the value of disability inclusion and relevant disability policies and laws.
- Become knowledgeable about the individual circumstances of person with disabilities and their family and are sensitive to that person and family's cultures and values.
- Recognize the limitation of their skills and knowledge and make careful decisions about doing **no harm** to the person with disabilities and their families.

## **3. CBID Facilitators use critical thinking and professional judgment.**

- Be curious, creative and innovative by using critical thinking to find meaningful solution to remove barriers to disability inclusion.
- Reflect on, apply and integrate knowledge and skills learned in USAID Okard training packages in day to day work, including personal experience and practical knowledge.

## **4. CBID Facilitators embrace and respect human diversity.**

- Understand and respect that disability is part of human diversity and behave accordingly.
- Appreciate that because of differences in functioning and appearance, persons with disabilities may experience shame, stigma, discrimination, marginalization, poverty, abuse and exploitation that result in psychosocial issues and isolation
- Be aware of their own beliefs, attitudes and behaviors on disability to ensure they do not influence the work they complete with persons with disabilities, their families and the community.

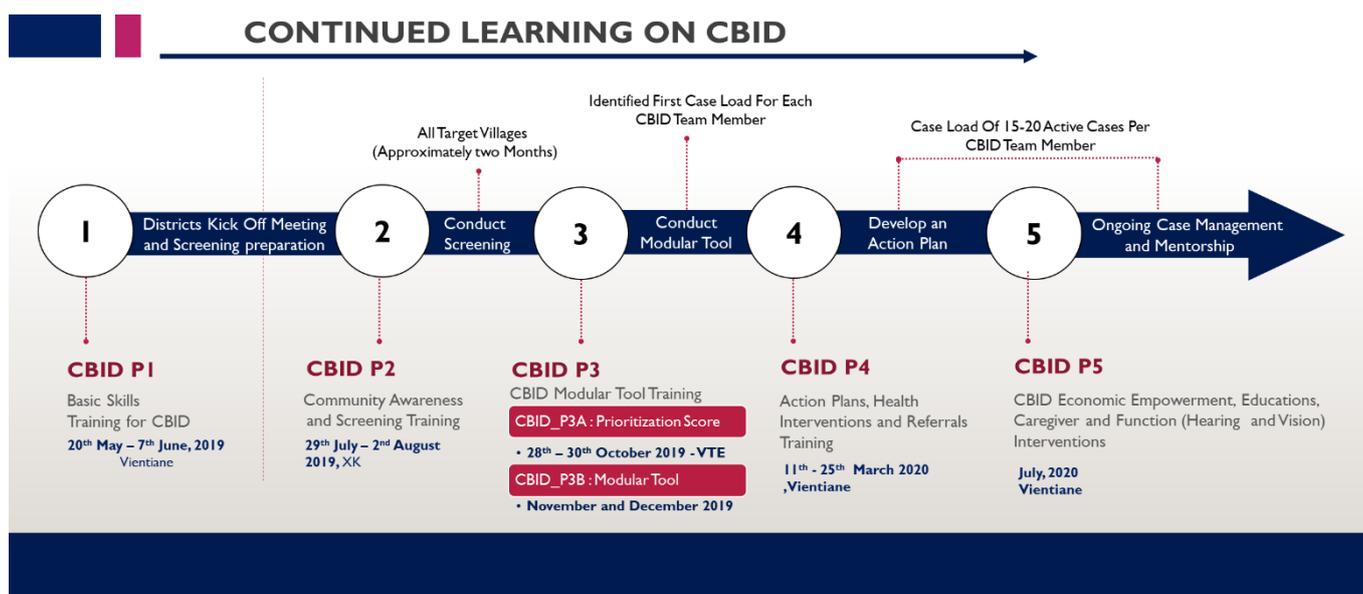
## **5. CBID Facilitators advance rights of persons with disabilities**

- Understand that each person with disabilities has the same basic human rights, such as freedom, safety, privacy, an adequate standard of living, health care, and education like others.

## 5. Continued Learning on CBID

During the first months of the implementation, CBID team will receive several intensive training packages organized and provided by the USAID Okard Training Unit. These training packages are designed to gradually build core competencies. Each training package is designed to provide a set of knowledge, skills, attitudes and behaviors that support the CBID facilitator to be able to mobilize community actors on disability inclusion and to implement the case management steps.

In between training packages, the CBID facilitators and IGA officer will be working in the community gradually applying knowledge, practicing skills and reflecting on their progress under the supervision of team leaders. Below are the planned training packages for the first year of implementation and how they interact with the first few steps of case management and community mobilization:



The participant handbooks developed for each package were used in the CBID trainings for QLA and ARMI teams during the USAID Okard Activity. They are available in print on request from World Education (Chief of Party: Bernard Franck [bernard\\_franck@la.worlded.org](mailto:bernard_franck@la.worlded.org)) or on the World Education website <https://laos.worlded.org/our-resources/>.

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## 1. Training goals and objectives

**Training Topic:** Introduction to Health Conditions and their Effects on Functioning  
**(Training Code: CBID-P1E)**

**Note:** this session on health conditions is the first of a series. Other health conditions that may lead to vision, hearing, physical, speech, intellectual and psychosocial impairments will be addressed later.

<b>Target Group/ Participants:</b> CBID facilitators, IGA officer and CBID team leaders and QLA and ARMI Management team in implementing the CBID demonstration model.
<b>Duration:</b> 3 Days
<b>Location:</b> STELLA Office, Vientiane Laos
<b>Dates and Times:</b> 3-5 June 2019

### Training Goal/s

#### General objective:

At the end of the three days training, participants will be able to remember essential facts on and consequences of health conditions on functioning and on psychosocial issues and will understand the benefit of rehabilitation, use of assistive products and psychosocial support on optimizing functioning and participation.

### Learning Objectives

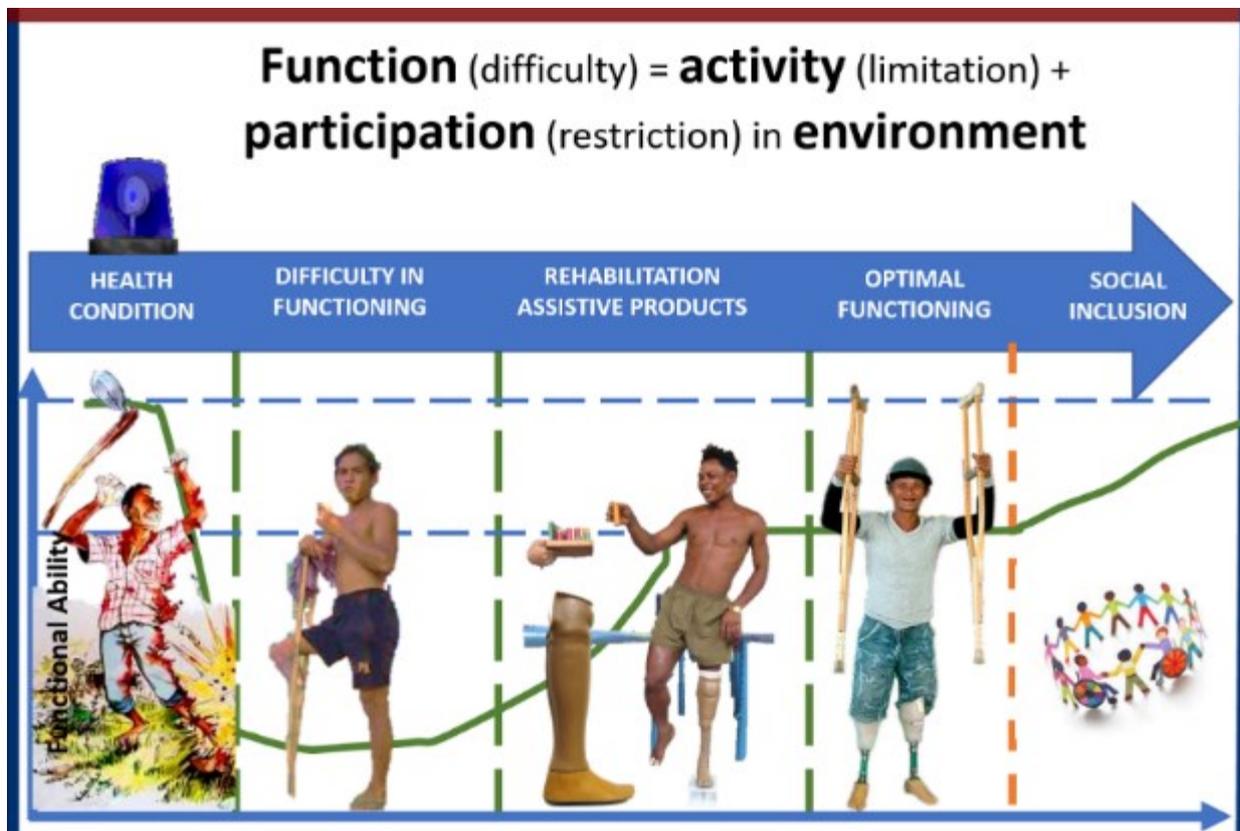
The participants, through Q&A sessions with persons with health conditions and additional illustrated lectures will be able to:

1. Recognize 5 health conditions (stroke, cerebral palsy, amputation, spinal cord injury and polio) and 6 different types of impairments (physical, vision, hearing, intellectual, mental, speech and communication) and describe their main visible signs.
2. Describe what are the possible difficulties in functioning (activity & participation) and possible psychosocial issues resulting from each of the 5 health conditions.
3. List the possible causes of the health conditions and explain the preventative measures to reduce risk of onset for these health conditions.
4. Predict which complications may appear if no medical and rehabilitation treatment are done in a timely manner.
5. Understand the possible links between experiencing health condition with moderate or severe difficulties in functioning and sometimes pain, and the possible emotional and psychosocial issues.
6. List and describe some home-based adaptations (accessibility) and activities (exercises and psychosocial support) and use of assistive products that could help optimize functioning and prevent complications.

7. Categorize which interventions CBID Facilitators can deliver in case management with safety and within realistic expectations, and which need to be done through available referral network of service providers.

## 2. Introduction

When someone has a health condition this can lead to difficulties in functioning. Rehabilitation and assistive products can help someone achieve optimal functioning and ultimately social inclusion.



We can take actions in our lives to stay healthy. But when a health condition happens due to different causes it can lead to impairment, difficulties in functioning and in combination with barriers in the environment, for example, physical, attitudinal, social, communication or others that lead to disability. Look at the diagram below to see examples of this.

Prevention	Cause	Health condition	Impairment	Difficulties in functioning	Physical and social
<ul style="list-style-type: none"> <li>● Vaccination</li> <li>● Health diet</li> <li>● Physical exercises</li> <li>● No smoking</li> <li>● No alcohol</li> <li>● Use helmet in motorbike</li> <li>● Use safety belt in cars</li> <li>● Don't drive if you drink</li> </ul>	<ul style="list-style-type: none"> <li>● Birth</li> <li>● Accident injury</li> <li>● Disease</li> <li>● Old age</li> </ul>	<ul style="list-style-type: none"> <li>● Cerebral palsy</li> <li>● Spinal cord injury</li> <li>● Amputation</li> <li>● Stroke</li> <li>● Post-polio</li> <li>● Clubfoot</li> <li>● Blind</li> <li>● Deaf</li> <li>● Others</li> </ul>	<ul style="list-style-type: none"> <li>● Physical</li> <li>● Hearing</li> <li>● Vision</li> <li>● Speech</li> <li>● Intellectual</li> <li>● Mental</li> </ul>	<ul style="list-style-type: none"> <li>● Selfcare</li> <li>● Activities of daily living</li> <li>● Mobility</li> <li>● Income generating activities</li> <li>● Communication</li> <li>● Participation</li> </ul>	<ul style="list-style-type: none"> <li>● No reasonable accommodation accessibility</li> <li>● No documented information</li> <li>● No sign language interpreter</li> <li>● Discrimination</li> <li>● Over protection</li> <li>● Stigma</li> <li>● No adapted</li> <li>● Prejudices</li> </ul>

## 2.1 Types of impairment resulting from health conditions and their effect on functioning

Definition of health condition and impairment:

The term **HEALTH CONDITION** is an umbrella term for disease (acute or chronic), disorder, injury, or trauma. A health condition may also include other circumstances such as pregnancy, ageing, stress.



**IMPAIRMENTS** are problems with the body. This includes how the body works (body function) and how the body is structured (i.e. different parts of the body). These problems can affect different systems in the body- e.g. the system that controls how the heart works and controls blood pressure, how we breathe, how we see, hear and feel pain, how we speak, how we think , how we move, how our body responds to infection, etc. Impairments can be temporary or permanent. They can stay the same, for example, hearing loss does not change after an illness, may get worse, for example, muscles get weaker as in muscular dystrophy, or may improve, for example, a broken bone (fracture) healing.

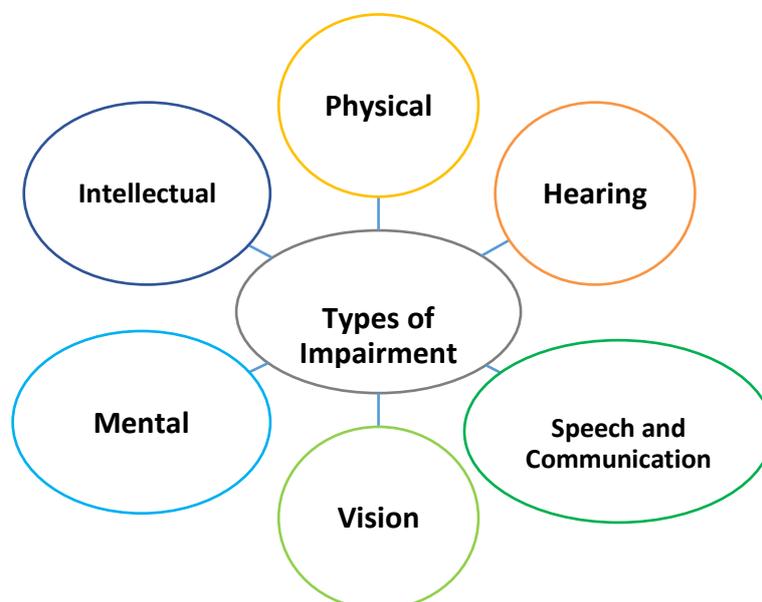
## 2.2 Causes of health conditions

The main causes of health conditions that lead to impairment are:

<p>Due to problems during pregnancy or when a baby is born i.e. present at birth</p>	 A photograph of a young child with a physical disability, specifically a limb difference, being held by a woman. The child is wearing a yellow shorts and a patterned diaper.
<p>From accidents that result in injuries</p>	 An illustration of a person with a prosthetic arm holding a hammer, standing in a field of flowers. The person is wearing a red and white plaid shirt and blue jeans.
<p>From disease, for example, diabetes, cancer, high blood pressure, stroke, heart disease</p>	 An illustration of a hospital bed with medical equipment, including a monitor and a nurse standing by the side. The bed is blue and green.
<p>Related to older age</p>	 A photograph of an elderly woman with white hair, wearing a dark jacket, holding a wooden walking stick. She is standing in front of a thatched roof.

## 2.3 Types of impairment and areas of functioning

There are 6 different types of impairments.



These 6 types of impairment may affect our ability to function in day to day life. Function is defined as ‘optimal performance of activities of daily living and mobility, sometimes using assistive devices to compensate activity limitations, and to assist participation within the household, at work and in social life as much as you want and with no or little restriction’.

In case management step 2 we will measure the **function** of persons with disabilities and this will cover 10 different areas:

- Seeing (seeing things close by or far away so we can read, write and do activities)
- Hearing (hearing sounds in a quiet or noisy environment, for example, voices, listening to TV or radio)
- Communication (able to understand others, and able to talk and express ideas and thoughts)
- Mobility (changing body positions, standing, walking, moving around short and long distances, climbing steps)
- Moving arms and hands (to lift and carry objects or use fingers to do small tasks e.g. open a bottle, fasten a zip or button)
- Self-care (washing whole body, dressing, eating, drinking)
- Cognition and ability to learn new tasks, remember things (memory) and focus on activities (attention)
- Participation in domestic life (caring for children, cleaning the home, cooking, work and school)

- Participation in community and social life (playing with other children, sports and other leisure activities, socializing, working and joining community events)
- Behavior (how we act in day to day life and express our emotions)



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## 2.4 Measuring severity of difficulties in function

We can measure the severity of difficulties in functioning by using the following scale:

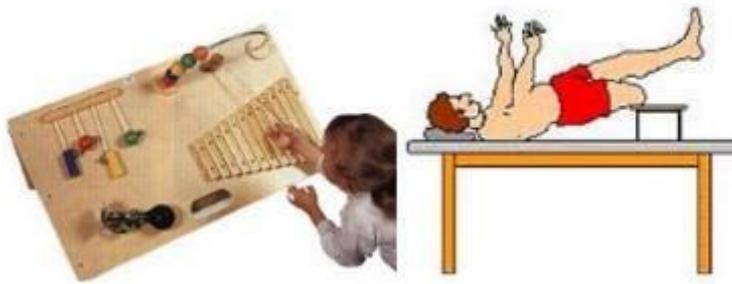
Levels of difficulties in functioning
No difficulty
Some difficulty
A lot of difficulty
Cannot do at all

## 2.5 How can the CBID facilitator support the person with disabilities and family to optimize functioning?

- 1. Referral to health services and/ or the rehabilitation unit at the hospital to get assessment by health staff trained to provide rehabilitation and assistive products.**

Doctors can assess the persons functional needs and prescribe treatment from rehabilitation staff (where available) including- rehabilitation nursing, physiotherapy, occupational therapy, speech therapy.

