



# PRACTICAL GUIDE FOR CAREGIVERS OF INDIVIDUALS WITH ACQUIRED BRAIN INJURY



 Mobility

 Cognition

 Behaviour

 Communication

 Feeding

 Daily life activities

 Environmental adaption

 Medical Care

 Social Resources

 Family

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## 1.WHAT IS ACQUIRED BRAIN DAMAGE (ABD)?

Acquired Brain Damage (ABD) is a sudden injury to the brain. It is characterized by its abrupt appearance and by a varied set of symptoms that it presents according to the area of brain injury and the severity of the damage.

These symptoms cause abnormalities in perception and physical, cognitive and emotional disorders. The main cause of brain damage is a stroke, a severe reduction in blood flow in an area of the brain, followed by head injuries and diseases such as anoxia, brain tumors or infections.

The symptoms of brain damage can be classified into seven major areas:

- **Alert level**
- **Motor control**
- **Reception of information**
- **Communication**
- **Cognition**
- **Emotions**
- **Daily life activities**

The type of symptoms and their severity will depend on several factors such as: the injured brain area, the severity of the primary lesion, the appearance and severity of secondary injuries, injuries associated with the accident (fractures, vital organ injuries, etc.), complications arising during the process, duration and degree of coma, etc.

A person with Acquired Brain Damage can have a lot of varied symptoms, in fact, we can affirm that each case is different and has particular characteristics. Brain damage can affect the individual as a whole.

Thus we can expect disorders or alterations in the following areas:

### COGNITIVE DISORDERS:

- **Impaired superior brain functions**
- **Disorientation in space and time**
- **Attention/Awareness and memory problems**
- **Thought speed reduction**
- **Difficulties in solving problems, planning and organizing**
- **Lack of mental flexibility and reasoning**
- **Perceptual vision and space deficiencies**

### EMOTIONAL AND BEHAVIORAL DISORDERS:

Many times it is the behavioral difficulties that persist longer after the brain injury, even after the physical symptoms have disappeared. We highlight:

- **Difficulty controlling emotions**
- **Aggressiveness**

- **Impulsivity**
- **Restlessness**
- **Apathy**
- **Disinhibition**
- **Depression**
- **Delirious ideas, etc**

#### **COMMUNICATION DISORDERS:**

- **Problems with understanding simple orders and expression.**
- **Difficulties in articulating words, etc.**

#### **FUNCTIONALITY CHANGES AND LOSS OF AUTONOMY:**

The person with Acquired Brain Damage may have difficulty in carrying out normal basic activities in daily life such as eating, dressing or cleaning, thus they require assistance or supervision.

#### **PHYSICAL DISORDERS:**

- **Alterations in mobility (hemiplegia) and sensitivity**
- **Coordination and balance problems**
- **Alterations in muscle tone**
- **Deformities caused by immobility, etc**

#### **DISEASE DISORDERS:**

The affected person may present difficulties when ingesting certain types of food or liquids, so that sometimes an adaptation of the diet or the use of devices that facilitate intake (probes, PEG, etc.) will be necessary.



## 2. ASPECTS TO TAKE INTO ACCOUNT WHEN CARING FOR INDIVIDUALS WITH ACQUIRED BRAIN DAMAGE

Being a caretaker of a person with brain damage means having to assume a lot of information abruptly and in most cases we do not have previous knowledge.

**Here are some aspects and recommendations for the care of people with ABD:**

### 2.1 MOBILITY



#### 2.1.1 CARING FOR PEOPLE WITH SEVERE MOTOR DAMAGE AFTER SUFFERING BRAIN DAMAGE

Although the individuals with Acquired Brain Damage have a low level of consciousness and apparently do not respond to any kind of stimulation, do not speak in front of them as if they were not there. Try to address them as naturally as possible, even though they cannot express themselves, they may understand what they are told.

1. Daily hygiene is an essential part of your care and remember that it is up to you so do not neglect their appearance.
2. Consider daily hygiene as a ritual, ensure that the transfer to the bathroom or shower is gentle and careful, that the water temperature is adequate and wash him or her carefully. For example, we can play a certain music when we go to the shower and another one when we change his or her clothes, etc.
3. Wet areas are often difficult to access, so make sure you dry them well (for example, the palm when the hand is in a "claw"), which can cause skin changes and bad odors.
4. Try to spread body cream always in the same direction, from the body to the extremities and vice versa. With all this we will be providing our patient a valuable sensory stimulation. In ascending direction, it is more stimulating and in descending sense more relaxing.

5. The prolonged bedding to which they are usually subjected makes them especially vulnerable to skin injuries or alterations, such as pressure ulcers. To prevent them, change the position of the person with brain damage every 2 to 3 hours if he or she cannot do it alone. You can also make small changes within the same posture, keep the skin well cleaned and hydrated, monitor the appearance of points of pressure or friction and be careful with the possible bruises that the patient can suffer in the transfers or through changes of position.
6. Individuals with severe motor limitations are often unable to actively move many parts of their body, so muscle-tendon abnormalities or deformities usually appear and joints may lose part of their range of motion. Always remember that passive changes of posture should be smooth, progressive and continuous and they should never generate pain. Little "orthodox" posture changes can cause joint injuries and pain, which would further slowdown the recovery process.



## 2.1.2 POSTURAL TREATMENT IN BED

The postural treatment should be aimed at maintaining a correct alignment of the body 24 hours a day, for which we will need to use a few pillows or towels.

It is advisable to change the position of the person with brain damage in bed every 2 to 3 hours during the day. This period of time will increase as the patient improves and is able to change position by himself.

### A. PLACEMENT IN DECUBITUS POSITION (MOUTH UP)

- I. The head is well supported by the pillow, with a slight inclination towards the healthy side and rotated towards the affected side.
- II. The affected side should be stretched. The affected arm is placed stretched along the body on a cushion higher than the body. In this way the elbow is extended, the wrist in dorsal flexion and the fingers extended.

- III. We will put a pillow under the hip in order to raise it, so that it supports the outer face of the thigh, thus avoiding external rotation of the leg. We should try that the foot is in 90°.

#### **B. PLACEMENT ON THE HEALTHY SIDE**

- I. The head rests slightly forward on the pillow.
- II. The trunk is well aligned, forming a straight angle on the bed surface.
- III. The affected shoulder should be extended, with the arm forward on a pillow. Both the elbow and fingers are equally extended.
- IV. The upper leg is resting on a pillow. The foot must be fully supported and not hang. The hip and knee should remain with some degrees of flexion.
- V. The healthy arm rests where it is most comfortable. Just as the healthy leg rests flat on the bed with the hip slightly extended and slight knee flexion. (fingers looking up).

#### **C. PLACEMENT ON THE AFFECTED SIDE**

- I. This is one of the most important positions, because the weight of the body rests on the affected side and this will help the patient become aware of it.
- II. The head is a little forward with the trunk well aligned and somewhat rotated back.
- III. We should place a pillow on the back, fitted between the bed and the patient to prevent him or her from turning.
- IV. The hemiplegic arm is extended, with the forearm in supination (palm facing up), forming an angle not exceeding 90° with the body. It is very important to place the affected shoulder, as to position it correctly we will put our hand under the shoulder and the scapula and pull them forward.
- V. The lower leg is extended at the level of the hip and slightly bent at the knee.
- VI. The upper leg lies on a pillow, with hip and knee flexion.