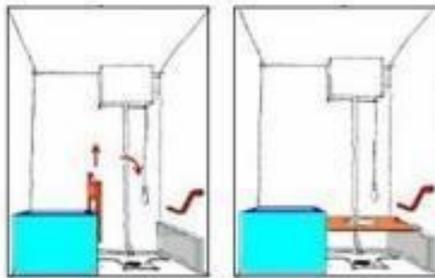
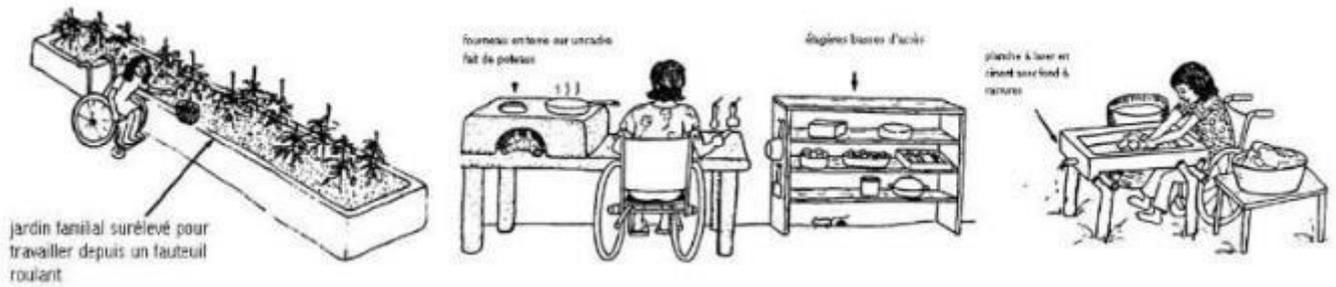
Examples of exercises provided by rehabilitation staff:





2. With rehabilitation staff, provide advice on adjustments to the home environment to improve accessibility

Examples of adjustments to the home environment:



Adjustments to the home environment can help the person:

- To use their assistive product effectively e.g. make a ramp or widen a door to make it easier to move around in the wheelchair.
- To optimize function, for example, put a rail in the bathroom to help a person to move from sitting/ squatting to standing, or changing the position of the equipment in the kitchen so easier to prepare and cook meals.

### 3. Ask rehabilitation staff to provide advice and training to caregivers on how to care for the person with disabilities at home

When the person with disabilities receives treatment from rehabilitation staff they can also provide advice to the caregiver on how to care for the person. For example,

- How to assist the person to move around easily so they don't injure themselves
- How to assist the person with disabilities to move from the bed to the wheelchair, on and off the toilet
- How to assist the person with activities of daily living- helping them to wash, eat, drink
- How to communicate effectively using assistive products
- How to use assistive products to help with all of the activities described above





The CBID facilitator can encourage the caregiver to follow the advice given by the rehabilitation staff. Together, the CBID facilitator and the rehabilitation staff can visit the family to monitor and provide further coaching as needed.

**4. Where gaps in services exist identify private health service providers or identify a handyman to make an assistive product locally.**

When a person has been assessed by health and rehabilitation staff at public health facilities and a specialist service is not available a CBID facilitator may identify other private service providers. This might include an international medical team visiting Laos, for example to provide surgery.

Many different types of assistive products can help optimize function but may not be available from public health services. Therefore, can be made locally:

Example of assistive product made from local resources:

- Board with wheels to help someone move around the floor



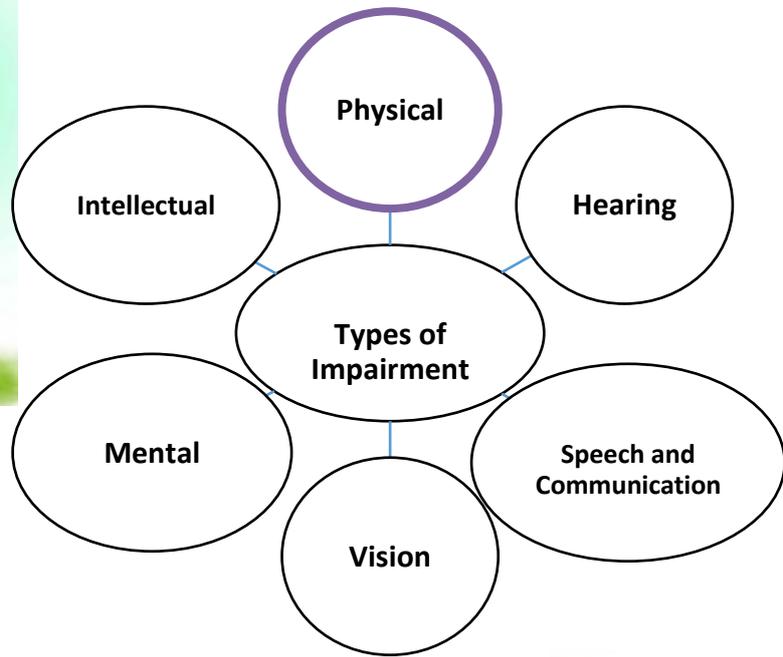
Adapted toilet stool- low level made from wood to go over the squat toilet with a small wooden step to help the person climb up onto the stool



5. **Provide basic psychosocial support to the person with disabilities and caregivers using compassionate communication and encourage the family to provide empathy and love for the person with disabilities**



### 3. Physical impairment



### 3.1. How does physical impairment affect a person?



Physical impairments of the body structures and/ or function include:  
Conditions affecting the limbs, bone, joints and muscles and/or  
Loss of limbs  
Conditions of the central nervous system i.e. brain, spinal cord  
or nerves

Physical impairment limits a person's ability to move different body parts, to feel sensations, to coordinate movements of the body, or to perform physical activities- walking, jumping, exercise, sports, etc. Physical impairment causes difficulties in functioning when performing self-care and domestic activities, and participating in community and social life.

Physical impairment can be either temporary or permanent. Indeed, some persons with physical impairment as a result of a health condition such as low back pain, bone fracture, nerve, muscle or joint injury can likely fully recover after appropriate medical and rehabilitation treatment. Other physical impairments are permanent, for example muscle weakness resulting from the health condition like muscular dystrophy or cerebral palsy.

There are many types of health conditions that lead to physical impairment and they can cause different levels of difficulties performing activities- some difficulties, a lot of difficulties, or cannot do at all.

A health condition that causes physical impairment may be present from birth (congenital) or acquired later (for example through an accident, disease or aging).

### 3.2 What are the main health conditions and their causes that lead to physical impairment?

- **Health conditions and their causes**

There are a variety of health conditions and causes that lead to physical impairment and they include for example:

**Accidents such as UxO, road traffic crash or falling from a height**

**Accidents can result in:**

- **Spinal cord injury** (Damage or rupture (complete break or torn) of the spinal cord which causes loss of sensation and/or movement)
- **Amputation**

- **Fracture of a bone**
- **Brain injury** which affects the motor skills and ability to control movement some time to speak.

### **Congenital conditions (present from birth)**

- **Spina bifida** (an incomplete development of the spinal cord during pregnancy which may result in paralysis of the lower limbs.)
- **Clubfoot** (when one or both feet are not straight but bent to the side- this is a treatable deformity))
- **Cleft lip and/or cleft palate** (Cleft lip is an incomplete joining of the upper lip. In a cleft palate, the roof of the mouth does not grow together during pregnancy leaving an opening to the nose).
- **Muscular dystrophy** (Inherited health condition that weakens the muscle progressively that can be passed on from the parent to the child through the genes).
- **Cerebral palsy** (damage to the brain either during pregnancy or during birth that affect body movements and posture).

### **Disease**

- **Infection:**
  - Of the brain: Encephalitis, meningitis (that can lead to cerebral palsy),
  - Of the lung: (pneumonia, tuberculosis)
  - Of the spinal cord: polio (a viral disease that in its most serious form can damage the nerves in the spinal cord and the brain, causing paralysis of the arms, legs, or the trunk)
- **Non-communicable diseases**
  - **Stroke** (bleeding or blood clot (blockage) in the brain that causes damage - depending on which part of the brain is damaged, a stroke can cause physical impairments on one side of the body).
  - **Diabetes** (cuts and sores on the skin are slow to heal and due to lack of sensation the person may not notice them especially on the foot. This can lead to chronic wounds of limb extremities that if untreated may lead to amputation)

### **Aging**

As people get older, physical changes happen to the body-they might lose strength, agility and balance, the muscles get smaller and bones become more brittle and are more easily broken. These physical changes to the body can lead to reduced level of functioning. With difficulties in moving, older persons may fall down more easily and lead to broken bones more frequently compared to younger people.

### 3.3. How can we provide support to people with physical impairment?

Support for persons with physical impairment to optimize functioning in activities of daily living can include:

#### Referral for rehabilitation<sup>1</sup> services

Rehabilitative services for persons with physical impairment may include Physical Therapy (PT), and Occupational therapy (OT), which helps to develop mobility, gross and fine motor skills and activities of daily living , and provision of assistive devices (see above). Vocational rehabilitation (VR) helps to gain relevant skills to access employment.



#### Provision of assistive products

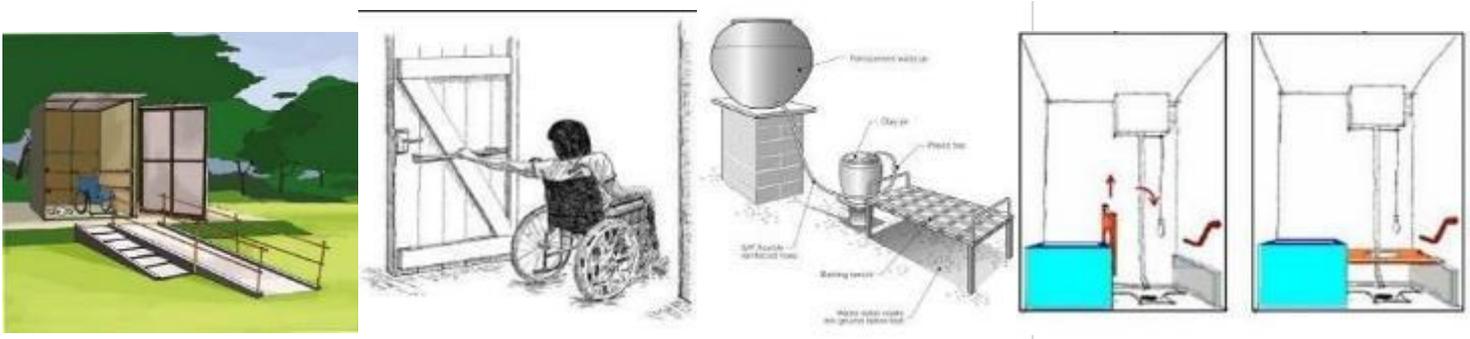
Assistive products that help someone to move around at home or in the community and complete activities of daily living (self-care, domestic, etc.) that optimize function and reducing the impact of the physical impairment. This might include mobility aids (wheelchairs, walking aids, prostheses and orthosis), seating and standing system (to put the body in a better position), devices for self-care; toilet/ shower chair, adapted cutlery, cups and plates.

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<sup>1</sup> Rehabilitation is a set of interventions designed to reduce disability and optimize functioning in individuals with health conditions in interaction with their environment (WHO-Rehabilitation 2030)



Working with person with disabilities and the family in the real environment, rehabilitation staff and CBID facilitators can advise on suitable modifications to increase physical accessibility.



### **Psychosocial support:**

When persons with physical impairment have moderate or severe difficulties in functioning, they often experience reduced independence as they have to rely on a caregiver to support them to do basic daily tasks related to self-care and activities of daily living.. This dependency on others and sudden restriction in ability to do things by themselves can cause a person to feel they are a burden to their family, reduce self-esteem (feeling they are useless) and confidence and may lead to family problems and tensions. Stress, anxiety or depression may appear and need to be address specifically with counselling and psychosocial support.



### **Supporting the caregiver**

When people have moderate to severe difficulties in functioning, they often need the assistance of one or two caregiver(s) to perform various activities. To protect their own health and body (especially the back), the caregiver needs to learn and use appropriate techniques to lift, transfer, move the persons with severe physical impairment. Other techniques for feeding, dressing and other activities of daily living are also useful to help the caregiver complete tasks for the person with disabilities more effectively (i.e they are more successful doing the task and reduce time spent caregiving).

When rehabilitation staff assess and treat the person with severe physical impairment they can provide advice on the best techniques. This can be monitored by the CBID facilitator.



A caregiver may also need psychosocial support if they feel stressed or depressed due to caregiving being difficult, causing difficulties in family relationships, or stress due to reduced time for their own life and reduced income opportunities. Dependent on the severity of their symptoms they might be referred to a doctor for psychosocial support. A CBID facilitator can also use basic counselling skills to provide psychosocial support as needed.

### Education:

Children with physical impairments have, like other children, the rights to access education in mainstream schools together with their peers that do not have a disability. Access to mainstream education for children with physical impairment requires mainly using appropriate assistive products, modifications in the classroom and school building, such as ramps, accessible toilets etc. Often, engaging in conversation with principals and teachers and classmates will allow better understanding and acceptance.



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### Economic Empowerment:

With optimal functioning, most people with physical impairment can perform formal or informal activities generating income. Often environmental barriers are still restricting persons with physical impairment to fully and effectively access employment and participation in the global workforce on an equal basis with others. These barriers such as attitude of employers and or employees, lack of reasonable accommodation and accessibility, must be identified and removed.

### 3.4. Who provides relevant services to persons with physical impairment in Lao PDR



#### INTERVENTION:

Provincial Rehabilitation Center (PRC) provide free wheelchairs, crutches and prosthetics and orthotics devices. The CMR provides specialized rehabilitation services in Vientiane Capital.

Rehabilitation departments of provincial hospitals (and some units of district hospitals) and PRC are providing Physical therapy. These treatments are not for free.

Other assistive products for persons with physical impairment can be purchased in the local pharmacy in Vientiane Capital (and possibly in some provinces but limited) such as basic wheelchair, toilet chairs, crutches and walking frame and splints.

Through case management, CBID Facilitator can refer the person to the PRC via the community health center and/ or district hospital, provide encouragement and monitor the person with disabilities and their family completion of exercises prescribed by the physiotherapist. They can support the provision of simple locally made assistive devices by making them for a family or providing advice on how the family can make them. CBID Facilitator can advise on simple accessibility adjustments or specific techniques to help with activities of daily living.

### 3.5. What to remember!



Assistive products can dramatically optimize mobility and function. Rehabilitation exercises can prevent or reduce complications of physical impairment.

Physical and occupational therapy (functional rehabilitation) can help the person to improve movement, to adjust his/her environment and to find strategies to function optimally in daily life.

Persons with physical impairment need comprehensive support to achieve their optimal level of functioning and to be able to effectively participate in society on an equal basis with others.

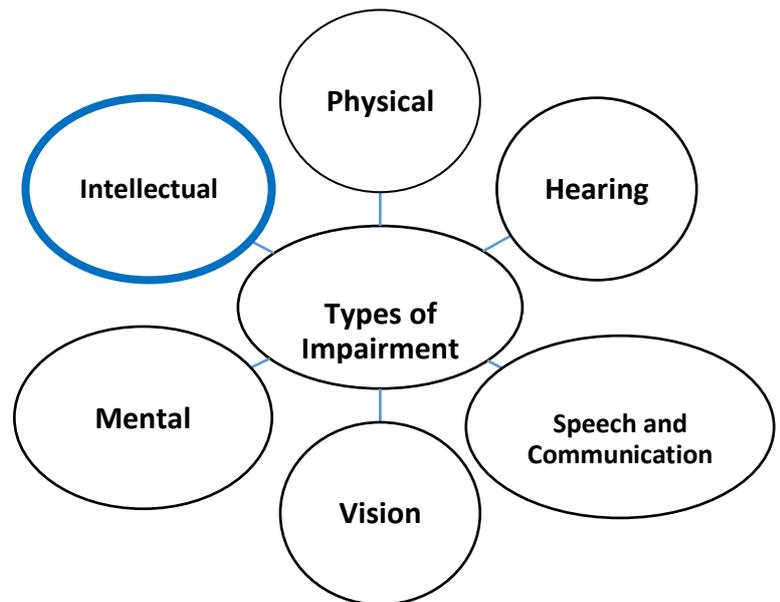
## 4. Intellectual impairment



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#### 4.1. How does intellectual impairment affect a person?



Intellectual impairment refers to life-long limitations of the cognitive and intellectual abilities of a person, meaning a slower rate of learning and comprehending things.

Intellectual impairment may affect a person's ability

- to understand things,
- to achieve developmental milestones within "typical" age ranges,
- to solve problems,
- to remember things,
- to learn new information and skills as easily as others.

How an intellectual impairment affects the life of a person varies greatly: Some people will require only a little more time to understand or to learn, while others have severe difficulties and need a lot of support.

The stimulation provided by play with toys, activities and visual images and the interaction with people that surround that person can make a significant impact on their development, especially in early childhood.

Intellectual impairments affect many parts of a person's life: School or work, daily routines and family and social life, etc.

#### 4.2. What are the health conditions and their causes that lead to intellectual impairment?

The causes of intellectual impairment include:

##### Before birth

The health of the mother: The risk of an intellectual impairment is increased by poor maternal nutrition (e.g. iodine deficiency), large amounts of chemical substance use (drugs, alcohol, smoking) during pregnancy or infection during pregnancy such as rubella or chicken pox.

Genetic reasons: Genes are part of the cells in our bodies that contain information about us, like how we look etc. Sometimes, intellectual impairment is caused by incorrect genetic information *inherited* from parents, for instance Down syndrome.

Premature birth: lack of brain development when the baby born too early.

### **During birth**

Intellectual impairment can result from complications during birth, like prolonged labor, poor or no oxygen supply to the brain which can damage the brain.

### **After birth**

Certain illnesses can cause in some cases brain damage and intellectual impairment such meningitis or measles.

Intellectual impairment can also be the results of serious head injuries caused by car/motorbike accidents or falls.

### 4.3. How can we provide support to people with intellectual impairment?

- Intellectual impairment is a life-long condition; it cannot be cured or treated with medication.
- However, people with intellectual impairment can have a fulfilling life like other people in their community, social contact and participation, security, adequate housing, education, work, etc.
- People with mild intellectual impairment can live independently in the community with some support.
- People with more severe intellectual impairment may need life-long support and care.
- These care services include early stimulation, inclusive education and rehabilitation services and assistance to live as independent as possible.
- Early identification and early intervention by referring to care services are thereby important to promote the optimal development of the abilities of the child.
- Vocational training, work opportunities and accessible information can provide the skills and opportunities for a life included in the community.
- Persons with intellectual impairment often experience a lack of participation in decisions that affect their lives since people believe that they cannot make decisions for themselves due to their impairment.
- Ensuring their participation in decision making to the maximum extent possible and providing relevant support to them in making decisions is therefore of particular importance.

#### 4.4. Who provides relevant services to persons with intellectual impairment in Lao PDR?



##### **INTERVENTION:**

Parents and siblings are the primary persons to provide assistance to their child with intellectual impairment.

Rehabilitation staff and CBID Facilitators may need to provide support and guidance to enable the household and community members to understand the condition, and to adjust the way they talk, stimulate and engage with the child. Patience, persistence, empathy and compassion are some of the important qualities that parents, siblings and community will need to demonstrate.

Rehabilitation staff and CBID Facilitators can advise the family on (or provide) a selection of toys (most of them can be made locally) and illustrated story books that will allow the family to do as much as possible to promote fine motor and cognitive stimulation with the child with intellectual impairment.

If there is daycare center for children with intellectual impairment in the province of district, it is important to try referring the child to this center.

Rehabilitation staff and CBID Facilitators can advise families to pay special attention to provide intensive cognitive stimulation to the child and to encourage participation of the person with intellectual impairment in family and community activities and games.

CBID facilitators may provide psychosocial support to caregivers.

#### 4.5. What to remember!



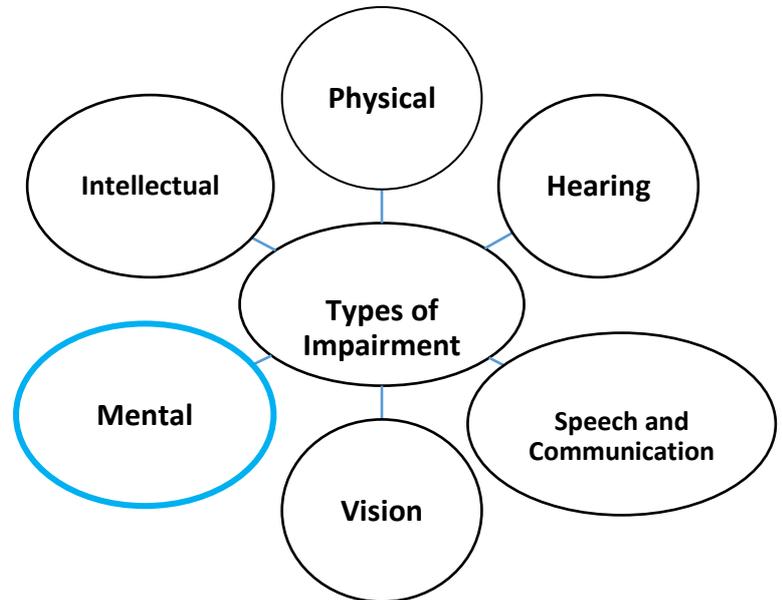
Intellectual disability is not a disease. You cannot catch it from anyone. Persons with intellectual impairment are not ill.

There is a difference between intellectual and mental impairment: Mental impairment is an illness and can be cured (see section 5 for more information), whereas an intellectual impairment is a life-long delayed intellectual development, where medication has no or very little effect.

The best support that persons with intellectual impairment can receive is to encourage them to participate as much as possible in the day to day life of the household and the community.

Very often, people think that persons with cerebral palsy also have an intellectual impairment. However, this is not always true! Cerebral Palsy can include an intellectual impairment but the majority of persons with cerebral palsy have normal intellectual abilities.

## 5. Mental impairment (mental illness and psychosocial issue)



### 5.1. How does mental impairment affect a person?



Mental impairment includes a broad range of chronic mental illnesses. Mental illnesses are health conditions that include depression, schizophrenia, anxiety disorder, and post-traumatic stress disorder (PTSD).

Mental illnesses affect a person's thinking, feeling, mood, and their behavior and daily functioning. Mental illnesses can change the whole way a person sees the world.

Type and duration of symptoms vary from person to person and can include:

- fears
- personality changes
- confused thinking
- inability to form and maintain relationships to others
- difficulties in coping with daily life
- hearing voices that are not there
- seeing things that are not there (hallucinations)

These feelings and changes can become so strong that they become difficult to manage. Someone can experience a mental illness over many years with breaks in between (like a wave that comes and goes) or have only one episode in life.

## **5.2. What are the causes for mental impairment?**

The causes for mental illness are complicated and not fully understood. Often, mental illnesses are the result of a **combination** of biological, psychological, and environmental factors:

- **What biological factors are involved in mental illness?**

Genetics (heredity): Many mental illnesses run in families passed on through the genes.

Substance abuse: Long-term substance abuse has been linked to anxiety, depression and paranoia (suspicion and mistrust of other persons).

- **What psychological factors contribute to mental illness?**

Severe psychological trauma such as emotional, physical, verbal or sexual abuse or neglect can cause a mental illness.

- **What environmental factors contribute to mental illness?**

Certain catastrophic events in our life such as a UXO accident, natural disaster, death of a close relative or divorce, living in poverty or severe stress can cause a mental illness.

## **5.3. How can we provide support to persons with mental impairments?**

People with mental illnesses need professional mental health care. This can include medication, psychological interventions and psycho-social support services (e.g. self-help groups and other community-based services).

Mental illnesses are treatable. With appropriate medication and support services, the symptoms of mental illness can be significantly reduced or even disappear and people with a mental illness can live independently in the community. And sometimes, mental illness can also be completely cured.

#### 5.4. Who provides relevant services to persons with mental health (including psychosocial impairment issue) in Lao PDR?



##### INTERVENTION:

Very few organizations are providing psychological and counseling support to persons with mental health issues in Lao PDR.

Doctors and nurses from provincial and district hospitals will be training on mental health and psychosocial support and CBID facilitators can refer persons with mental health issues to these trained health providers.

When the mental health and psychosocial impairment are severe and too difficult to manage for the trained doctor and nurse, they will be referred to a MHPSS specialist (Dr. Manivone) for intervention.

After training, CBID Facilitator will be able to provide basic psychosocial support under the supervision of Dr. Manivone, clinical psychologist.

CBID facilitators may provide psychosocial support to caregivers.

#### 5.5. What to remember!



It is important to understand that persons with a mental impairment do not have an intellectual impairment.

Mental impairment is an illness that can be cured and people with mental illness can live independently when their mental illness is managed.

One of main barriers that persons with mental impairment face are negative attitudes people have about them.

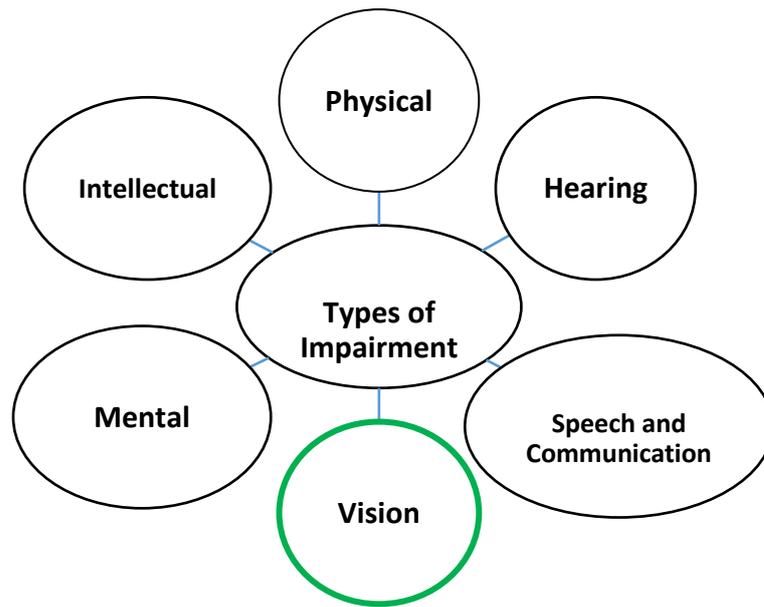
Due to stigma and prejudices, persons with mental impairment often do not seek support and services remain inadequate.

Mental impairment can affect persons of any age, gender, religion, or income.

Mental illnesses are not the result of personal weakness, lack of character or poor upbringing.

Keep in mind that mental impairment is not an obvious visible impairment and you might not even realize if person has a mental impairment.

## 6. Visual impairment



ດິນຕາບອດ  
PERSON WHO IS BLIND



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## 6.1. How does visual impairment affect a person?



Visual impairment is the partial or complete loss of vision and includes:

Mild visual impairment: Some difficulty seeing and reading.

Moderate and severe visual impairment: A lot of difficulty where reading at normal distances is not possible. People require supportive tools to read and see- eyeglasses or magnifiers;

Blind: Someone who cannot see at all i.e has no vision , These people need non-visual assistive products such as touch screen reader for smartphone and tablet, Braille and a white cane for orientation.

The effect of visual impairment on a person depends very much on the severity of the visual impairment as well as the age of the onset of the condition.

## 6.2. What are the health conditions and their causes that lead to visual impairment?

- Eye diseases that lead to visual impairment, especially cataract<sup>2</sup>, glaucoma<sup>3</sup> and age-related loss of vision.
- Congenital blindness is a visual impairment that occurs in babies at birth. It can be caused by an infection (cytomegalovirus ([CMV](#))) that's transmitted from the mother to the developing baby during pregnancy. Babies who are born blind usually do not regain their eyesight.
- Malnutrition, particularly Vitamin A deficiency.
- Trauma/accident such as UXO explosion which caused damage to the eye.
- As people get older, they might develop a visual impairment and have difficulty seeing and reading from close distance.

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<sup>2</sup> **Cataract** is a “clouding” of the lenses of the eyes that blocks the light that is needed for clear vision and eventually leads to blindness, if not treated in time.

<sup>3</sup> **Glaucoma** is an abnormally high pressure within the eye

### 6.3. How can we provide support to persons with visual impairment?

#### Referral to health services for eye assessment

When someone reports they have difficulties in seeing it is important they have an eye assessment by a doctor so they can decide what is the problem and the appropriate treatment. CBID facilitators can refer the person to the community health center who will activate a referral at either the district or provincial hospital dependent on the availability of eye care services.

The doctor specialized in eye care may choose one of the following interventions:

- **Surgery**-some causes of visual impairment can be treated or require surgery, like for example cataract. Cataract surgery is a simple surgery and is available in Laos.
- **Prescription of eyeglasses** – see assistive products section below.



Cataract surgery

- **Advice on how to stimulate a child's development**- if a child has difficulty seeing early intervention is important to reduce the effect of visual impairment on the child's development. Skills training can be provided to parents on how they can support the development of their child.

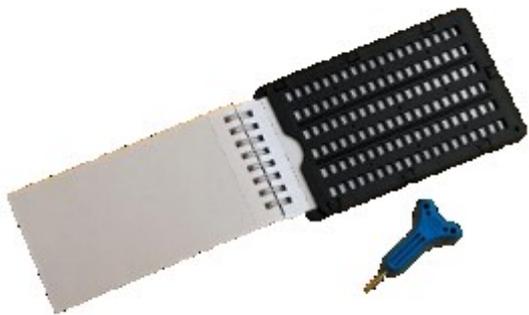
#### Provision of vision assistive products

Some eye health conditions are irreversible, and persons need support and assistive products to increase their independence and participation. This includes:

- Eyeglasses adapted to your level of difficulty to read from close distances or see things more clearly from a distance. Often glasses are scaled from 0.5 -1 - 1.5 – 2 – 2.5 – 3. A doctor can prescribe the correct eyeglasses based on an eye test. Also, reading glasses and magnifying glasses are available in some pharmacies and other shops.



- White cane to move around independently and receive mobility and orientation training to use it effectively.
- Braille equipment for reading and writing. Children who are blind will likely have to learn to read Braille in a special school or unit before they can join the mainstream class with all other children.



- Other assistive products/ visual orientation aids- using contrasting colors or placing guiding strips on the floor to help a person move around in the environment, reading devices and apps on smartphones and laptops, smart watches that talk, large print books or other documents, audiotapes, letter boards or other computerized aids. Training is important to help the person use these assistive products effectively.



- Inclusive Education is crucial to support children with visual impairment to attend mainstream education to prevent social exclusion and ensure equal access to education.

- Vocational training to promote employment options.

#### 6.4. Who provides relevant services to persons with vision impairment in Lao PDR?



##### **INTERVENTION:**

Eye clinics are available at provincial hospitals in Laos. If 8-10 persons are identified in the district hospital with need of eye care, the district hospital can request the provincial hospital to visit with the mobile eye clinic.

The National Ophthalmologic Center (NOC) in Vientiane (Thongpong village) provides advanced diagnostics and treatments such as cataract surgery and prescription for corrective eye glasses.

NOC and eye clinics from provincial hospitals provide free corrective glasses for students.

The Ministry of Education provides training on using Braille to read and write. The Association for the Blind prints and distributes story books printed in Braille.

The Association for the Blind provide white canes and advice for sight guide and orientation training in the field.

Based on the findings of the eye assessment by a doctor, a CBID Facilitator can provide reading glasses to older persons when needed.

## 6.5. What to remember!

### What to remember!

Some visual impairments can be prevented with good nutrition (Vitamin A)

Early intervention for children with visual impairment is important to promote their development and learning.

Support that promotes the participation and independence of persons with vision impairment are:

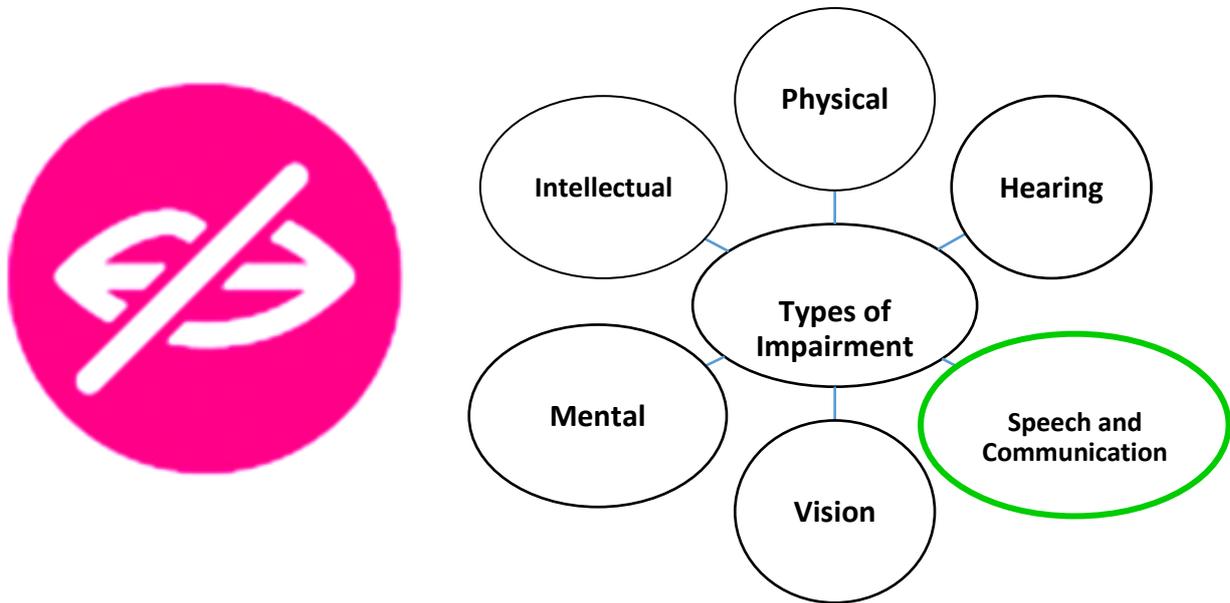
- Training in Braille for reading and writing and orientation training to move around independently.

- Using assistive devices such as white cane or prescription glasses

- Adjusting environment with contrasting colors and guiding strips to help a person easily see features of the environment.



## 7. Speech and communication impairment



### 7.1. How does speech and communication impairment affect a person?



Speech and communication impairment affect our ability to communicate verbally, it can either affect the ability to express our ideas and thoughts (expression) and/or understanding what is said by others

Problems in making sounds clearly to speak words due to problems moving the muscles of the mouth, tongue and lips.

Difficulties with flow of speech i.e. stuttering so there are gaps in between words or making longer sounds when speaking.

Difficulty thinking of words to express ideas.

Speech and communication impairment can also affect chewing and swallowing and therefore has an effect on nutrition.

Sometimes people think that, because persons with speech impairment have difficulties in talking and communicating, they also have an intellectual impairment. These two impairments are not linked and most people with speech impairment have full intellectual capacities.

## 7.2. What are the health conditions and their causes that lead to speech and communication impairment?

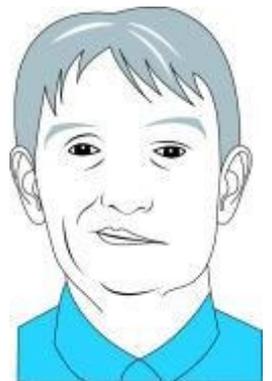
### Health conditions that lead to speech impairment

- **Damage of the vocal cords** that affects the sound of the voice, so speech is not clear.
- **Cleft lip or cleft palate:** Some babies are born with an incomplete joining of the upper lip or with the roof of the mouth that did not grow together during pregnancy. This leaves an opening to the nose that can cause significant difficulties when a child is learning to speak.
- **Cerebral Palsy** can affect the coordination and the use of muscle of the face, the throat and the mouth making it difficult to swallow, make sounds and speak clearly.



**Stroke** The part of the brain controlling speech can be damaged and the muscles of the face can be paralyzed on one side that creates difficulties to speak clearly and be understood by others.

**Head injury:** A head injury may damage the part of the brain that is used for language- this may cause difficulties in expressing ideas- finding the right words to explain something or saying the wrong word when the person actually means something else.



**When a child is born deaf or becomes deaf during childhood,** it can cause difficulties in speech and communication.

- The ability to hear is important for the development of speech and language skills.
- Children learn how to speak sounds and words through listening to others.
- If children cannot fully hear, they are unable to develop speech on their own.
- Therefore, if a child is slow in developing speech, it is important to check with an audiologist (doctor specialized to test hearing) if the child has a hearing impairment that causes the delay in speech development.

### 7.3. How can we provide support to persons with speech and communication impairments?

#### Speech and language therapy

- Use techniques to increase the communication skills of a person with speech impairment.
- Speech therapists can provide exercises to help the movement and control of lips, mouth so it becomes easier to chew, swallow and speak.