### **2.1.3 GENERAL RECOMMENDATIONS TO FACILITATE THE RECOVERY OF THE HEMIPLEGIC ARM**

Holding the patient's affected hand will provide sensitive stimulation and make him or her aware of the member. We must provide all kinds of sensations (thermal, tactile, etc.), but always remembering that sensitivity may be altered, so be careful with pain and extreme temperatures, since we can easily cause burns.

- I. If the patient is able to move the arm, he or she should be encouraged to use the arm as much as possible, integrating it into daily activities such as clothing, hygiene, etc.
- II. Seek extreme hygiene in the hemiplegic hand as it tends to close and therefore accumulate moisture and bad odors.
- III. We will use warm water and check the temperature with the other hand before introducing it in order to avoid burns.



#### **2.1.4 STANDING WITH ACQUIRED BRAIN DAMAGE**

Standing (Bipedistation) means standing shortly or standing in balance on both feet. As simple as this activity may seem, it can be very complicated and sometimes impossible for a person after a neurological injury. There are many factors that can make it difficult for us to stand up:

- I. A low level of consciousness or serious cognitive disorders are usually incompatible with independent standing, they can be dangerous for the integrity of the patient and his companion. Therefore, it is advisable not to place the person with ABD in standing position until the professionals consider it appropriate.
- II. The alterations of the muscular tone and the immobilization that the person has suffered may have generated joint deformities, retractions and / or muscular shortcomings that can prevent the foot from resting completely on the ground or causing incorrect support. The most common deformities are the equine or equine-varus foot and the hip and knee flexions.
- III. Alterations of sensation and perception can cause the person with Brain Damage not to feel the injured body correctly or forget about it (neglect). As a consequence of this, the posture is usually asymmetric and the weight is not usually distributed between both feet, tending to load all the weight on the healthy side, or only on the toes or heels.

The person with ABD may have balance problems, so at first they are not usually able to stand up without help from another person or without leaning on any object.

**IT IS IMPORTANT THAT THE PERSON WITH ABD IS ABLE TO CONTROL THE TRUNK IN SEDESTATION (SITTED) BEFORE STARTING TO WORK THE BIPEDESTATION.**

**Here are a number of factors that must be taken into account:**

The feet should be parallel, fully standing on the ground, facing forward and more or less shoulder width apart. At the beginning, the base of support, that is the distance between the feet, is usually greater since it makes them feel more stable; although as we work, it should be reduced.

- I. The knees must be extended to support the weight of the body.
- II. It is very important that the weight is distributed equally on both legs, preventing the person with ABD from carrying weight only on the healthy side. This will help maintain greater body symmetry.
- III. The trunk should be kept straight, we must correct the lateral inclinations (one shoulder higher than the other) and the rotations (one shoulder more advanced than the other).
- IV. The head should remain aligned, facing forward, once again avoiding inclinations and rotations.
- V. Working on the posture control in front of the mirror will help the patient become aware of posture and correct it.
- VI. If it is necessary to help the patient maintain balance, it is recommended that we give front or back support, but not lateral support, as it will help to maintain the symmetry of the body.

**2.1.5 SUPPORT WHEN WALKING**

You should not let the patient walk by himself, the professionals will tell you when the time is right. A fall can cause injuries and can cause the person with brain damage to develop fear and it could slow down the process much more.

- I. We must give the individual with ABD time to do what he or she is capable of and we must offer only the necessary help. It is quite common to see family members carrying and almost dragging the patient's weight in a "walking attempt."
- II. The length of the steps must be symmetrical; one foot must be placed in front of the other during the walk. It is common that one step is much longer than the other and even that one of the feet is always placed at the same height as the other foot and it never exceeds it.
- III. We must insist that the foot that is advancing first supports the heel when in contact with the ground, avoiding to support only the tip of the foot
- IV. The arms alternately swing forward and backward, when one foot advances forward, the opposite arm must swing forward, this will make the movement much more harmonious and facilitate balance maintenance. Normally, individuals with a brain injury usually walk with the affected arm attached to the body.
- V. The posture of the trunk and head is especially important. The head should be kept high and aligned, always looking straight ahead. The trunk should be kept straight and with the shoulders at the same height, it is relatively frequent that patients tend to walk leaving "half body" behind or with the body tilted forward (taking out the "bum").
- VI. The proper speed will be that which allows to move safely and does not require excessive effort.
- VII. You may need the use of some technical assistance (crutch, cane or walker) or of an orthopedic device (e.g. antiequine, bitutors) to make walking easier. The professionals will explain how and when to place them.

VIII. If the person requires close supervision, the supporting person should be placed on the affected side, always avoiding pulling the affected arm to help move forward.

## 2.1.6 TRANSFERS

The main purpose of transfers is to move the individual from one place to another and they are used to move from bed to wheelchair and vice versa, from chair to chair, to the bathroom, to the car, etc. There are different techniques for transfers, so it is important to choose the most appropriate for each person with brain damage regarding their functional abilities, physical and cognitive skills. We should always proceed as follows:

- I. We should make sure to stabilize and break all supporting items (chairs, wheelchairs, beds, etc.).
- II. Match the height of both supporting items surfaces as much as possible.
- III. Avoid pulling the person with ABD from the affected side, especially the arm.
- IV. Avoid making unnecessary efforts, try to catch, hold and / or lift the relative as close as possible to our body.
- V. Keep our legs bent and our back straight to help lift the individual.

### **Depending on the motor state of the patient there are several possible transfers:**

- I. Crane transfers:** They are used for people with low mobility or low level of awareness. They are simple and easy to perform by a single person. The cranes are usually large, so sometimes they require an adaptation of the house.
- II. Slip transfers:** They are appropriate for those who cannot stand up or who are too unstable to move in a standing position. They require the ability of the person to use their arms and are frequently used with people who have amputations of the lower limbs, with paraplegics or with quadriplegics but with adequate functionality of the upper limbs. To perform them it is necessary to use a height-adjustable bed, so that the surface towards which we pass is lower, thus creating a small slope that favors sliding and transfer.
- III. Transfers on a rotation axis:** They are the typical transfers that people with hemiplegia employ, in which the healthy leg acts as the axis of rotation.

## 2.1.7 ACTION GUIDELINES FOR CARETAKERS IN THE CASE OF A FALL OF THE AFFECTED INDIVIDUAL

The risk of falls is higher in hemiparetic individuals due to different secondary circumstances of their injury. It is easier for them to suffer certain fractures, such as hip fractures.

### **In case of a fall we recommend:**

- I. Keep calm and do not make rapid or sudden movements with the person with brain injury.
- II. Find out where he or she received the direct impact and how the person fell. It is important to assess whether the individual has become dizzy or had any other symptoms before, which may have caused the fall.
- III. Help the person get up slowly, without forcing him or her to stand up.

- IV. If the pain is severe, there is injury, a deformity is observed, the person is dazed or just if you are in doubt you should go to the nearest hospital. In any case you should inform the doctor about what happened and the circumstances in which it happened and always inform if the individual is taking oral anticoagulants (such as Sintrom for example).

### 2.1.8 APPROACH TO SPASTICITY AFTER BRAIN DAMAGE

Brain damage can cause the muscles of certain parts of the body to be very tight or stiff. It is called spasticity and usually appears together with the weakness or paralysis of the limbs.