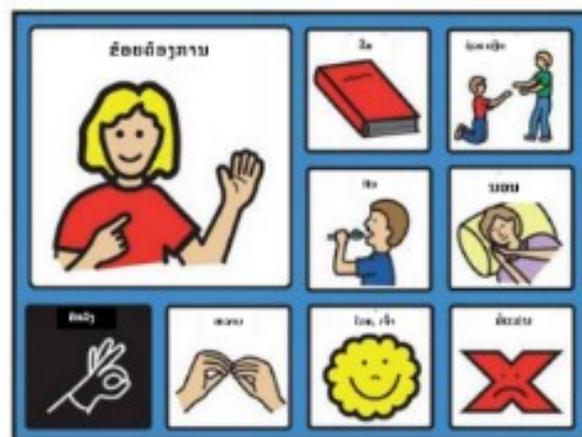


- Speech therapy can advise on methods to help speak and communicate, and this might involve the use of assistive devices (see below)



#### Assistive products

- When someone is unable to speak, communication can be happen by using sign language. A communication board with images and words can also be used by pointing at pictures to express their thoughts and needs. Communication boards can also help someone to find words and make sentences by using the pictures to help them organize their thinking.



**Tips that help support communication with persons with speech and communication impairment:**

- Look at the individual with your face at the same level.
- Provide verbal cues (i.e. a picture or pointing to a relevant item) when speaking
- Use language that can be easily understood and slow down your speaking.
- Find out what alternative form of communication they may use e.g. sign language.
- Don't ask too many questions, allowing time for the individual to answer.
- Provide a relaxed atmosphere: stress, attention and teasing can worsen a speech impairment.
- Patience and persistence are the key words!

#### 7.4. Who provides relevant services to persons with speech and communication impairment in Lao PDR?



##### INTERVENTION:

In Lao PDR, there is no trained speech and language therapist available, although some physical therapists and nurses from central hospitals and CMR in Vientiane have been trained on basic speech therapy techniques.

CBID Facilitators can refer to rehabilitation department at provincial hospitals or for severe cases, can consider referring to CMR or central hospitals in Vientiane.

If a physiotherapist trained in speech therapy techniques provides advice to a family, the CBID facilitator can encourage the person and their family and monitor their progress at home.

#### 7.5. What to remember!

A person with speech and communication impairment does not mean that they have an intellectual impairment.

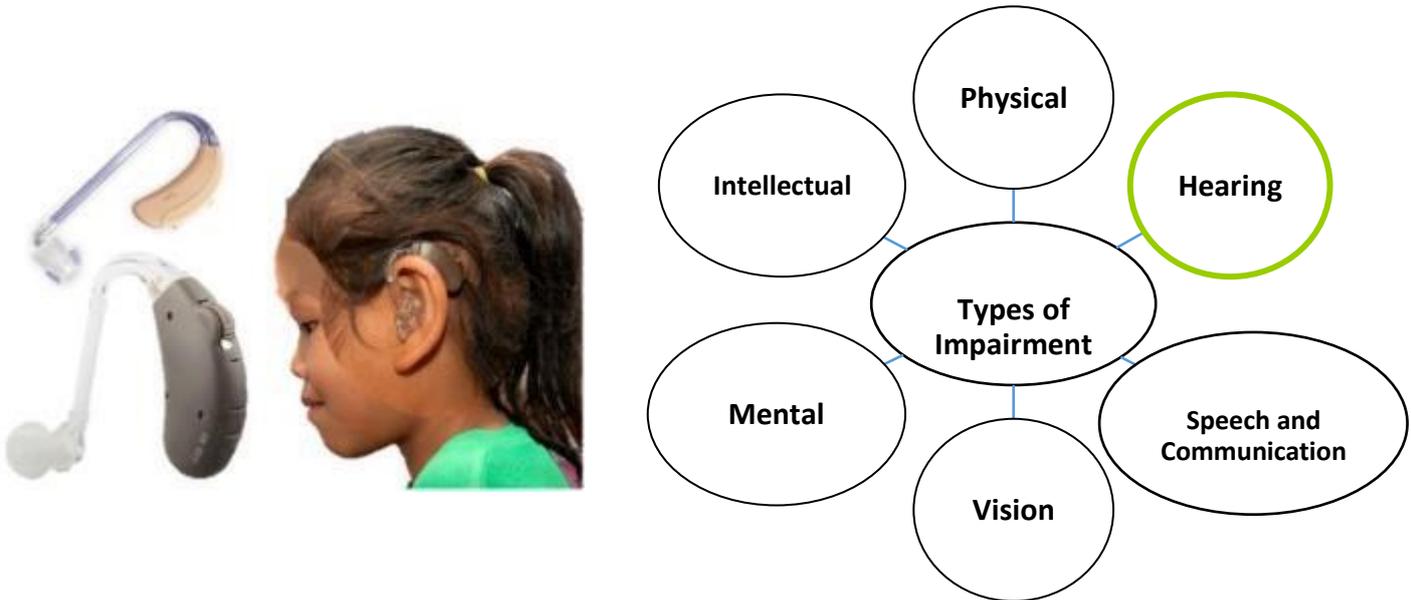
A child with slow development of speech may have a hearing impairment that causes the delay in speech development. It is important to check hearing.

Assistive devices can be used to communicate effectively.

A positive, patient and supportive attitude toward a person with speech impairment is important to facilitate communication.



## 8. Hearing impairment



### 8.1. How does hearing impairment affect a person?

Hearing impairment includes



Complete or partial loss of the ability to hear from one or both ears.

The term “deaf” refers to people with total hearing loss who cannot benefit from hearing aids.

The term “hard of hearing or partial hearing loss” is used for those with mild, moderate or severe hearing loss who can benefit from the amplification of sounds through hearing aids.

The level of hearing impairment is generally described as

**Mild or moderate hearing impairment:** Some difficult refers to difficulties in identifying soft sounds such as whispering, unable to hear clearly what others are saying during conversation.

**Severe hearing impairment:** A lot of difficulty i.e. they cannot hear a conversation at all, can only hear very loud noises and sounds.

**Complete:** Cannot hear at all, refers to someone who is deaf and cannot hear any sounds.

Depending on the level of hearing impairment, the difficulty in hearing words and simple conversations can affect a child's speech, especially if the hearing impairment begins before the age when speech normally develops<sup>4</sup>. This can result in speech impairment.

## 8.2. What are the health conditions that cause hearing impairment?

Deafness can be inherited: If one or both parents or a relative is born deaf, there is a *higher risk* that a child will be born deaf.

Hearing impairment may also be caused before, during and after birth by several reasons. These include:

### 1. Before or during birth

- Premature birth.
- Infections during pregnancy that affects the fetus (unborn baby) development

### 2. After birth

- Infectious diseases such as meningitis, measles, mumps.
- Chronic or untreated (or not treated promptly) ear infections can lead to hearing impairment, mostly in childhood, but also later in life.
- Excessive noise such as blast of UXO can damage the inner ear and weaken our ability to hear.
- As people get older, they might develop a hearing impairment or become deaf.

## 8.3. How can we provide support to persons with hearing impairment?

**Prevention:** Many cases of hearing impairment can be prevented through immunization against childhood diseases, e.g. measles and immunization of young women against rubella before pregnancy.

Ear infections even minor, must be treated swiftly to prevent damaging the inner ear.

**Referral to health services- early identification & intervention:** To reduce the long-term impact of hearing impairment, early detection and intervention is important, depending on the cause and severity of hearing loss. For example, treating any ear infection properly and as soon as possible.

Hearing impairment can be identified early through audiological screening at the Ear–Nose–Throat clinic (ENT). Some ENT mobile clinics are organized by the MoH.



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<sup>4</sup> By 12 months, a baby's first words usually appear, and by 18 months to 2 years children use around 50 words and will start putting two words together into a short sentence. From 2-3 years, sentences extend to 4 and 5 words.

Depending on how severe the hearing loss is, children may benefit from speech therapy to support their speaking skills.

## Assistive products

### Sign language

A person who is deaf will naturally use signs and body language to communicate with and be understood by others. Worldwide there are more than 60 different sign languages. Lao PDR has developed a Lao sign language. Sign language can be learned in special school for the deaf but can also be learned in the community using Lao sign language dictionary. Ideally some teachers from mainstream education should be able to teach using sign language, so deaf children can be enrolled in mainstream school.



### Hearing aids



A hearing aid does not cure a hearing impairment, but it increases (amplifies) the volume of sound, so that a person is able to hear more clearly.

Hearing aids are not suitable for everyone. For example, they may not be effective for severe hearing impairment. Hearing aids are powered by a battery that need to be changed regularly.

An audiologist (hearing specialist) can advise whether a hearing aid is recommended and fit it.

It is important to raise awareness of parents and educators about the value of schooling for children with hearing impairment and promote their right to be placed in a mainstream school setting. Parents and teachers should encourage the child to use their hearing aids at any time and not be shy or embarrassed, because the aids are crucial to being successful in learning.. Sitting at the front row in the classroom will help the child hear the teacher properly or watch their mouth to read their lips.

### Communication app

Often people who are deaf from birth cannot speak. They may use the Lao-Talks app on a smartphone. When using the app the person can select images to create sentences and the app will speak (pre-recorded voice) the sentences with a digitized voice. The app allows persons who are deaf to tell others what they want to say. They will still not hear the answers, but it is already a great support to communicate and participate in social activities.



#### 8.4. Who provides relevant services to persons with hearing impairment in Lao PDR?

##### INTERVENTION:



Refer the person to the community health center so they can activate a medical assessment at the district hospital. If needed the district doctor can refer to an ENT (ear, nose throat) doctor at provincial level or central level.

In Laos, most of central and provincial hospitals may have partnerships with foreign organizations that provide yearly ENT clinics and can provide hearing aids.

CBID Facilitator must be aware about the schedules and locations of mobile ENT clinics so they can share information people with suspected hearing impairment and inform district health staff of persons in the community who need hearing tests and diagnosis.

Some private pharmacies sell hearing aids but do not provide the related service to fit and adjust the aids according to the diagnosis. A private hearing clinic is available in Vientiane capital that can do hearing tests, diagnosis and provide the appropriate hearing aid.

Sign language training is provided by Lao Association for the Deaf (AFD), and Hands for Hope in Vientiane.

#### 8.5. What to remember!

Early referral to health services for proper treatment of ear infections can prevent hearing impairment.

Hearing loss or deafness does not affect a person's intellectual capacity or ability to learn.

Not all hearing impaired people are 100% deaf.

Sign languages are fully developed languages and have equal potential as tools for learning.



In the next part of this handbook we will explore different health conditions and their effect on functioning.

## 9. People living with stroke (hemiplegia)



## 9.1 What is stroke?

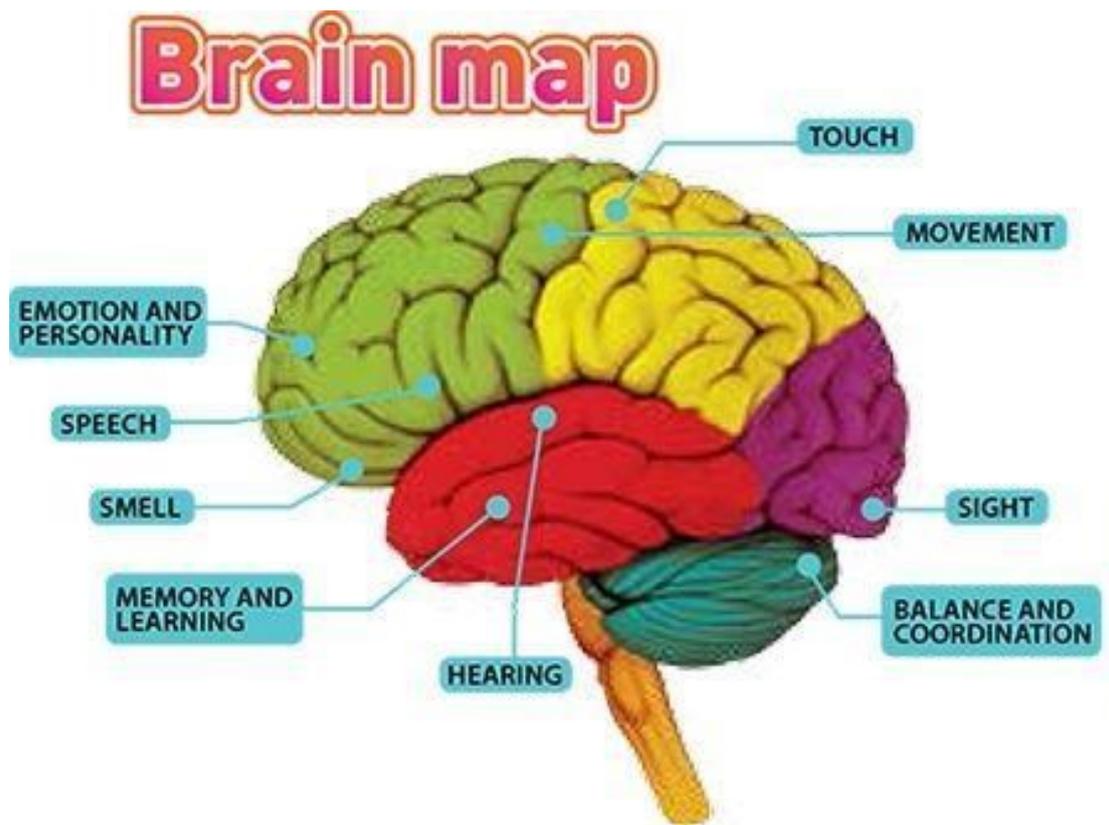
Stroke is a major health problem in Lao PDR with 6 to 7 persons with stroke in 1000 people.

Stroke happens suddenly

A stroke is a brain attack (brain injury) that happens when the blood stops to flow and supply parts of the brain. When the brain stops receiving blood in an area that part of the brain cannot work anymore, and the brain cells die. Dependent on what that part of the brain is responsible for will affect the body function of the person. For example, if the brain cells die in an area responsible for speech, speaking will be affected.



Picture of the brain showing how different areas of the brain are responsible for different body functions





**What happens to the brain when a person has a stroke? Two things might happen:**

A blood vessel in the brain might get blocked so that area does not get blood properly and brain cells die.

If the blood vessel is not blocked it might burst and bleed out, so that area of the brain supplied by the blood vessel does not get enough blood and brain cells die.

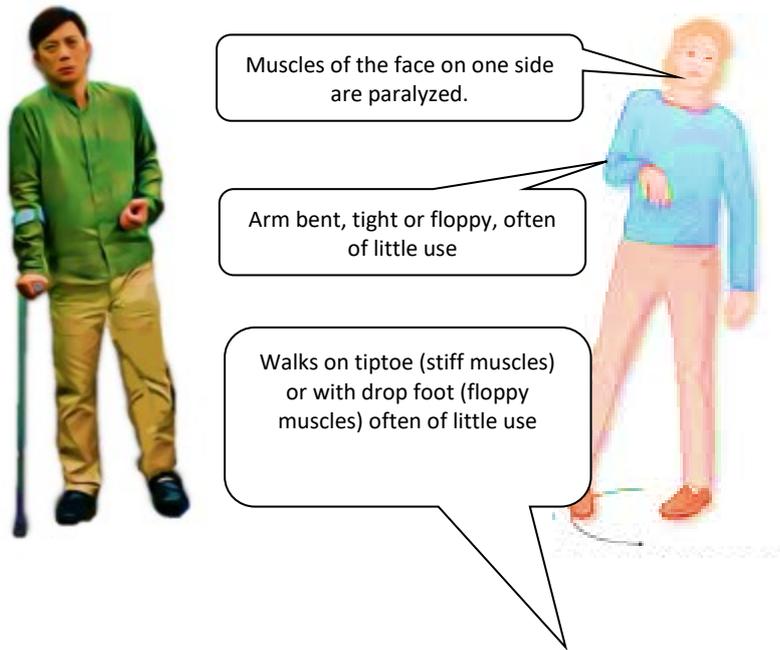
**What are the initial signs that a person is having a stroke?**

<ul style="list-style-type: none"> <li>• The face looks uneven. The mouth on one side might droop (hang) down</li> </ul>	
<ul style="list-style-type: none"> <li>• One arm hangs down floppy at the side of the body.</li> <li>• One arm and one leg on the same side of the body are weaker</li> </ul>	
<ul style="list-style-type: none"> <li>• Severe headache</li> </ul>	

<ul style="list-style-type: none"> <li>• Dizziness and loss balance</li> </ul>	
<ul style="list-style-type: none"> <li>• Blurred vision</li> </ul>	
<ul style="list-style-type: none"> <li>• The speech sounds strange, slurred</li> </ul>	
<p><b>URGENT ACTION:</b> Go urgently to health center or hospital!</p>	

### Signs after the acute phase

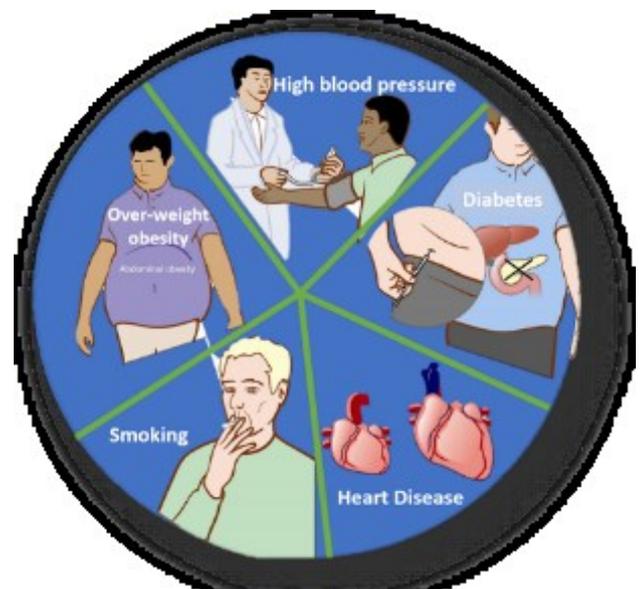
After the acute phase (immediately after the stroke) the muscles start to work again but often become spastic (stiff)so it is difficult to control movements.



- **If the stroke occurs on the right side of the brain**, it affects movements on the left side of the body. This is called a **left sided hemiplegia**.
- **If the stroke occurs on the left side of the brain**, it affects movement in the right side of the body. This is called **right-sided hemiplegia**.

## 9.2 Main causes of stroke

- high blood pressure
  - obesity
  - diabetes
  - heart diseases
  - smoking
- High blood pressure is often caused by an unhealthy lifestyle such as eating too much fatty food, not doing enough physical exercise, smoking, drinking alcohol and not eating enough fruits and vegetable.
  - Stroke is a non-communicable disease. We cannot get this health condition from being in contact with somebody else.



### 9.3. How to reduce the risk of onset of stroke

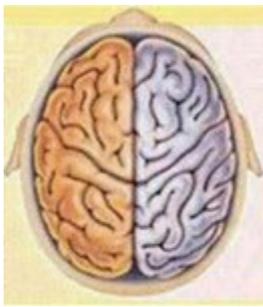
Preventing high blood pressure, reduces the risk of stroke.

#### How to prevent high blood pressure?

- People must have a healthy lifestyle and a good diet.
  - Practice physical activity such as walking 30 minutes every day
  - Do not smoke
  - Avoid or limit alcohol
  - Eat a lot of nuts, fruits and vegetables
  - Go regularly to the health center to check your blood pressure,
  - If prescribed by the doctor, take the blood pressure medicine regularly.



### 9.4 Difficulties in functioning after having a stroke

How stroke may cause difficulties in functioning		
<b>Right sided hemiplegia (when the stroke has affected the left side of the brain)</b>		<b>Left-sided hemiplegia (when the stroke has affected the right side of the brain)</b>
<ul style="list-style-type: none"> <li>➤ Difficulty in controlling movements on the right side of the body (face, arm, hand, legs).</li> <li>➤ Difficulty picking up and holding objects in the hand that affects other activities of daily living</li> <li>➤ Difficulty with self-care-dressing, washing the body and using the toilet</li> <li>➤ Difficulty in swallowing affecting drinking and eating.</li> <li>➤ Difficulty in speaking finding words to express ideas and thoughts</li> <li>➤ Difficulty having conversations and reading information</li> <li>➤ Difficulty problem solving and organizing the sequence of steps to complete a task</li> </ul>		<ul style="list-style-type: none"> <li>➤ Difficulty in controlling movements of the left side of the body (face, arm, hand, legs)</li> <li>➤ Difficulty picking up and holding objects in the hand that affects other activities of daily living</li> <li>➤ Difficulty with self-care-dressing, washing the body and using the toilet</li> <li>➤ Difficulty in swallowing affecting drinking and eating</li> <li>➤ Imagination, creativity and intuition is negatively affected</li> <li>➤ Difficulty in controlling emotions</li> </ul>

For all people who are living with stroke, who experience moderate to severe difficulties in functioning and suddenly become dependent of others to do basic and simple activities, they may go through emotional and psychosocial issues and sometimes depression.

## 9.5. What can the CBID facilitator do to support the person and family?

**Refer to rehabilitation services for assessment and interventions including provision of assistive products**

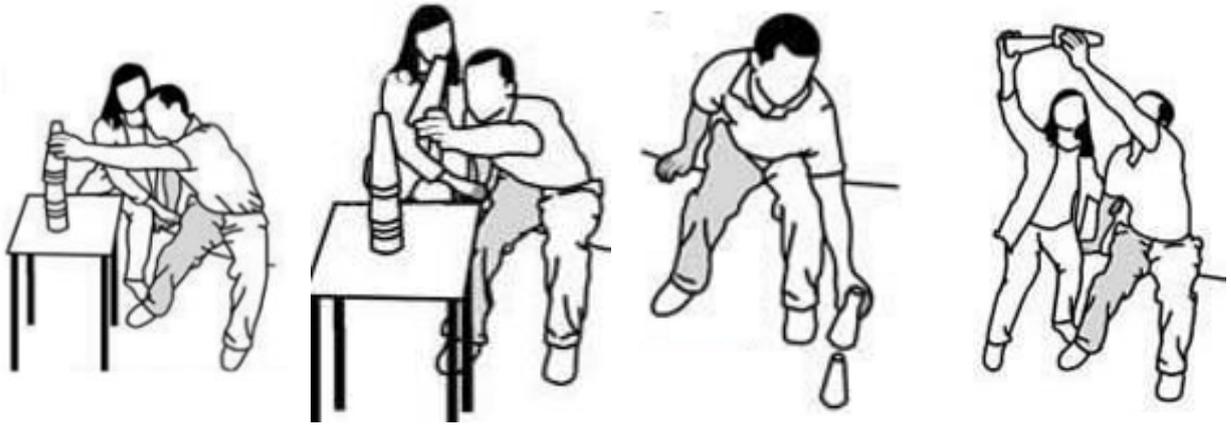
The rehabilitation staff will complete an assessment and decide on the appropriate intervention for the individual needs of the person living with a stroke. This might include exercises or use of assistive products that need to be continued once the person and family go home:



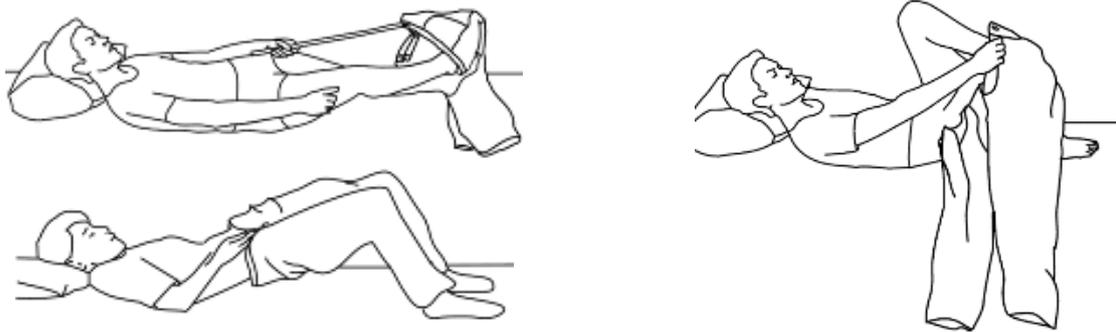
Slowly move limbs -stretching out straight and bending to prevent contractures



Show how to use cushions/ pillows to lie in bed in different positions to prevent contractures



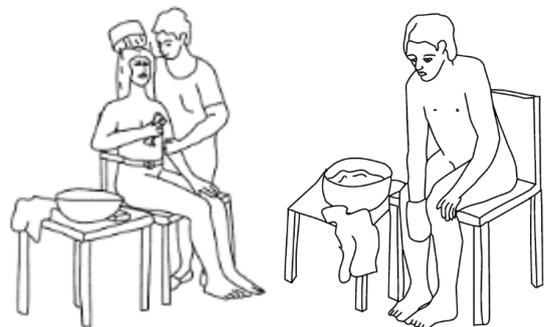
Teach activities and exercises that improve balance to help with walking, in this picture the person is reaching and moving a cone to help improve balance.



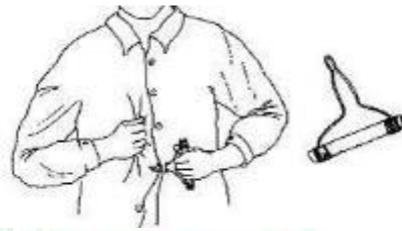
Provide advice on different methods for dressing so they can do it independently while lying on the bed



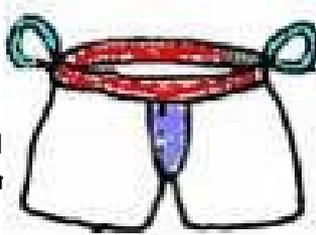
Improve speech and language skills and help with problems in swallowing by doing exercises with the mouth



Showering with help from another person or alone using a water bucket on the non-paralysed side.



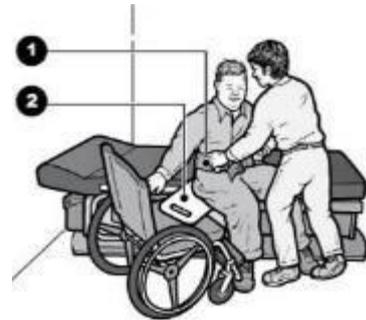
Provide advice on different method  
Sir



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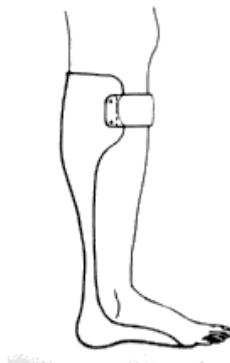
Practise activities of daily living using objects from the household to regain function. In this picture, the person is practising to open a bottle with their affected hand to improve strength.

Teach caregivers methods to move (transfer) a person from one place to another:

- from bed to wheelchair, from wheelchair to toilet

### Types of assistive products

Assistive products are useful to optimize functioning in activities of daily living and mobility



Walking aids and orthosis



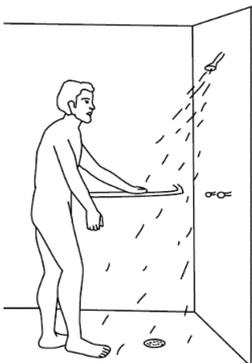
**Wheelchair and transfer board**

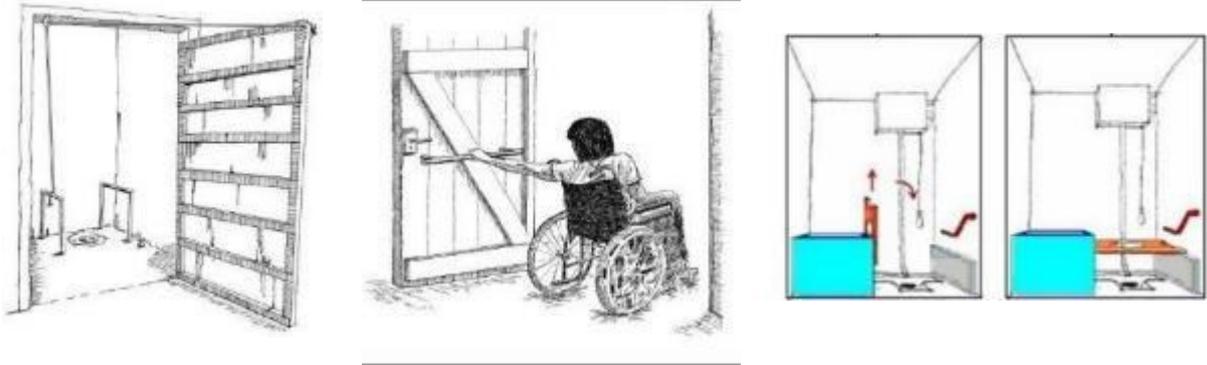


**Splints**

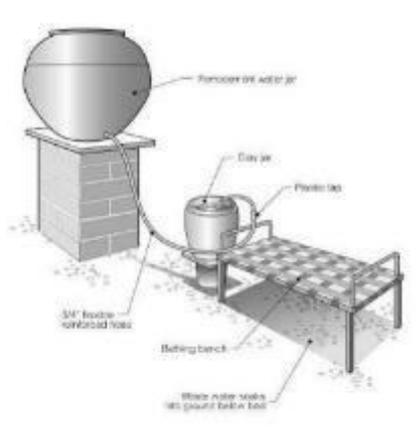


**Assistive products for the toilet and shower**





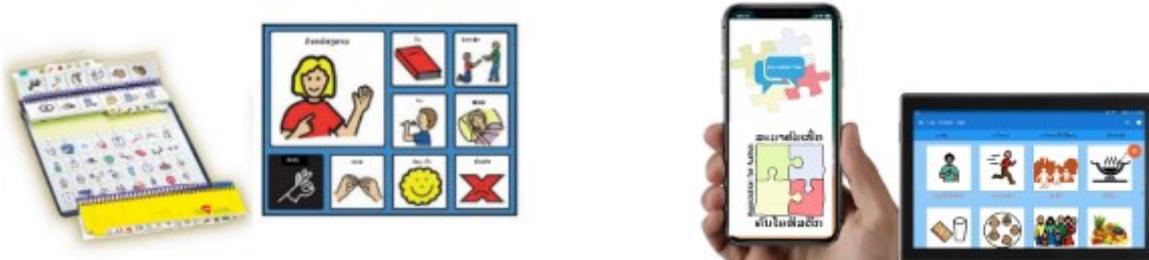
Simple bathroom adaptations- for example using a handrail on the non-paralyzed side and widening doors.



Water tank or container must be accessible and placed on the non-paralyzed side.



Assistive products to help with cooking and eating



**People with speech and communication impairment due to stroke can use communication pictures board.**

When assistive products are not available from rehabilitation services, the CBID facilitator can explore other options to find a suitable assistive products either from a private supplier e.g. pharmacy or be locally made by a handyman.

Some home-based adaptations are easy to organise so that persons with stroke can continue contributing to household activities.



### **Psychosocial support**

Losing functioning and independence for simple routine activities and sometimes having severe difficulties in speech and communication can lead to frustration, stress and depression. Rehabilitation staff use compassionate communication and basic counselling skills to support the person when receiving treatment. If they observe moderate to severe symptoms of depression they may decide to refer the person to a doctor trained in mental health and psychosocial skills support.



### Support at home

Family members play a key role in supporting the person at home and continuing to do home based interventions prescribed by rehabilitation staff. Once discharged from rehabilitation services, the CBID facilitator can **encourage the person and family to follow the discharge plan recommended by the rehabilitation staff**. This might include:

- Help to ensure a good position in bed to prevent contractures
- Encourage the person to complete home-based exercises regularly to optimize functioning and prevent complications
- Encourage the effective use of assistive products
- With the rehabilitation staff, provide advice on home adaptations to make it easier for the person to move around the house (accessibility)
- Be patient and practice compassionate communication with the person especially when they are having emotional and psychosocial difficulties.

With rehabilitation staff, CBID facilitators can monitor the progress of the person during home visits.



### **What to remember!**

Even if family members do their best to provide daily care with love, compassion and dedication, they often welcome assistance and advice on which assistive products to use and what home adjustments to complete so they can support a person with disabilities to achieve optimal functioning for activities of self-care, daily living and mobility.

Particularly in the early days after the stroke, the caregivers will need advice on how to handle and transfer the person with stroke for moving from bed to wheelchair (or chair), for bathing, dressing and how to do daily mobilization of limbs and joints.

The CBID facilitator can advise and refer to a local handyman to make a locally produced assistive product, or go to a private pharmacy to purchase an assistive product or refer to the PRC to provide an assistive product that will help the person with stroke to improve position of the body and help them, its positioning, perform activities of daily living and move around.

10. People living with cerebral palsy



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## 10.1. What is cerebral palsy (CP)?



Cerebral palsy is one of the most common causes of childhood physical impairments.

Cerebral palsy means “brain paralysis”.

Cerebral palsy is a permanent brain damage; once damaged, the part of the brain does not recover.

Cerebral palsy is non-progressive- the damage of the brain does not get worse.

In cerebral palsy, the brain damage (injury) occurs with the immature brain (before 3-4 years old).

Cerebral palsy affects control of movement, coordination and posture.

Other related impairments can be observed such as speech and communication, intellectual or health conditions, for example, epilepsy.

### Signs to observe that a person has cerebral palsy:

- At birth, the baby with cerebral palsy is often very passive and floppy but may seem normal.
- The baby with cerebral palsy may have difficulties with sucking and swallowing when the mother is breast-feeding.
- A child or adult with cerebral palsy will have a lot of difficulties in controlling movements and posture. Most will have severe difficulties coordinating movement and their limb are very stiff. Some others have jerking or shaking movements of the limbs.
- Most children and adults with cerebral palsy have severe difficulties to walk and some of them cannot walk and sit without support at all.

### There are 3 main types of Cerebral Palsy

DISKINETIC	ATAXIC	SPASTIC
The child or adult has uncontrolled jerking and shaking movements of the limbs.	The child or adult has a lot of difficulty to control balance when standing and walking	The child or adult has difficulty coordinating movement as their limbs are very stiff



Children and adults with spastic cerebral palsy can have different parts of the body affected:

Diplegia (both legs)	Hemiplegia (one arm and one leg on same side of the body)	Quadriplegia (both arms and legs)
		

**Other signs of cerebral palsy:**

Some children and adults with cerebral palsy have other difficulties as well as controlling movements such as talking, chronic pain, intellectual impairment and frequent seizures (epilepsy).

<b>1 in 3</b> is unable to walk		<b>1 in 4</b> is unable to talk		<b>3 in 4</b> experience pain		<b>1 in 4</b> has epilepsy		<b>1 in 4</b> has a behaviour disorder	
<b>1 in 2</b> has an intellectual impairment		<b>1 in 10</b> has a severe vision impairment		<b>1 in 4</b> has bladder control problems		<b>1 in 5</b> has sleep disorder		<b>1 in 5</b> has saliva control problems	

## 10.2. Main causes of cerebral palsy

### Before birth:

- Ante-natal unknown causes (30%)
- Genetic (inherited) conditions (rare)
- Maternal intoxications during pregnancy (alcohol, cigarette, drugs)

### At birth

- Prematurity and low-birthweight
- Difficult labor and delivery (birth asphyxia (when the body is deprived at oxygen during the birth) or trauma)
- Maternal or newborn infections

### After birth

- Very high fever due to infection or dehydration (diarrhea) or both
- Brain infection (Cerebral Malaria and Japanese Encephalitis, and other encephalitis associated with TB, HIV)

## 10.3. Difficulties in functioning due to having a cerebral palsy

A child or adult with cerebral palsy can have a range of difficulties in functioning. In some cases, cerebral palsy can be very mild and not affect function, or it could be severe and make the child or adult totally dependent on caregivers for self-care, daily living activities and mobility.

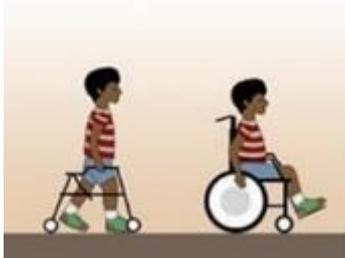
- **Mobility**-children and adults can have different levels of difficulty walking. This can be classified into 5 levels:



Level 1 (44% of cases) can walk without limitations but have difficulty with higher level skills for example running



Level 2 (10% of cases) can walk with only some limitations when outdoors



Level 3 (12% of cases) can walk on a level surface using walking aids and orthoses and uses a wheelchair when on uneven ground or moving longer distances in the community



Level 4 (18% of cases) needs to use either a wheelchair to move around the home and community including school. They might be able to use a walking frame indoors



Level 5 (16% of cases) needs to use a wheelchair all the time to move around. They are unable to sit for long periods. They need full assistance of a caregiver for activities of daily living.