The symptoms of spasticity can be:

- I. Difficulty or resistance when moving the affected part of the body.
- II. Abnormal posture: Shoulders, arms, hands, legs and feet in a position of excessive flexion or extension.
- III. Pain.
- IV. Difficulty with dressing, hygiene, or splint placement.
- V. Repetitive spasmodic movements, especially when touched or moved.
- VI. Sudden involuntary and usually painful spasms or contractures.

It is very important that you contact the doctor get the most appropriate treatment prescribed.

### 2.1.9 SUMMARY

#### CHAIR SEATING

- When sitting, make sure the head and trunk are aligned and their body weight is distributed evenly over their buttocks.

#### SHOWER

- Always ensure that the affected person is not in contact with extreme temperatures.
- Check the temperature of the water, as well as objects that can cause burns (stoves, etc.) when the patient has altered sensitivity.

#### HANDS

- Keep the hand in extension (open) resting on a surface or with a splint if it has been indicated by the physiotherapist.
- It is important not to place objects in their hand either with the aim of squeezing them or not closing the hands.

#### ORTHOTIC

- It is important not to change the indications of the professionals for comfort or own decision without justified reason.
- It is important to follow the instructions of the different professionals and respect the indicated placement times.

## FOLLOW UP OF GUIDELINES

- It is important to follow the instructions of the professionals. They will tell you what to do in each moment. .

## TRANSFERS

- Always treat the individuals with great care and make sure that transfers are not dangerous. If necessary, there are special cranes to facilitate transfers.

## 2.2 COGNITION. HOW TO SUPPORT PEOPLE WITH ACQUIRED BRAIN DAMAGE ALTERATIONS IN THE USE OF MEMORY AND/OR ATTENTION?



### 2.2.1 ATTENTION

To help the person with Acquired Brain Damage to pay or keep our attention:

- I. Ask to attend and repeat orders (instructions)
- II. Talk on one on one basis or two people to one alternating the turn
- III. Use short phrases
- IV. Remove distractions (radio, TV, etc.)
- V. They benefit from structured and guided activities and exercises that keep their attention
- VI. It is convenient to carry out simple activities of manipulative type (puzzles, fittings, etc.) because they promote keeping attention
- VII. The instructions should be received briefly and simply, reminding them what they have to do
- VIII. There are compensatory strategies that help alleviate the effects of an attention deficit
- IX. Be aware of the attention limitations and schedule regular breaks at the first signs of attention failure. Determine at what time of the day is most productive and try to perform those tasks that require more cognitive efforts at that time

- X. Try to preserve relaxing night time and sleeping hours. Fatigue lowers the individual attention level
- XI. You can put notes in his or her sight that remind to concentrate, for example: **"What are you thinking about?" "Are you focused?"**
- XII. If required, the individual can wear earphones or earplugs in noisy environments.
- XIII. Organize the work environment to avoid auditory or visual distractors.
- XIV. You can stimulate attention by saying **"PAY ATTENTION"**, for example, while performing some task.

## 2.2.2 ORIENTATION

It is common for the person to present orientation difficulties on a personal, spatial and / or temporal level. Some recommendations to help achieve and strengthen personal orientation (personal data such as name, address, age, date of birth and other relevant aspects of the person) are: tell the person personal data, as well as the name of the people who are close, write a brief biography of his or her personal history, tastes, hobbies ... and read it frequently.

**Aspects to consider:**

### PERSONAL ORIENTATION.

- Tell the person with ABD your name before talking to him or her (not very frequent contact people only).
- It is important that the names and photos of the people they live with, as well as family and closest friends are on a cork or blackboard.

### SPATIAL ORIENTATION

- Wake the individual up by telling him or her where he or she is, as well as throughout the day and before any trip or journey. Indicate routes logically through questions about the neighborhood, the street where the individual lives, etc.
- This information can also be provided without asking.

### ORIENTATION ABOUT TIME

- Place calendars and clocks visibly in all rooms of the house.
- Let the individual wear a watch, with the correct time and date.
- Make an agenda available in order to know the date and date.
- Write down the most relevant information of the most important tasks to perform during the day. It is very important that the individual has a very structured, organized and fixed schedule (eg 8.00 am breakfast, 2.00 lunch, 8.00 pm dinner).
- At the end of the day it is convenient that the individual reads about the things he or she has done during the day, either alone or with someone.
- Talk about aspects related to time and traditional annual events. It is very important to work specifically on the theme of the seasons (eg, is summer the coldest season of the year? Is the celebration of all saints in November? Does one day have eight or twenty-four hours? Etc.).
- Fill in the calendar sheets with the specific celebrations of the place where the affected person lives. Add personal events (birthdays, saints, etc.) and family parties.
- Update the calendar every day with the patient.
- Wake him or her up by saying the day of the week, the month, the day of the month, the season and the current year and remind or repeat it throughout the day. If they use a calendar, it can remind them.

### 2.2.3 LEARNING

We will present some recommendations for people who have difficulties with recent memory or in their learning ability:

- Reduce the amount of information to remember.
- Create a daily routine that includes the main activities of the day.
- Divide complex tasks into simple steps.
- Start with repeated orders.
- Be explanatory (eg we will have dinner because it is ten o'clock at night).
- Be a manager by dividing activities into steps.
- Use of agenda: recording daily activities, depending on the severity of the deficit, the therapist will indicate how to use the agenda.
- Place a cork or board where to put the photos or files of the activities the individual is doing.
- At the end of the day it is convenient to remember things he or she has done during the day either alone or by speaking and asking questions to the caretaker (What have you eaten today?, Where have we been ?, etc.).

### 2.2.4 HOW TO GIVE INSTRUCTIONS FOR THE PERFORMANCE OF TASKS TO INDIVIDUALS WITH ACQUIRED BRAIN DAMAGE?

- It is advisable to give reduced and concrete information. The instructions we give to the person with brain damage should be received briefly and simply, reminding him or her of what to do..
- It is very important to maintain a calm and peaceful environment, as well as structure, schedules and activities.
- Choose the tasks to be performed depending on the difficulty of the activity and the patient's abilities.
- Simplify the tasks by dividing them into successive parts.
- Make sure the individual is able to perform all the steps it requires.
- Motivate him or her to start the activity and, if necessary you can help.
- Encourage him or her during execution.
- Congratulate him or her at the end of the task.

### 2.2.5 KEY ASPECTS FOR THE CARE OF INDIVIDUALS WITH ABD WITH COGNITIVE ALTERATIONS

#### **Do not overstimulate the patient**

Provide both visual and verbal information, adapted to the assimilation capacity of each person.

#### **Give break time**

Know and respect the rest time that each person needs. During the activity, alternate work and rest.

#### **Response time**

Allow the necessary time for the person to think and answer each question calmly.

#### **Emotional lability**

Do not give too much importance or divert attention, when the emotions (laughter / crying) are not adequate. **"Don't worry, let's go for a walk"**.

#### **Disinhibition**

Pay attention to inappropriate comments (even if they are funny), as this will encourage their reappearance.

#### **Apathy**

Ensure structured activities, as this will help to overcome apathy.

**Impatience**

Be calm and try not to give in to the continuing demands, trying to divert attention to another issue.

**Attention**

When the person is able to perform activities without errors gradually increase the number of activities according to achievements, And, do not encourage the performance of several activities alternately or simultaneously.

**Incomprehension**

Do not insist if the person does not understand, is stunned or saturated when performing activities. Change the subject to another more relaxed or entertaining task.

**Inability**

Adapt activities to the patient's capacity and gradually increase the degree of difficulty depending on how the person evolves.