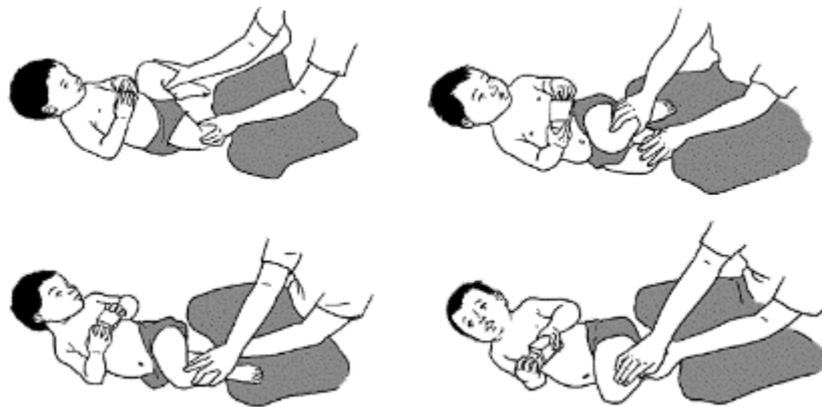
- **Using arms and hands-** due to difficulty controlling the muscles a child or adult might have difficulty moving the arms and holding objects in their hands. They might find it difficult to open and close their fingers so cannot pick things up or drop them easily. This can affect their ability to do many activities of daily living.
- **Eating and drinking-** a child or adult may have difficulties eating and drinking. This might be because they have difficulty holding the cup, spoon or fork and lifting it to their mouth. They might have difficulty controlling the muscles of the mouth, lips and tongue so it is difficult to open and close the mouth, chew food and/ or swallow. If a child has difficulty sitting this also affects eating and drinking
- **Other self-care activities-** due to difficulties in posture and movement a child or adult with cerebral palsy might find it difficult to dress, use the shower and wash the body, adjust clothes when going to the toilet or sit on the toilet.
- **Speech and communication-** finding it difficult to talk and make clear sounds. This does not mean they have intellectual disability but is more about the ability to use the mouth, lips and tongue to speak.
- A child or adult may have **difficulty seeing and hearing**
- Some children and adults with cerebral palsy may have learning problems

## 10.4 What can the CBID facilitator do to support the person and family?

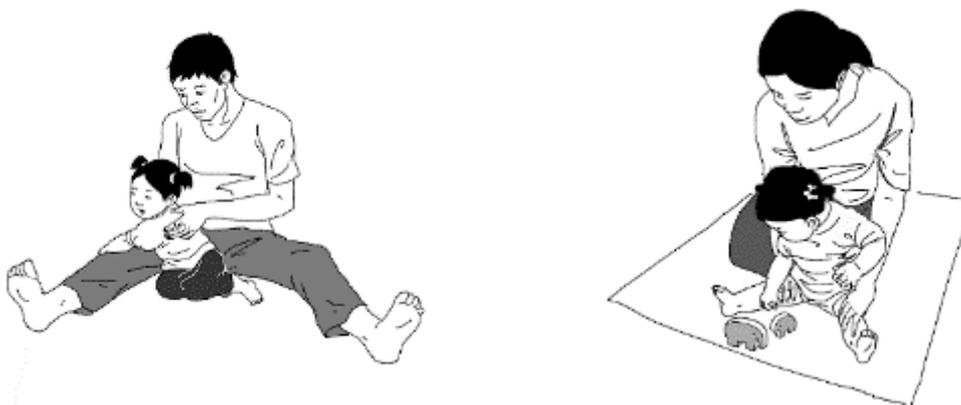
Refer to rehabilitation services for assessment and interventions including provision of assistive products

The rehabilitation staff will complete an assessment and decide on the appropriate intervention for the individual needs of the child or adult with cerebral palsy. **This will include exercises or use of assistive products that need to be continued once the person and family go home:**

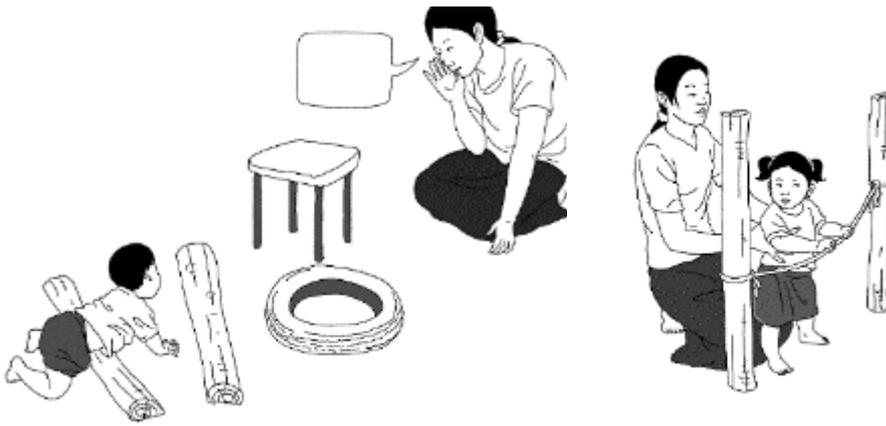
### Exercises and/or activities to stimulate the child



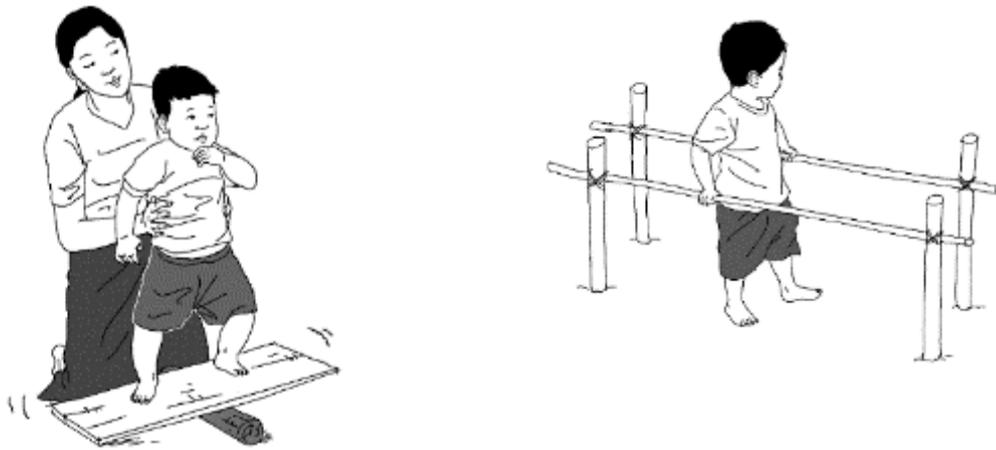
Exercises to move different parts of the body



Learning to sit



Learning to crawl and stand



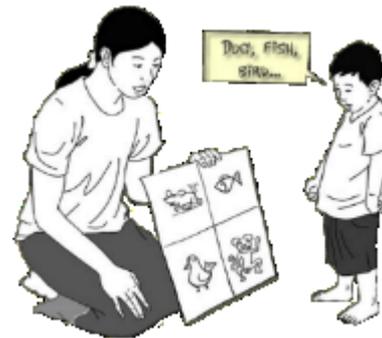
Learning to balance and walk



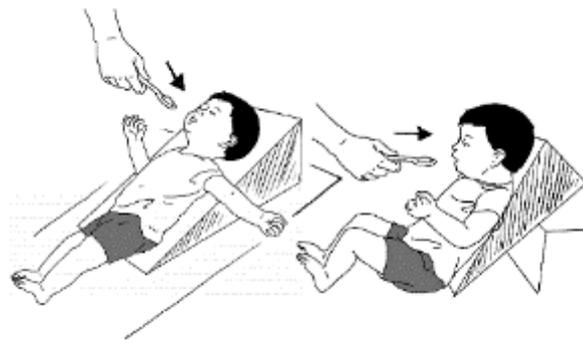
Learning to walk up and down steps and run around to play



Exercises and activities to stimulate use of the arms and hands



Activities to stimulate speech and communication



How to position the child in the best way when feeding





How to help the child develop skills to eat and drink by themselves



Provide advice on comfortable and functional positions all day, every day that prevent deformities

### Assistive products

Assistive products are useful to provide comfortable position that prevent deformities and that optimize functioning to allow a child to use hands such as eating, playing with toys. Rehabilitation staff will decide what is the most appropriate assistive product to help the child or adult with cerebral palsy.



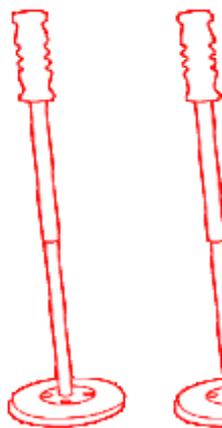
Cushions (roll and wedge) and a corner chair to provide extra support when sitting



Standing frame to support the child



Orthosis to support the position of the foot



Different types of assistive products to help walking



Different types of wheelchairs to help moving around- these provide additional support to help the child or adult with cerebral palsy sit in a good position



Assistive products to help with eating and drinking



Assistive products to help use the toilet and shower

When assistive products are not available from rehabilitation services, the CBID facilitator can explore other options to find a suitable assistive products either from a private supplier e.g. pharmacy or be locally made by a handyman

### Support at home

Cerebral palsy is a lifelong health condition. So, the whole family needs to be involved in supporting the daily routine and organization of tasks to ensure children and adults with cerebral palsy can participate in the family life and receive the support they need. Because children and adults with cerebral palsy often a lot of difficulties in moving around and doing simple activities **by themselves caregiver and household members need to provide them with a lot of assistance.**

Moreover, the general health of children and adults with cerebral palsy can be worse than their peers leading to frequent visits to the hospital and spending a lot of money on healthcare that can lead parents to be **stressed, have anxiety and sometimes depression**.

Initially, **parents may have unrealistic expectations** for their child and may expect too much from doctors, rehabilitation staff and the outcomes of treatment.

“I want immediate miracle for my daughter”  
“I strongly believe that when my daughter is seen at the rehabilitation center, experts will turn my child to normal”  
“I want my child to do activities independently and walking”  
“I want my child attending school & helping in the house just like my other children”  
“I want to go in Thailand or Vietnam, it is the only solution to cure my

After some time talking with parents and the child with cerebral palsy about the health condition and **appreciating all things the child can do**, parents express realistic expectations and come with specific requests for help.

**Parents comments**

**Feeding**  
“My child cannot eat alone, I would like to be able to feed my child properly”.

**Positioning**  
“I would like that my child has a better position, I cannot carry him all

Once discharged from rehabilitation services, the CBID facilitator can **encourage the person and family to follow the discharge plan recommended by the rehabilitation staff** to help support the family’s request. The CBID facilitator might

- Encourage a good position to prevent deformities
- Encourage the parents and child or adult to complete home-based exercises and activities regularly to optimize functioning and prevent complications
- Encourage the effective use of assistive products
- With the rehabilitation staff, provide advice on home adaptations to make it easier for the person to move around the house and use the toilet, shower and other areas of the house.
- Be patient and practice compassionate communication with the person especially when they are having emotional and psychosocial difficulties.

With rehabilitation staff, CBID facilitators can monitor the progress of the person during home visits.



### **What to remember!**

Family members do their best to provide daily care with love, compassion and dedication, they often welcome assistance and advice on child's positioning, feeding, stimulation, mobilization of limbs and joints.

It is best for health and rehabilitation professionals to be honest with the child and the family and explain the facts of the situation as clearly, truthfully and kindly as possible.

The CBID Facilitators can spend quality time during their visits at home to re-explain the situation to the child and the family.

It is important for the child to learn to live with the difficulties in controlling movement and balance as best as they can.

It is important to recognize and appreciate all things the child with cerebral palsy can do and not wait for it to get better or go from hospital to hospital and even in neighboring countries in search of a cure.

The CBID Facilitator can refer the family to PRC to receive assistive products that will help the child with cerebral palsy to improve its positioning, performing activities of daily living and mobility.

Where availability of assistive products is limited the rehabilitation staff and CBID facilitator can refer the family to a local carpenter to make a locally produced assistive product.

When the child achieves optimal level of functioning using appropriate assistive products, the CBID Facilitator and parents will do as much as possible to work with the school to enroll the child in class.

## 11. People living with limb amputation



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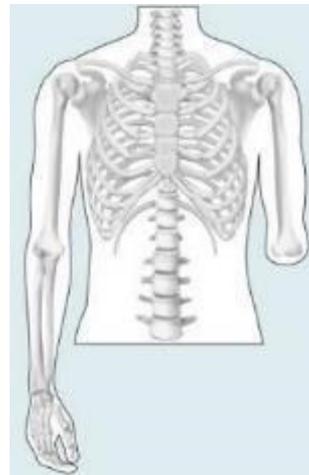
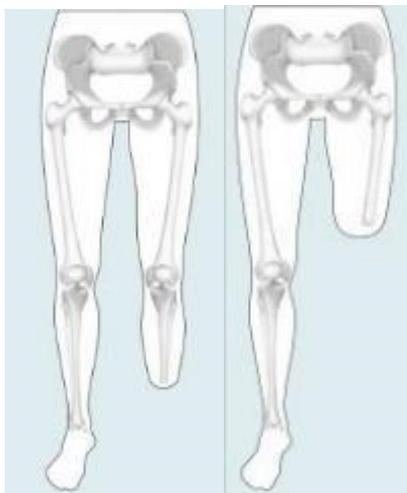


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## 11.1 What is amputation?



Limb amputation is a loss of some part of the body. Amputation can be at different levels (close to or far from the center of the body) of the limb and it can affect more than one limb.



### How to recognize amputation.

Most of the time, it is obvious to recognize the signs of a limb amputation when the person is not wearing an artificial limb (prosthesis).

## 11.2. Main causes of amputation and how to reduce the risk?

Amputation can be caused by:

<p><b>Accident from war, UxO, work accident or road traffic crashes</b></p>	
<p><b>Infection or disease- for example, foot ulcer due to diabetes or gangrene</b></p>	
<p><b>From birth (congenital)- some babies are born missing a limb.</b></p>	

### 11.3. How to reduce the risk of amputation?

#### Reduce the risk of accident:

- Use protective clothing such as gloves and shoes when using machinery that could cause injuries.
- Never speed when driving a car or motorbike,
- If you find UxOs don't touch them, mark the place and call the chief of the village or UxO Lao.

#### Reduce the risk of infection:

- Wear shoes when you walk in the rice field or the bush.
- If you have a wound on a foot or hand, go promptly to the health center or hospital for treatment before it becomes infected. An untreated infection can quickly lead to a severe infection and, eventually, death of that part of the body, that may require amputation.

- If you are diagnosed with diabetes , your limbs may lose sensation and you may not feel the pain from a wound, so you may not seek treatment. This may lead to severe infection and death of that part of your body.

#### **Reduce the risk of congenital (from birth) deformities.**

- When a woman is pregnant, she should not smoke, drink alcohol, or take drugs unless prescribed by the doctor.
- When a woman is pregnant, she should never be exposed to chemical products. Chemical products like pesticides, fertilizers are one of the main causes of congenital deformities to the baby.

### **11.4. Limb amputation and its effects on functioning**

Depending on which limb is amputated and the level of amputation, the person will have some difficulties, a lot of difficulties or sometimes they cannot do at all self-care and daily living activities.

#### **Lower limb amputation:**

Walking only on one leg, even when using walking aids, requires much more strength, balance and energy than walking on two legs. Walking distance will be reduced due to lack of endurance.



People with leg amputation sometimes cannot do at all basic self-care activity like squatting on one leg to use the latrine or standing in the shower to wash their body.



### Upper limb amputation

People with arm amputation may have a lot of difficulties washing their body, dressing, going to the toilet, holding objects, working, cooking and other domestic activities of daily living.



#### 1. Complications that may appear after amputation if no medical and rehabilitation treatment are done promptly.

- After amputation, the muscles above the part of the limb that is left may become weak and shorter.
- The joints above the amputation may become stiff and no longer move fully.
- The scar may become hard and stuck to the skin around it, creating some pain or limit skin movement.
- People with lower limb amputation may not have the balance and the strength in the upper body and arms to use crutches.

#### 2. Losing a limb may affect the emotional state of the person which can lead to psychosocial issues:

- Losing a limb is a dramatic event. Loss of confidence about body image, lower self-esteem, sudden dependency on others for basic activities and difficulties adapting to life after amputation may create anxiety and stress on the person and the family members.



- These feelings of sadness, stress and anxiety may lead to depression and in some cases, this may lead to suicidal thoughts (desire to kill themselves). If there is cases of depression and suicidal thoughts, the CBID Facilitator will have to refer the person for mental health and psychosocial support.
- In some cases, a person with an amputation may started abusing substances, like alcohol.

## 11.5 What can the CBID facilitator do to support the person and family?

### 1. Refer to rehabilitation services for assessment and interventions including provision of assistive products

The rehabilitation staff will complete an assessment and decide on the appropriate intervention for the individual needs of the person with an amputation. This can include exercises and providing a prosthesis (artificial limb).

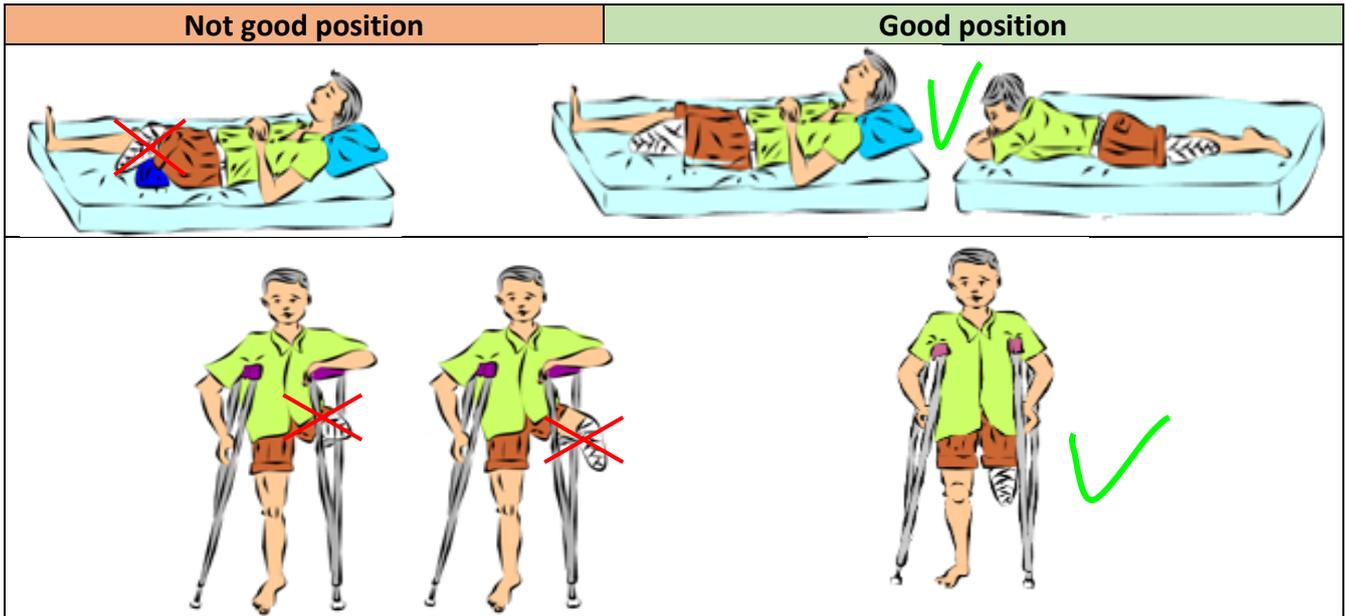
The rehabilitation staff will provide advice on what type of exercises and activities to do whilst at the clinic and to continue at home. This will include:

- Positioning
- Exercises for mobilization and strengthening
- Balance and endurance
- Bandaging the stump
- Assistive products

A daily exercise program for a person with an amputation will consider how much energy it takes to walk with crutches or lower limb prostheses or to use upper limb prostheses and activities of daily living tools.

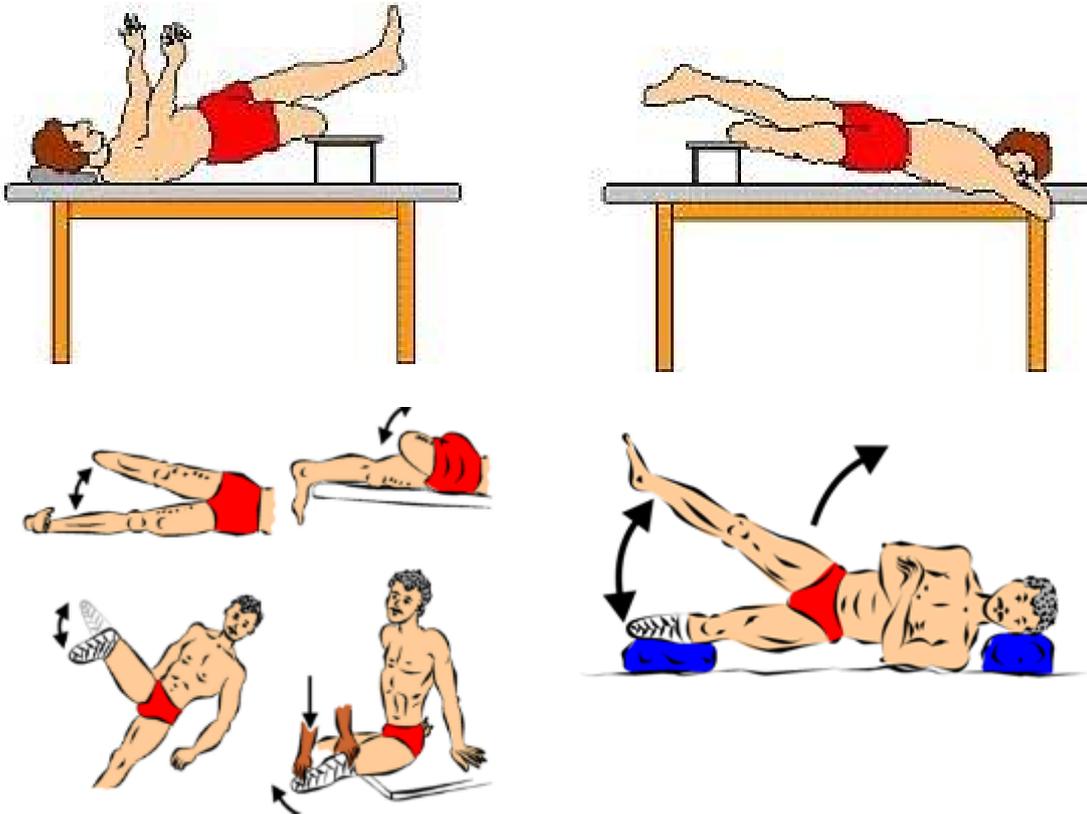
#### **Positioning:**

After amputation, the person learns to keep the knee and hip in good position and avoid staying a long time in a position that makes muscles get tight.

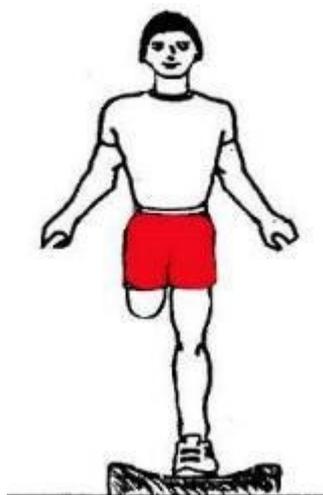


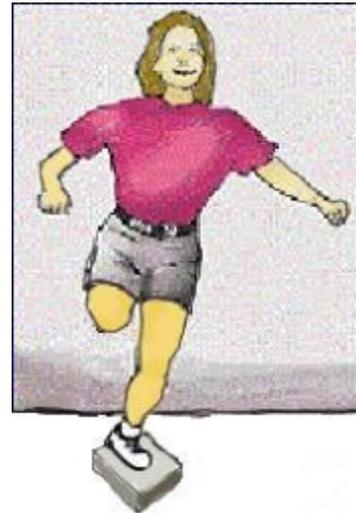
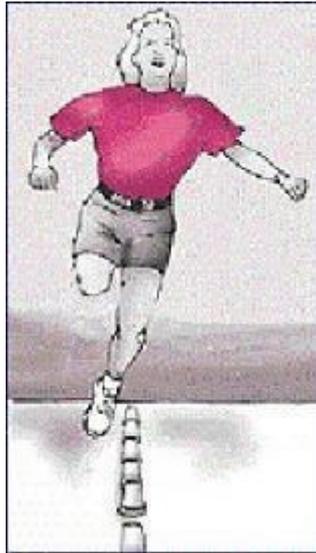
### Active exercises for mobilization and muscular strengthening:

- Active movement of the part of the limb that is left and strengthening exercises can be done on a daily basis at home even after the persons uses a prosthesis.



### Balance and endurance exercises for the leg





**Bandaging the part of the limb that is left (residual limb)**

The bandage to the residual limb aims to prevent or decrease the swelling and give a good shape to the residual limb so that it can fit inside a prosthesis.

- Before discharge from the hospital the physical therapist will demonstrate to the person with amputation how to do the bandaging and will ensure the person can do it by themselves.
- The CBID Facilitator will follow up at home and monitor if the person follows the technique as demonstrated by the physical therapist.

**Rules to respect for good bandaging:**

- A bandage should be made in a figure of "8". We cannot do a circular bandage (this means that the bandage should always go up or down and not go in circles around the stump).

Bandaging for trans-tibia (TT) amputation	Bandaging for trans-femoral (TF) amputation:
<p>The diagram shows five steps for bandaging a trans-tibia amputation on a yellow limb. Step 1: A white bandage is placed at the bottom of the limb with an upward arrow. Step 2: The bandage is wrapped around the limb. Step 3: The bandage is wrapped around the limb from the side. Step 4: The bandage is wrapped around the limb from the other side. Step 5: The bandage is wrapped around the limb from the top, creating a figure-eight pattern.</p>	<p>The diagram shows six steps for bandaging a trans-femoral amputation on a red limb. Step 1: A white bandage is placed at the bottom of the limb with a downward arrow. Step 2: The bandage is wrapped around the limb. Step 3: The bandage is wrapped around the limb from the side. Step 4: The bandage is wrapped around the limb from the other side. Step 5: The bandage is wrapped around the limb from the top. Step 6: The bandage is wrapped around the limb from the bottom, creating a figure-eight pattern.</p>

**Result expected of daily bandaging on the shape of the stump:**



Before bandaging.



After bandaging

**Assistive products for lower limb amputees**

- Soon after the surgery and before the person is discharged from the hospital, they must receive a pair of crutches or a walking frame.
- If the two lower limbs are amputated or if the person is too weak to walk on one leg with walking aid, then a wheelchair will be provided.



- For long distances, a person with lower limb amputation, even when using a prosthesis may prefer using a tricycle



- At home a toilet chair will be helpful to go to toilet and take a shower independently.



- Some people who are overweight or have weak muscles may need to use a transfer board to move from the bed to the wheelchair or the toilet.



- Upper limb and lower limb prosthesis are produced in the CMR and PRC (orthopedic workshop of the rehabilitation department. (orthopedic)



### Assistive products for people with upper limb amputations

- Rehabilitation staff will carefully explain how the prosthesis (artificial hand) will work to replace the functional abilities of the hand. People are sometimes not satisfied with the use of artificial hand to complete activities of daily living.
- It is important to consider that the individual needs can be different for a **person with one limb amputated compared to a person with two limbs amputated**. For example, a person with only one arm amputated will likely find ways to do most of the activities of daily living with the other arm. But assistive products will really be useful for a person with both hands amputated.



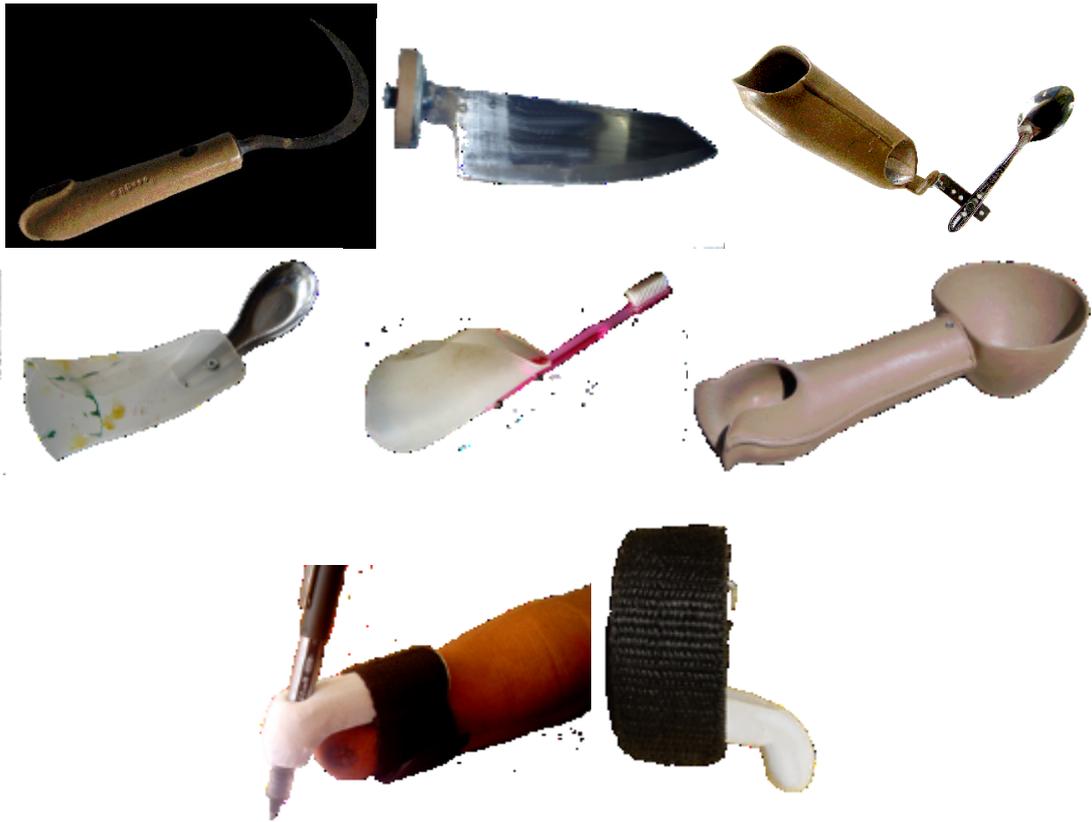
- People with an **upper limb amputation from birth** (birth defect), often have a high level of functioning despite their missing limb, since they have developed their body image and functioning with incomplete limbs. These individuals are likely to be cautious, maybe even reluctant of using an artificial hand.



- Artificial hands in plastic, rubber or foam can give the appearance of a real hand but are not always functional as expected by the user.



- To achieve optimal functioning using artificial limb, upper limb amputees will benefit from a set of tools that can be used in many different tasks and activities of their daily living.





## Psychosocial support

- Limb amputation can have a dramatic effect on someone's wellbeing and can lead to moderate to severe psychosocial issues.
- Referring to a professional trained in mental health and psychosocial support (MHPSS) can help the person to overcome these difficulties.
- Peer to peer psychosocial support can also be a very good approach and possibility.



## Support at home

Family members play a key role in supporting the person at home and continuing to do home based interventions prescribed by rehabilitation staff. **Once discharged from rehabilitation services, the CBID facilitator can encourage the person and family to follow the discharge plan recommended by the rehabilitation staff.**

- Encourage the person to complete home-based exercises regularly to optimize functioning and prevent complications
- Encourage the effective use of assistive products and monitor if the person is satisfied with the usability of the assistive product especially upper limb prosthesis.
- With the rehabilitation staff, provide advice on home adaptations to make it easier for the person to move around the house (accessibility)
- Be patient and practice compassionate communication with the person especially when they are having emotional and psychosocial difficulties.

With rehabilitation staff, CBID facilitators can monitor the progress of the person during home visits.

## 12. Persons living with spinal cord injury



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## 12.1 What are the main visible signs of a person with spinal cord injury



Spinal cord injury usually results from an accident that breaks the neck or the back.

Spinal cord injury is a severe damage or complete and permanent cut of the spinal cord..

The spinal cord is the line of nerves that comes out of the brain and runs down the back. From the cord, nerves go out at different levels to the whole body to make the muscles work or to bring information about sensations (hot, cold, sharp, etc.) to the brain.

Sensations and movements are controlled by messages that travel back and forth between the brain and the muscles through the spinal cord.

When the spinal cord is damage or cut, feeling and movements in the body below the level of the injury is lost or severely reduced.

After one year, the paralysis that remains is almost certainly there to stay.

## 12.2 Possible causes of spinal cord injury are

**The main causes of spinal cord injury** are accidents from falls or direct impact on the back.





### How to reduce the risk of spinal cord injury:

- Always use safety belt when driving or riding in a car
- Never overspeed when driving a car or motorbike,
- Always drive cautiously, respecting the road rules and laws
- Use a safety harness and rope when collecting fruit from trees or working on high building construction.

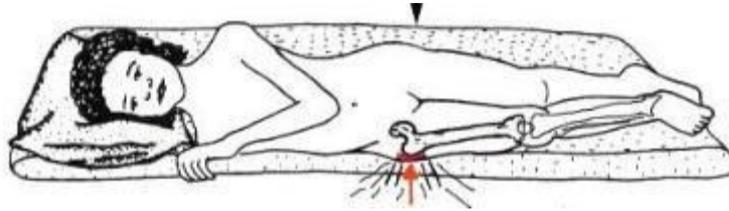
### 12.3 Difficulties in functioning due to spinal cord injury

The difficulties in functioning depend of the level of the injury of the spinal cord along the back. The higher the injury is, the greater the area of the body that is affected.

- Spinal cord injury is called **paraplegia** when **only the legs are paralyzed**. The person loses control of movement and feeling in the legs. The person may have some or a lot of difficulties with dressing, washing the body and using the shower. They may have completely or partly be unable to control their urine and bowel movements.
- Spinal cord injury is called **tetraplegia** (or quadriplegia) when both **the legs and the arms are paralyzed**. The person loses control of movement and feeling from the neck or chest down and to some extent the arms and hands. The person will have a lot of difficulty or cannot do self-care activities (eating, drinking, dressing, washing). The person loses control of urine and bowel. Breathing muscles can also be affected.
- It is important that the person with spinal cord injury learn to live with the paralysis and with the remaining level of functioning as best they can. They need to accept their condition without moving from hospital to hospital as the condition is permanent.

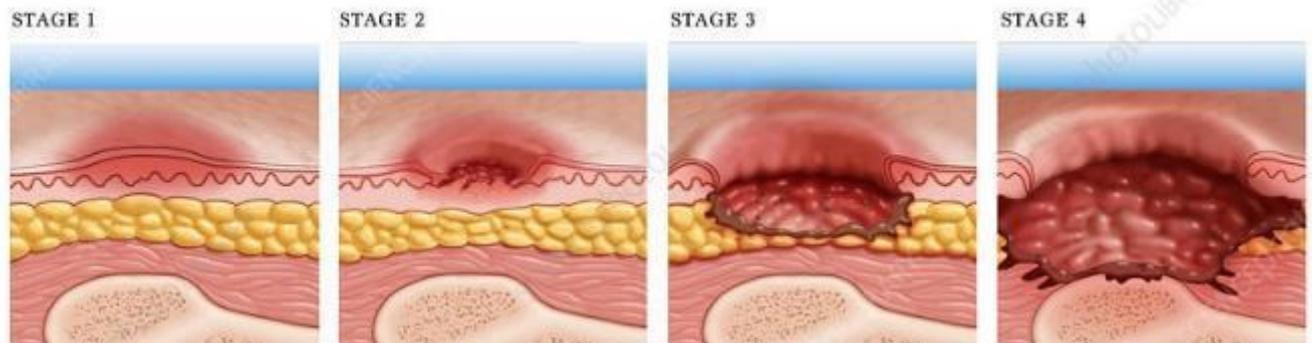
**The main complications that can happen to a person with spinal cord injury if no medical and rehabilitation treatment are done in a timely manner can be:**

Sores on the skin appear if people stay too long in the same position on a hard surface and **is the main risk for persons with spinal cord injury.**



Always remember that a person with spinal cord injury does not feel the pain in the paralyzed part of the body. So, they will not change position to release the pressure when it becomes painful

- The pressure on a bony part of the body will push the blood away and the skin will become red and then dark (Pressure sore stage 1).
- Later, if pressure is not released, the flesh under the skin will start dying (Pressure sore stage 2).