**Overprotection**

Show the steps to follow so that the person can perform the task alone.

## **2.2.6 THE ATTITUDE OF THE CAREGIVER TO THE DIFFICULTIES OF THE PERSON WITH BRAIN DAMAGE FOR THE PERFORMANCE OF TASKS**

It is advisable that the information is concise and concrete. The instructions we give to the person with acquired brain damage should be given briefly and simply, reminding him or her of what to do.

**Further:**

- It is very important to maintain a calm and peaceful environment, as well as structure schedules and activities
- Choose the tasks to be performed depending on the difficulty of the activity and his or her capabilities
- Simplify the task by dividing it into successive parts
- Ensure that the individual is able to perform all the steps it requires
- Motivate him or her to start the activity and if necessary start together
- Encourage him or her during execution
- Congratulate at the end of the task

## 2.3 CARE OF PEOPLE WITH CHANGES IN CONDUCT AS A CONSEQUENCE OF ABD



Personality is the set of characteristics or patterns that define a person. That is, the thoughts, feelings, attitudes, habits and behavior of each individual that, in a very particular way, make each person different from the others.

These characteristics or patterns persist throughout their life through different situations. After a brain injury we can observe an alteration or change in the personality of the person affected by brain damage, either because new behaviors appear, which were not previously their own, or because there is a “sharpening” of their previous personality traits.

These personality alterations are due to an affectation of the structures and functions of the brain.

### MAIN BEHAVIORAL CHANGES

Behavioral alterations are inadequate responses such as: lack of impulse control, poor initiative, apathy, lack of spontaneity, indifference, lack of affection, poor tolerance to frustration, persistence or poor awareness of disease.

However, in many cases the personality change can be more subtle and characterized by a reduction in social skills. In this case, the person with brain damage has difficulty understanding what others think and feel, the person shows poor empathy, lack of critical capacity, faulty social judgment, etc. Alterations of “social” functioning are one of the most common and disabling long-term consequences after a brain injury, limiting the possibilities of adequate family, work and / or social inclusion.

### 2.3.1 SADNESS

Depressive processes after brain injury are manifested at the emotional level (sadness or grief), at the physical level (crying, sleep problems, tiredness ...), at the level of thoughts (negative, pessimistic, lack of capacity, guilt.) and at the behavioral level (activities are abandoned, at first those we do voluntarily because we like them and then the day-to-day obligations).

The feeling that usually prevails in depression is that of loss, so that certain events that change our lives and force us to adapt to new circumstances can trigger depression. In addition, it must be taken into account that the assessment if something is a loss or not is individual. Depression can be treated and to do so, it is convenient that we seek help from professionals (doctor, psychologist, psychiatrist) who, depending on the circumstances, will assess what type of precise approach to take and will advise us on how to help the person who suffers from it.

### 2.3.2 APATHY

Apathy, lack of will or motivation to do things is one of the alterations that appears most frequently after brain damage.

People who suffer from it are characterized by emotional indifference and lack of motivation compared to the level of previous functioning.

We can find people who, depending on the severity of the disorder, are placed in a continuum that goes from slight difficulties to undertake activities to those who, despite having no impediments to realization, have abandoned all their daily routines, including self-care.

When patients do activities that were once gratifying, they don't enjoy them in the same way. Often, they are not aware of these limitations or the repercussions they have on their social relationship (poor contact with friends, low involvement in rehabilitation ...) and, therefore, they tend to show little interest in solving them.

This emotional indifference is what distinguishes apathy as a personality disorder from what emerges as a symptom of a depressive condition, which is joined by very negative emotions and thoughts. Both disorders can occur simultaneously in the same person and it is recommended that in situations we perceive as complicated and difficult to handle, we seek the help of a professional.

In the case of apathy, we shall ensure that our family member has the most structured daily activities possible. This will help overcome apathy and reluctance since it is always easier to undertake organized activities, much more than those that vary and that we cannot anticipate.

### 2.3.3 DISEASE AWARENESS.

"An adequate awareness of the disease is necessary for people with brain damage to engage and actively participate in the Attention process." Without a realistic perception of physical, cognitive and / or behavioral deficits, people with ABD tend to underestimate or even deny the need to follow a rehabilitation or care process with specialized resources.

People with ABD have to try to be aware of what type of injury they have suffered and how those deficits have changed the usual way of relating to their environment.

**Examples:**

1. "I don't have problems"
2. "It seems as if I went to school"
3. "I used to have memory problems before"
4. "I don't understand why they don't let me drive"
5. "In a month I will be fully recovered and I will return to work"

It is a joint effort of professionals with the support of the family, to be able to show the consequences of Brain Damage:

1. with physical problems (mobility problems), cognitive problems (attention, memory etc.) and / or psychological problems (emotional problems and obvious changes in their behavior).
2. with functional limitations in their daily activities (basic activities, work / study, driving, leisure, etc.).
3. And, when appropriate, professionals and family members should help plan future activities realistically, making the necessary modifications or adaptations (study, work, etc.).

Anosognosia or lack of awareness of disease refers to the loss of ability to properly perceive the consequences suffered after acquired brain damage (ABD). Difficulties can occur when becoming aware of physical, cognitive and / or behavioral limitations. However, awareness of cognitive and especially behavioral alterations entail greater resistance and complexity.

The lack of awareness of the disease also appears with people with greater cognitive impairment, so that they lose the ability to properly perceive the consequences suffered, whether they are motoric, cognitive or personality related.

As the individual is not able to perceive exactly what he or she is capable of doing or not, without a tight perception of physical, cognitive and / or behavioral deficits, he or she can easily slide into situations that involve some danger. Affected people tend to underestimate or even deny the need to improve deficits.

They have to be aware of what type of injury they have had and how the consequences of the deficit have changed the usual way of relating to their environment. We must be think that awareness is a long process. We cannot "force" the individual to be aware of his or her difficulties.

**What can we do?**

- Help the individual understand the situation in a positive way by giving feedback on behavior and informing about how to improve it.
- Take advantage of situations, in which some difficulty appears, to talk about the subject quietly, avoiding sermons and recriminations
- When addressing the issue, it is convenient to avoid situations in which the individual or we are angry as not to provoke discussions.

Awareness is a long process, we cannot “force” the individual to be suddenly aware of his or her difficulties since we would provoke anger and negative reactions.

### 2.3.4 UNREALISTIC THOUGHTS

We should help our family member to differentiate between real and fictitious memories. In no case should we “go with the flow”. When a unrealistic thoughts occur, we should react calmly. Our attitude must be empathic and understanding, without making him or her feel guilty for not being able to remember.

### 2.3.5 IMPULSIVITY AND / OR IRRITABILITY

Impulsivity and / or irritability are symptoms of brain damage that the person cannot voluntarily control and that causes discomfort.

Here are a series of guidelines to follow:

- Ask the individual to delay the response to control impulsivity. Try to understand that this type of behavior is a consequence of brain injury. Do not attribute it to a bad intention or desire to harm others.
- Guide the behavior of the person with ABD towards appropriate behaviors and change the subject of conversation when he or she begins with inappropriate comments.
- Plan daily activities to the fullest. If these are easy to perform, the affected person will be calmer.
- Identify risk situations. Remember when, where and with whom the person with ABD feels angry and loses control.
- React to the first symptoms of an incipient anger explosion by changing to another situation that involves some kind of distraction.
- Avoid confrontation in times of tension. When possible, remove the individual from the situation or leave the place.
- Under no circumstances react by screaming or getting angrier, because all that is achieved is to produce more tension and aggressiveness in the person with a brain injury.

### 2.3.6 RESTLESSNESS

Restlessness is another symptom of brain damage that the person cannot voluntarily control and that causes discomfort.

We should not fight against it because if we get angry at this behavior we will only increase its appearance.

In some cases, there is no external reason that causes it, it could only be a consequence of physiological causes and can only be controlled pharmacologically. Therefore, we must inform the doctor about changes to adjust the medication. Other times, we might be able to identify these situations that increase restlessness and in this case it is convenient to observe when it occurs to anticipate and avoid its appearance.

In all cases, fatigue increases the intensity and likelihood of restlessness, so we must avoid it, to do this:

- We should create daily routines with fixed schedules
- Ensure a very quiet environment: dose visits, avoid noise and distractions and not saturate with continuous demands
- Promote rest periods



## 2.4 ASPECTS TO TAKE INTO ACCOUNT TO COMMUNICATE WITH INDIVIDUALS WITH ACQUIRED BRAIN DAMAGE



Below we will list some aspects to consider when communicating with a individuals with ABD.

- **FIELD OF SIGHT**

When you talk to the person with a brain injury, try to get in his or her line of sight, since he or she will understand you better if he or she can see your facial expression.

- **INCLUDE THE INDIVIDUAL IN THE CONVERSATION**

After a period of silence, if he or she succeeds by speaking a word, do not have it repeated or influence it in any situation.

- **NEW WORDS**

Ask the person with aphasia explicit questions about the issues he or she wishes to address.

- **CONCRETE QUESTIONS**

Ask the person with aphasia explicit questions about the issues he or she wishes to address.

- **CONCRETE GESTURES**

If the professionals have agreed with the person with communication problems the use of specific gestures, your collaboration, when recognizing and using them would be highly recommended. It is advisable to be systematic.

- **COMMUNICATION BOOK**

If the person with communication problems manages an image book, board or any other communication aid, encourage its use regularly.

- **SIMPLIFY INFORMATION**

Handle only one idea at a time, simplifying the information, using short phrases and simple words of common use.

- **CONCRETE QUESTIONS**

Use direct questions to verify understanding. **Do you follow me? Do you understand? Shall I continue? Do you want me to repeat something?** Make statements about what you think the person with ABD means to make sure you understand.

- **CONVERSATION FLOW**

Have a conversation by making shorter intervention, taking turns and it is preferable using silences and/or gestures.

- **BE SINCERE**

Be honest, say "**I'm sorry, I don't understand you**", when necessary, and try to restart the interaction.

- **EXTEND ANSWER TIME**

Allow enough silence or extend the response time for a possible response or participation to occur.

- **LOUD ENVIRONMENT**

When you intend to talk to a person with communication problems avoid a noisy environment (with radio or television) and avoid talking to more than one person at the same time.

- **PHRASE MARKERS**

To facilitate understanding, sort ideas with phrase markers. Use the expressions: "and then", "then", "so", "after", etc.

- **PATIENCE**

Do not interrupt the communication attempts of a person with expression and / or language problems.

## 2.5 NUTRITION WITH ACQUIRED BRAIN DAMAGE



### 2.5.1 ASPECTS TO TAKE INTO ACCOUNT WHEN SUPPORTING PEOPLE WITH ABD REGARDING ORAL FOOD

Swallowing disorders are common in people with brain damage. Therefore, it is important to follow a series of basic rules when taking care of nutrition of an individual with ABD. The nutritionist and speech therapist will value the most appropriate diet in each case.

#### **We will present the key aspects to consider to support people with ABD with nutrition:**

- We must maintain proper oral hygiene, brushing the teeth several times a day (whether they eat by mouth or if they are intubated)
- It is essential to ensure a continuous supply of liquids
- It is advisable to wait for tracheotomy to close so that the speech therapist can start stimulating oral swallowing
- Before each spoon bite it is convenient to check the oral cavity to confirm that there are no remains and that the person with ABD has swallowed the previous bite
- Ensure the consistency of the food is adequate adapted to the difficulties of the affected person
- Stimulate the person with brain injury to perceive the smell and color of the food they are going to eat
- Keep the individual sitting for half an hour after meals
- The feeding period should last approximately half an hour or three quarters, it should not be longer
- Note down any difficulties that the person with dysphagia presents during the intake of solids and / or liquids
- Note down the amount of solid and liquid food that the person eats at each meal

- The affected person should eat sitting, with the back at 90° degrees and the head in slight flexion. The family member or caregiver should sit at the same height, if you approach the spoon from below, watch the head inclination
- Create a quiet environment, without distractions (TV, radio, several people in the room, excessive noise...) during food intake. Ensure the consistency of the food is adequate adapted for the affected person
- Encourage the person with ABD to perceive the smell and color of the food they are going to eat
- It is not advisable to administer types of food not prescribed by the speech therapist and nutritionist. That is, it is not advisable to give new types of food "to see what happens."

## 2.5.2 CLEANING AND CARE OF THE PEG IN PEOPLE WITH ABD WITH ALTERATIONS IN SWALLOWING

Both the probe and the stoma (PEG) require some care that we will present below:

### STEPS TO FOLLOW IN THE CARE OF THE STOMA

- The first fifteen days after the intervention, we should wash the stoma with warm water and soap
- We should dry it and apply an antiseptic solution
- Finally, we should cover it with a sterile bend

After the **first fifteen days**, we have to cure the surroundings of the stoma:

- We should wash our hands
- We should clean the part of the skin surrounding the stoma with soap and hot water

### STOMA PREVENTIVE MEASURES

- Once a day we must turn the tube to avoid adhesions
- The outside of the tube shall be cleaned daily with soap and water inside out
- The mouth and teeth of the person with brain damage shall be washed two to three times a day, even if they do not eat
- The nutrition preparation, once opened, should be stored in the refrigerator and never more than 24 hours

## 2.5.3 HOW TO FEED THE PERSON WITH ABD THROUGH THE PEG ROUTE?

- Place the affected person in a semi-sitting position or sitting for an hour and a half
- Wash your hands before handling the nutrition preparation
- Administer the nutrition preparation at room temperature
- The administration time of each dose must take more than 15 minutes. Each 50 ml syringe should be administered in at least 2 minutes
- After each dose the tube should be washed by administering 50 ml of water
- Wash the administration syringe after each intake
- If the person with ABD is thirsty, despite the water administered in each dose, water may be given between doses

## 2.6 PERFORMANCE OF DAILY LIFE ACTIVITIES



The person with hemiplegia, who cannot use a hand, has stopped certain activities, such as dressing, undressing, wearing shoes, performing hygiene, etc.

Whenever a person with hemiplegia is taught to perform a daily life activity that he or she was not able to carry out, he or she must first be provided with the abilities to do it and then, when he or she has learned and practiced the activity sufficiently with the occupational therapist, he or she is advised to do it in front of the family so that they know that the person is capable and can do it.

Motivate the person with ABD to be independent. For family members, it is really difficult to remain without doing anything while watching how the individual hesitates. It is better not to intervene while the person performs the activity so that he or she learns to solve difficulties alone.

You should never ask the person to do something in which he or she has not been trained, because in the long run it could enhance attitudes exaggeratedly increasing the tone and this could worsen the spasticity he or she presents. Below, we present a series of steps to follow **for dressing and undressing**.