The skin may collapse, and an open wound will appear with a high risk of severe infection (Pressure sore stage 3-4).

Other complications:

- Urinary infection if don't drink enough water.
- Constipation (difficulty with bowel movements)

- Muscle shortness and stiffness and joints stiffness causing limited movement. Overweight if not performing enough physical activities with the upper part of the body.
- Breathing difficulties in tetraplegia and then increased risk of chest infection

### Psychosocial issues

- As spinal cord injury causes a lot of difficulties in functioning and some activities cannot be done independently at all creating dependency on a caregiver for most of the activities (at least at the early stage) as well as for most intimate self-care activities i.e. washing, going to the toilet, etc.
- This experience of reduced independence and sudden restriction in ability to do routine things by themselves, added to the feeling of becoming a burden and even useless, can create anxiety or depression. The whole household may be stressed and unprepared to cope with the needs of the person with spinal cord injury.

## 12.3 What can the CBID facilitator do to support the person and family?

### Refer to rehabilitation services for assessment and interventions including provision of assistive products

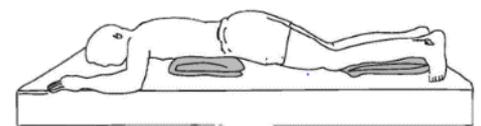
The rehabilitation staff will complete an assessment and decide on the appropriate intervention for the individual needs of the person with spinal cord injury. Interventions will include treatment and advice for a home-based program for the person and the family to complete:

- Positioning
- Daily exercises
- Use of assistive products
- Home accessibility adjustments

### Positioning:

Sitting or lying on soft material and in a good position and changing position regularly will help prevent deformities and skin sores.

- Lying on soft mattress or, if available, an air mattress to distribute body weight pressure equally.
- Place pillows and pads to keep pressure off bony area
- Change position (turn over from front to back and side to side) every 2-3 hours. To avoid pressure sores, lying on the belly is the best position.



- Using a mirror to check the skin daily for earliest signs of pressure-sores (red or dark spots) and keep all pressure off early sores until the skin is healthy again. When the skin is open and there is already a wound, it is too late and very difficult to cure.



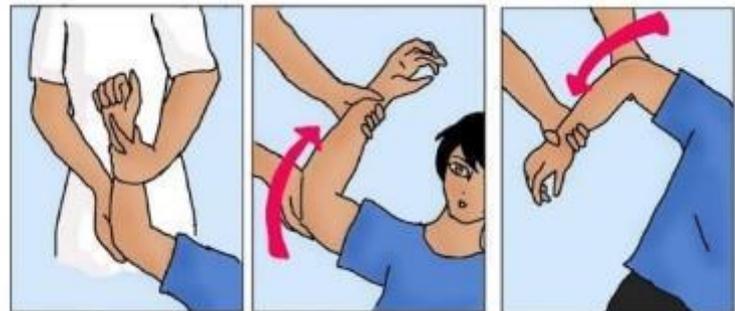
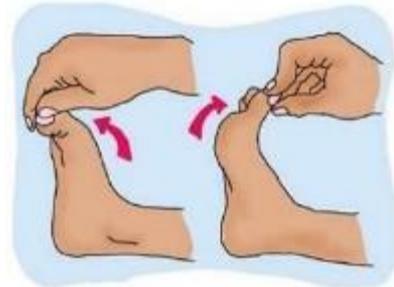
- Keep skin and bedclothes clean and dry.
- Eat good food rich in vitamins, fiber, iron, and protein.

### Exercise program

The physiotherapist will prescribe a daily routine of exercises and self-care activities to be completed.

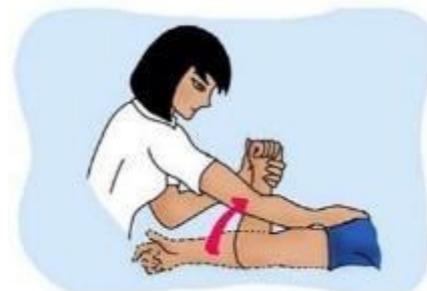
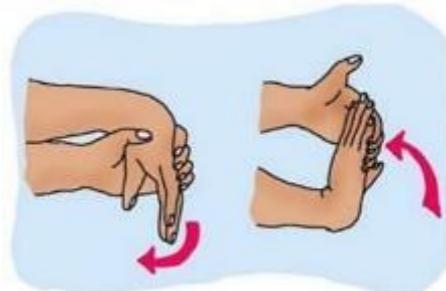
Daily exercises will help:

- ✓ Paralyzed muscles to move fully and not get too stiff
- ✓ Non-paralyzed muscles and joints to be retrained for new activity of daily living skills
- ✓ Maintain breathing function
- ✓ Daily movement of joints to prevent tightness:



The physiotherapist will provide advice to the person and caregiver on how to Before the transfer from bed to chair, chair to toilet, etc. This advice will include

information on how the caregiver can take care of their own health and body, so they don't hurt they're back lifting the person.



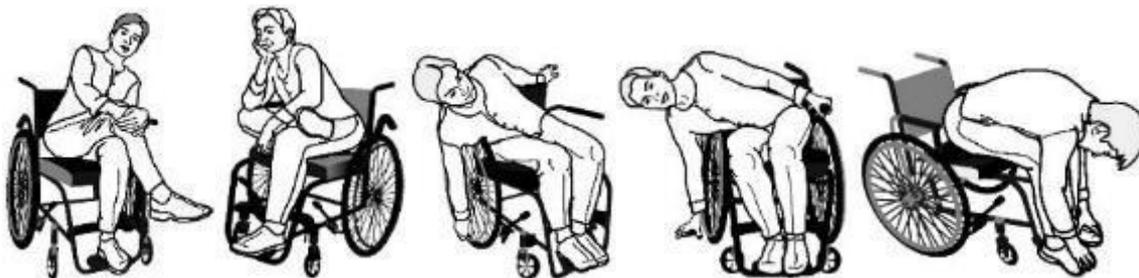


**The physiotherapist will provide advice on:**

- Strengthening exercises of non-paralyzed muscles, particularly wheelchair push-ups, to maintain function and make it easier to transfer



- How to regularly release the pressure on the buttocks when sitting in a wheelchair by bending the trunk forward and to the sides.



- Advice on a fitness program and a good diet for lifelong needs to prevent complications, maintain general health, and achieve optimal level of functioning.

## Provision of Assistive products

Rehabilitation staff will assess and prescribe appropriate assistive products to meet the individual person's needs.

### Mobility aids



- When using a wheelchair (or tricycle for longer distances), ALWAYS use a soft or air-filled cushion!
- Transfers can be easier when using a **transfer board** to slide the body from the bed to the wheelchair, to the toilet instead of lifting the person.



### Self-care and personal hygiene assistive products



Toilet chair to be placed on top of the latrine or with a bucket and shower bench.



For positioning, different cushions and special mattresses can be used to prevent pressure sores and joint stiffness

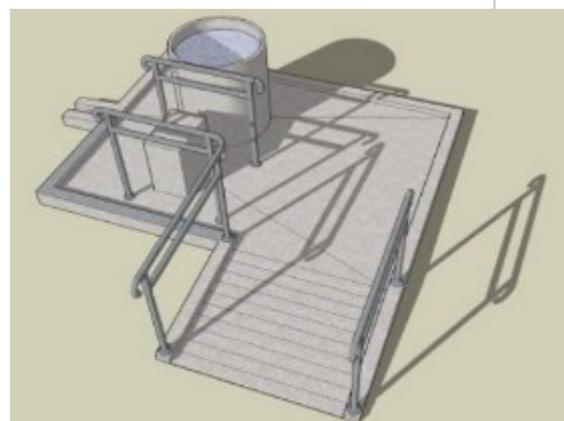
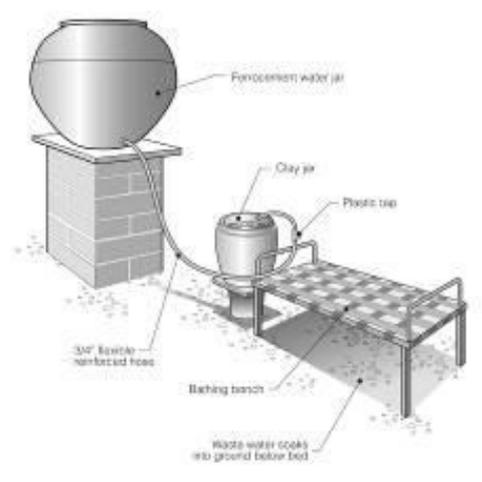
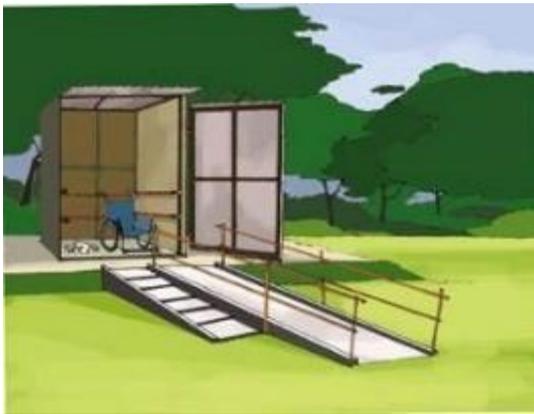


**Assistive products for activities of daily living**, such as cooking, eating, and drinking for people with tetraplegia with upper limb function difficulties.



**Advice on house accessibility adjustments**

The rehabilitation staff with the CBID facilitator can provide advice on how to adjust the home to increase independence in activities of daily living and use mobility aids effectively.



## Support at home

Family members play a key role in supporting the person at home and continuing to do home based interventions prescribed by rehabilitation staff. **Once discharged from rehabilitation services, the CBID facilitator can encourage the person and family to follow the discharge plan recommended by the rehabilitation staff.** This might include:

- Encourage the person to complete home-based exercises regularly to optimize functioning and prevent complications
- Encourage the effective use of assistive products to help with mobility, transfers, self-care and other activities of daily living.
- With the rehabilitation staff, provide advice on home adaptations to make it easier for the person to move around the house (accessibility)
- Be patient and practice compassionate communication with the person especially when they are having emotional and psychosocial difficulties.
- Provide support to caregivers and ask about their health to see if they are experiencing any issues, and if so suggest they go to the health facility for a check-up.

With rehabilitation staff, CBID facilitators can monitor the progress of the person during home visits.

## Psychosocial support

- When symptoms of depression and stress are moderate to severe, the CBID facilitators can refer the person with spinal cord injury to a trained health professional on mental health and psychosocial support
- They can also provide some basic counselling using compassionate communication during regular home visits when someone has mild psychosocial symptoms.
- Asking another person with spinal cord injury that is already more experienced in managing self-care and already more independent in activities of daily living, could be very helpful for peer to peer support.
- Participating in social activities is important for mental health. People with spinal cord injury can still be active and participate in a lot of social, leisure, and sport activities.



### 13. Persons who had polio



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### 13.1 What are the main visible signs of a person who have had the polio virus



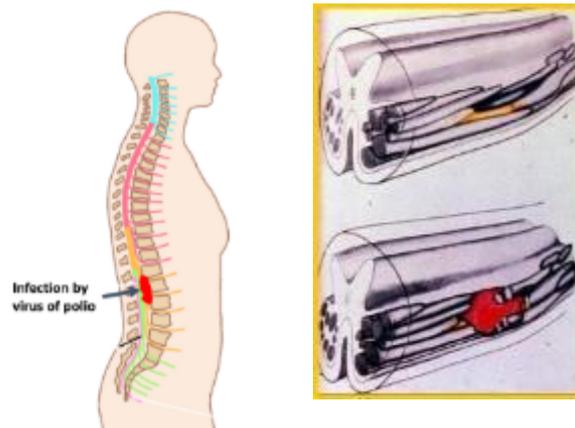
The polio virus (poliomyelitis) is a highly infectious disease that most commonly affects children under the age of 5

The polio virus is very contagious and can be spread from person to person typically through contaminated water.

Polio virus attacks the nerves of the anterior part of the spinal cord and can cause permanent muscle paralysis connected to these nerves.

Feeling is preserved, intelligence and mind are not affected by polio

Although there is no cure, there is an effective vaccine that can prevent being infected by polio virus



People with polio can go to school, they don't have difficulty to learn.

Women with polio can have children.

### 13.2 What is the cause of polio and how to prevent it.

- Polio is caused by a virus that is spread through contaminated water.
- Hygiene, proper latrine and clean household and village will prevent the development of the polio virus

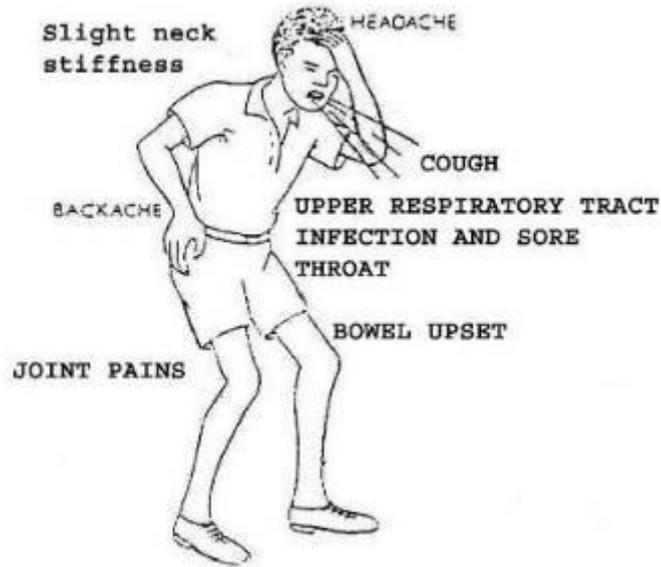


- There are only two ways to prevent polio: 1. good hygiene in the community and 2. vaccination in the early age.



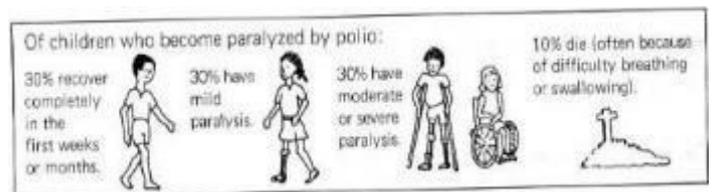
### Signs of polio:

- The first signs of polio are like an illness such as flu, bad cold with fever, pain in the muscles and the joints and sometime diarrhea and vomiting.
- A few days after the child recovers from the illness, the child may have stiffness of neck, the body may become limp or have only some floppy muscles



After the illness caused by the polio virus is past:

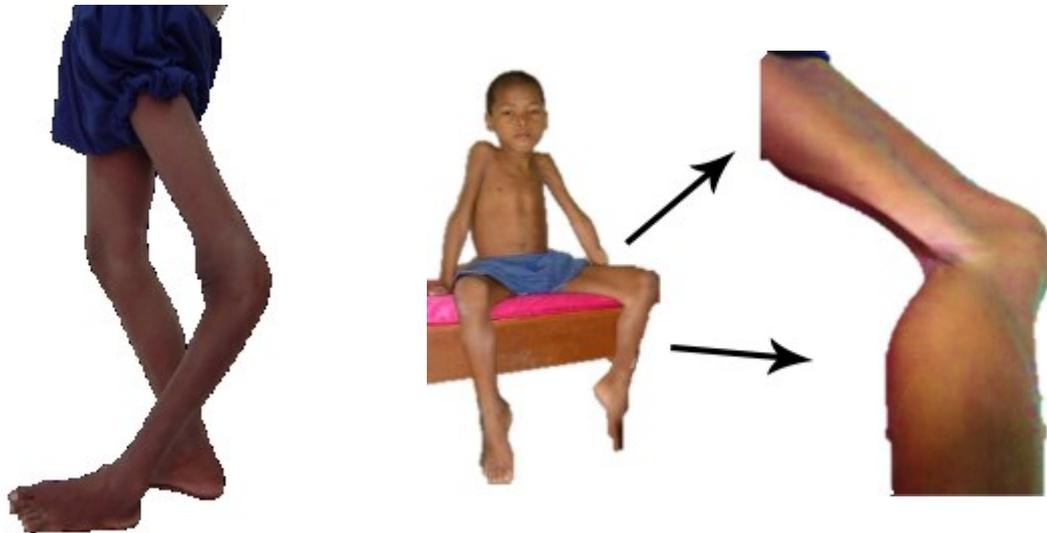
- 30% of them recover completely in the first weeks
- 30% have mild paralysis
- 30% have moderate or severe paralysis
- 10% die because difficulties to breathing



- Depending of the level of the infection on the spinal cord, paralysis of the muscles may affect one or both lower limbs but can also affect the trunk and upper limb.



- The paralysis does not get worse with time.
- The paralyzed limb will grow slower and will be thinner than the non-paralyzed limb.
- The paralyzed muscles can become stiff, shorter and create tight joints.
- Deformities can also appear when the strong, active muscles and the paralyzed muscles are not balanced, and the weight of the body (gravity) can create joint deformities.



### 13.3 What can the CBID facilitator do to support the person and family?

#### **Refer to rehabilitation services for assessment and interventions including provision of assistive products**

The rehabilitation staff will complete an assessment and decide on the appropriate intervention for the individual needs of the person who has had polio. Interventions will include treatment and advice for a home-based program for the person and the family to complete.

- Daily exercises
- Use of assistive products- braces and other mobility aids (see below)

#### **Preventing risk of deformities by bracing as early as possible**

- Bracing is a good way to prevent the gravity (the weight of the body) to create knee, hip and trunk deformities
- The brace will maintain the joints in a good position and support the weakness



**Assistive products:**