### PUTTING THE JACKET ON

To facilitate learning, they have to start practicing with a large garment, which can be put on easily.

1. Find the armhole and insert the affected hand into the sleeve
2. Pull up the sleeve fully to the shoulder
3. Hold the collar of the jacket with the mouth
4. Get into the entire garment
5. Place the jacket over the opposite shoulder with the hand
6. Insert the arm into the other sleeve and finish placing the garment.

**REMOVING THE JACKET**

1. Remove the jacket from the affected shoulder
2. Take out the healthy shoulder
3. Then remove the elbow from the same side
4. Drop the jacket back
5. Remove the sleeve from the opposite side.

**PUT ON THE PULLOVER OR T-SHIRT**

1. Find the armhole and put the affected hand into the sleeve
2. Pull up the sweater well to the shoulder and armhole
3. Place the other sleeve
4. Search the neck
5. Run the head through the neck opening
6. Place it well around the body.

**REMOVE THE PULLOVER OR T-SHIRT**

1. Pull up the body of the shirt or sweater with a healthy hand until it is placed under the armpit
2. Hold the neck from the back
3. Remove the shirt by the head until it comes out completely
4. Pull down the sweater from the affected side to the elbow
5. Take the fist from the healthy side with the mouth and pull until the hand is hidden
6. Hold the fist between the legs and fully remove the healthy arm. Then, take out the affected arm taking care not to bend it and move it to the back.

**TIE THE SHOES**

A cord that is not slippery is required. In the hole closest to the tip a knot is made that should be on the outside. Horizontal passes will be inserted into the hole closest to the leg, and the rest of the cord must exit through the inside of the shoe.

**BOTTOM DRESS**

Recommended whenever the person with brain damage can move from the position of sitting to standing stably and without help:

1. We cross one leg over the other. Take the waist of the pants and insert the affected foot
2. Enter the other leg well and raise the pants to the thighs
3. Fit them on the buttocks as high as possible
4. Stand up grabbing the pants and finally fasten them.

**SOME ADVICE**

For any of these cases, we recommend:

1. Wear wide and light clothing
2. Place the work material on the affected side
3. Make use of positive reinforcements, encouraging the person in their process towards independence
4. Train with the caregiver what has been learned with the therapist
5. Do not perform activities that have not yet been trained or for which he or she is not yet prepared.

## 2.7 THE ADAPTATION OF THE ENVIRONMENT FOR AN INDIVIDUAL WITH ACQUIRED BRAIN DAMAGE



### 2.7.1 HOUSING ACCESS

#### STAIR-LIFT DEVICES

There are various types of stair-lift devices. They can be grouped into: lifting platforms, stair-lift chairs, stair crawlers and ramps.

The choice will depend on the characteristics of:

#### 1. THE STAIRCASE:

- Depending if you belong to a neighbourhood community or if you live inside your own home
- The width of the staircase
- The height and distance to maintain
- The number of turns to make
- 

#### 2. THE USER:

- Type of wheelchair to use (size and weight) and if it is compatible with the device
- Dependence on the chair (is able to move from one chair to another or not)
- Need and availability of a third person

#### A. ELEVATOR PLATFORMS

They are divided according to their trajectory whether the platform movement is inclined or vertical.

**Platform with inclined movement**

It is composed of a rail that is fixed to the wall or floor, and a base that slides over the stairs. The platform can serve sections of straight or curved stairs. It has an inclination of between 15° and 45° and it supports a maximum weight of 250 Kg.

Its size varies between 60 cm. width x 80 cm depth and 140 cm. wide x 100 cm. depth. The base once deployed occupies between 25-40 cm. from the landing of the stairs.

. It is aimed at wheelchair users who have to overcome a short flight of stairs to access their home. The biggest advantage is that the user can operate the platform by himself without the need of a third person. Although, they need more space than stair lifts.

**Platform with inclined movement**

In this case, the base is not foldable and can slide along rails, it is fixed vertically on the wall or held by a vertical support. It looks like a small elevator. The recommended height to save is 3 to 4 meters, the pit depth is only 12 cm.

It is recommended when the patient has to overcome heights greater than 1 meter, when the staircase is small or for the exterior facade of a multi-storey single-family house.

**B. STAIR LIFTS**

It is used for straight, curved sections and inclination changes. The chair slides down a rail. The seat can be foldable and swivel. It ascends a slope of about 55° and supports a maximum weight of 136 Kg.

It is indicated for people with problems to go up and down stairs, but patients must have sufficient motor control, such as to remain seated in the chair and must be able to perform or collaborate in the transfer. It is advisable to use them in multi-storey homes when the user does not need the help of a third party for transfers.

**C. STAIR CRAWLERS**

This device powered by a rechargeable electric battery allows a user in a wheelchair to go up and down several flights of stairs.

Most of them can only follow a rectilinear path, when getting to the 1 meter wide landing, they can rotate. The crawler must be operated by the caregiver with some physical effort. Its weight is around 50-70 kg and its dimensions are approximately 50 x 100 cm. and they are usually not foldable. They lift a maximum weight of 130-160 kg. and overcome steps of about 25 cm. There are stair crawlers that incorporate their own chair which can be removed.

It is indicated for wheelchair users or people with serious difficulties to go up and down stairs, also for homes located above the first or second floor.

Another type of crawler with similar features, is the motorized stair lift, which can be operated by the user without the need of an assistant. Although, the user needs to move from the stair lift to the crawler

## D. RAMPS

### Fixed ramps

The maximum grade according to the horizontal projection of the inclined surface and minimum ramp dimensions are as follows:

- Greater than 6m and less than 9m needs a maximum slope of 6%
- Greater than 3m and less than 6m needs a maximum slope of 8%
- Less than 3m maximum needs a slope of 10%
- Occasional crossings 1.20 wide
- Regular crossings 1.50 wide
- Continuous crossings 1.80 wide
- Plateaus 1.50 m.

### Mobile or temporary ramps

They are ramps that allow the wheelchair user to overcome an architectural barrier. They can be two rail or one piece. The ramp must be solid and should have a non-slip surface. There are several models and ramp sizes:

1. **Modular mini-ramp systems** These are very small ramps of various heights and widths which, arranged in modules, allow to pass a step. Its most frequent use is indoors and to overcome small heights (shower tray). They are light and portable.
2. **Wedges for steps and thresholds**
3. **Bridge ramps** Double ramps that forms a triangle that is used to bridge and overcome obstacles (window frame, slope).

## 2.7.2.2.2 GENERAL RECOMMENDATIONS FOR THE HOUSE

### DOORS AND HALL

When we have to use wheelchairs we will need to modify the width of the interior doors of our home:

- First, we must ask ourselves if all the doors are necessary. Sometimes the door between rooms can be replaced with arches or simply with frames that leave a loft like space.
- We will also have to make sure that no furniture prevents opening the door completely to the wall.
- The width of the doors should be at least 80 cm, although exceptionally they can be up to 70 cm, if they open at more than 90°.
- If the doors are narrow, we can extend a few centimeters by changing the hinges for retroactive type ones as they allow the doors to leave the frame and rest flat on the wall. One of the most practical and comfortable solutions, if space is available, are the sliding doors, as they are easy to handle for a person in a wheelchair.
- It is preferable that they are foldable outwards with an opening angle of not less than 90°. In case of opening inwards, the door's sweeping space is considered occupied space and therefore, it will not give the necessary free space to perform the wheelchair turning manoeuvre.
- For the opening and closing of the doors, there are several adaptations, such as ergonomic openers and handles, devices for doorknobs and knobs, stops to keep the doors open, mechanisms to avoid catching hands and adaptations for keys.
- It is advisable to place a protective socket at a height between 30 and 40 cm at the bottom of the door.
- If there are internal latches, they should allow opening from the outside by means of an anti-lock system; The latch will be located at an approximate height of 1m.

### PLUGS AND SWITCHES

- The plugs will be at a height of maximum 40 cm from the floor and it is advisable to install the switches about 140 cm from the floor.
- The corridors of the house must be a minimum of 120 cm wide.

### FLOORS

Some of the factors that can cause falls inside the house are irregular, slippery, highly polished, uneven floors or loose tiles. That is why we have to avoid

- Carpets without fixing, with raised ends or with wrinkles.
- Cables and other loose elements on the floor.
- It is advisable that the floor of the house is not carpeted or no carpets lay on the floor, because that makes it difficult to turn with the wheelchair.

### BEDROOM

- Whenever possible we should place a height-adjustable bed to facilitate transfers from and to the wheelchair. Generally, the height of the chair seat is 50 cm.
- It is advisable to attach a trapezoid or triangle to the bed, which allows the person to perform postural changes and mobility in bed, especially for patients whose upper limbs are functional.
- Between the bed and the wall it is convenient that there is a space of at least 80 cm (optimal 100 cm) to make the transfers possible.

- At the foot of the bed there should be space to make a turn with the chair (diameter 150cm)
- The cabinets should preferably be sliding or double leaf doors. The hanger bar should be placed at a height of 140 cm. The same doors can be used to place bars to hang clothes and make them more accessible.

## BATHROOM

The bathroom is one of the places in the house where most accidents occur. This is due to several reasons:

1. Hygiene implies a great variety of movements and moves
2. Space is often reduced.
3. Sliding products such as water and soap are used.

To make the bathroom a safe and comfortable place it is recommended:

- To install firm and non-slip support systems (bars) (plastic rather than metal)
- The water temperature should be controlled by a thermostat, as some patients have a lack of thermal and pain sensitivity, therefore, it can become a source of possible burns
- The taps should preferably be elongated single lever to facilitate the regulation of water flow
- The floor should be non-slippery and, in the case of placing a drain or a sink on the floor, it must be treated with asphalt cloth to make it waterproof
- It is recommended that the person using the wheelchair can approach the sink from the front and the toilet sideways. The sinks should not have a pedestal and the upper level should be 0.80-0.85 m from the floor
- The lower free space in the toilet should be 0.67-0.70 m to facilitate the transfer from the chair to the toilet. Ideally the toilet should be built about 45 cm from the floor
- The mirrors should be installed at a height whose bottom edge is at most 0.90 m. All accessories (shelves for glasses, toothbrushes, etc.) should be placed at a height not exceeding 1.40 m and not less than 0.35 m.
- It is convenient to put an alarm near the shower or WC to be able to ask for help in case of an accidental fall during the transfer.



### ASPECTS TO TAKE INTO ACCOUNT TO CHOOSE THE RIGHT WHEELCHAIR

#### User adaptation

The wheelchair must be adapted to the dimensions, weight and degree of disability of the user. If the use of the chair is permanent, it should have an anti-scurvy cushion.

#### Chair dimensions

There are several sizes for each model and some are adjustable in height, width and depth.

#### Dimensions and characteristics of the environment

The usual places of use should be taken into account, as the room, the bathroom, the car or the house.

There are chairs for outdoor, indoor or mixed. To pass through the doors there should be a minimum of 5 cm. on each side of the chair.

#### Daily activities

It is necessary to assess whether the individuals with ABD are able to push themselves, if they are going to travel long distances, if they make frequent transfers and how they do them.

#### Ease of folding and transport

The wheelchair must be easy to fold and to dismantle. The simplest are the folding chassis and the quick-release wheels. The folding size varies between 26 cm. for manual chairs and 60 cm. for electric chairs.

It is important to take the total weight of the chair into account, the lower the weight, the greater is the ease of transport. The weight range is between 15 kg for manual chairs and 60 kg for electric chairs.

## Security

It must be stable against tipping and must support the user's weight. Electric wheelchairs incorporate adequate speed and braking control.

Below, **we present a small classification of the different types of wheelchairs and possible accessories:**

### MANUAL WHEELCHAIRS

Manual wheelchairs are those that do not have any electrical mechanism.

We can distinguish two types: **self-pushed** and **non-self-pushed** manual chairs

#### Self-pushed wheelchairs:

Are those chairs that have some device or mechanism that allows the patient to move autonomously or they can be driven by another person. We found different types:

- **Lever chair:** it has a self-push mechanism through a manual lever that allows to direct the movement of the chair. The lever and brakes are placed on the healthy side of the user
- **Bimanual propulsion chair:** the patient moves thanks to the propulsion from the rear wheels
- **Bimanual wheelchair with double ring:** the chair has gears or shafts that allow the patient to direct it through a double ring located on the healthy side

#### Non-self-pushed wheelchairs

Are those chairs that require a third person to move them. Their rear wheels are usually smaller. Within this group we can find the postural control chairs, with which users usually have reduced mobility and a high degree of dependence.

They usually have a wide range of accessories to adapt to the user's position. They are larger and not foldable, but allow reclining and tilting the seat.

### Electric wheelchairs

The electric wheelchairs are driven by a source of electric power and can be for indoor, outdoor and mixed use. In addition, they can have front, rear or total traction.

These type of wheelchairs are designed for people with disabilities or severe difficulty in walking, but they need an adequate cognitive ability.

### WHEELCHAIR ACCESSORIES

There is a fixed structure that all wheelchairs possess, whose elements we will list as follows:

#### Footrest

Where the user's feet should be placed. They are usually foldable and removable to facilitate standing or transfer from the chair to another structure or vice versa.

#### Brakes

They are usually located at the front of the wheels and they are operated from a small lever.

#### Seats

They can be fixed or foldable.

### **Armrest**

They are equally removable or foldable to facilitate transfers.

### **Chair fasteners**

These are straps or similar devices that are used to keep the user safe in their chair. Among them, we highlight the pelvic, abdominal, thoracic and abductor straps.

### **Rib supports**

They are used to prevent the user's trunk from falling sideways. They are not fixed and can be removed and adjusted in height depending on the needs.

### **Headrest**

They are used in those people who do not have adequate cephalic control. .

### **Walking aids :**

They can be included in both manual and electric wheelchairs. Their function is to facilitate the step to standing or walking.

## **2.7.3 TECHNICAL AIDS AND BASIC ACTIVITIES OF DAILY LIFE**

"Technical aids are devices, utensils or adaptations, which are used to replace movements or assist the functional limitations of people with disabilities".



There are many technical aids on the market that fit the specific needs of each person. Furthermore, we have compiled the most common ones, but it will be the Occupational Therapist who will advise about the most useful ones based on both physical and cognitive deficits of the individual.

## **PERSONAL HYGIENE**

### **Long-handled brushes and combs**

To facilitate combing or styling people with limited movement in the upper extremities. As for example, thickened handles for toothbrushes or razors to facilitate grip.

### **Nail brush with suction cups**

It fixes to any smooth surface; it facilitates use to people with limited movement in an upper limb.

### **Adapted nail clippers**

It facilitates the use for individuals with limited movement in one hand or to those who have manipulative difficulties.

### **Single mixer tap**

To facilitate the access to the tap for hemiplegic people.

### **Mitten or sponge with handles**

To facilitate the use to people with limited hand grip.

### **Espejo reclinado**

To facilitate the view from the wheelchair.

## **BATHROOM / SHOWER**

### **Long-handled sponge:**

For people who have difficulty reaching all parts of the body.

### **Washing gel dispenser or fixed shampoo on the wall:**

It allows to obtain gel or shampoo with one hand (hemiplegia).

### **Taps with thermostat**

It allows to regulate the temperature of the water before opening the tap, without the need to do a bi-manual task to graduate it. It avoids burning injuries in people with limited sensation.

### **Swivel bathtub seat**

To facilitate people with reduced mobility the access and activity in the bathroom.

### **Shower bench or chair**

To take a shower, in the shower cabin or sink, with total security.

### **Bars or handles**

To ensure safe movements in the bathroom.

### **Bathtub for beds**

To facilitate hygiene in bedridden people or with very reduced mobility. Tray for hair hygiene in bed.

## TOILET / WC

### Toilet lift

To facilitate the sitting and the step to standing in people with reduced mobility (hemiplegia, hip fracture, etc.).

### Handles or folding bars

To facilitate the transfer to the toilet.

## DRESS

### Buttoner

It allows to tie buttons with one hand.

### Sock and stocking shoehorn

To facilitate taking shoes on and off in people with difficulty bending over

### Long-handled shoehorn

To facilitate putting on shoes in people with difficulty in trunk bending.

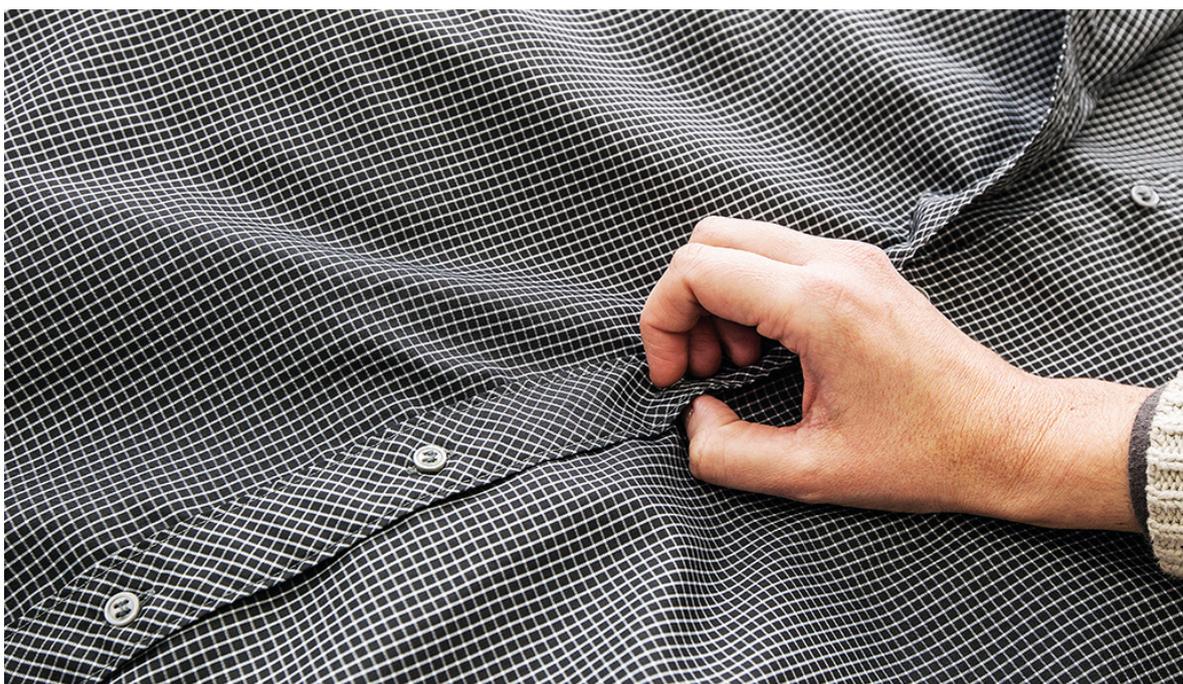
### Zipper pull

It facilitates the manipulation with one hand in people with lack of sensitivity or dexterity.

### Low bench for taking shoes on and off easily

### Long Range Tweezers

### Technical Aid-Orthotics





## **FEEDING**

### **Cutlery handles**

There are models with different thicknesses, materials and weights and they allow people with spasticity, muscle weakness or other problems, to be able to grab the cutlery more comfortably and more easily

### **Layered Cutlery**

They facilitate manipulation in those people who have limited wrist mobility.

### **Cutlery with handles**

Useful for those people with difficulties to hold objects with their fingers.

### **Tilting knife**

It allows cutting by sliding and balancing with one hand.

### **Nelson knife**

To cut and eat with one hand.

### **Plates with retaining ridge**

Useful for people who eat with one hand and cannot help with the other to push food.

### **Glass cup**

Base adapted for people who cannot grip.

### **Anti-slip**

It facilitates the activity in those people who eat with one hand, preventing the plate from moving.

## 2.7.4 INSTRUMENTAL TECHNICAL AIDS FOR DAILY LIFE ACTIVITIES

### MEAL PREPARATIONS

#### Board adapted to cut or hold cans

Useful for people who perform the activity with one hand.

#### Peeler

It allows people who have difficulty peeling food.

#### Openers

Rubber utensil that facilitate opening of bottles or containers for people with reduced muscle strength.

#### Brush with suction cups

To facilitate the washing of glasses.

#### Needle threader

For people who carry out the activity with one hand.

#### Scissors with self-opening

Frame to hold the garment: the frame performs the function of the other hand of a hemiplegic person.

### USE OF THE PHONE

- **Special phones:** with larger numbers; to facilitate use for people with visual deficits
- **Telephone positioners**
- **Hands-free phone**

### MEDICATION CONTROL (dose, schedules, etc.)

#### Pill dispenser (pillbox)

To facilitate the control of medication for people with deficits in attention and memory.

#### Pill cutter

It allows cutting or crushing medications in case of problems to swallow them.



### 2.8.1 AID GRANTED WITH THE DISABILITY CERTIFICATE

To qualify for these grants, it is essential to be in possession of the Certificate of Disability, also a degree of disability equal to or greater than 33% is required.

#### 1ST ECONOMIC SUPPORT

##### **Non-contributory pension**

It is requested through the Municipal Social Services.

Degree of disability required: 65%

##### **Family Benefit per dependent child**

When the individual with a disability is under 18. Applications are made in the National Social Security Office (INSS)

#### 2ND SUPPORT IN THE EDUCATIONAL FIELD

- Scholarships and / or school vouchers
- Special Education Centers.
- Access to the reservation of places in universities.

### **3RD TRANSPORTATION-RELATED SUPPORT**

- Special Transport Service (EMT)
- RENFE Railway gold card
- Parking cards for people with disabilities. When the Certificate of disability includes reduced mobility with a scale of 7 or more points. It is requested in the Town Halls
- Aids for vehicle adaptation
- Annual grant call. It is requested through the Municipal Social Services
- Exemption from the traffic tax: application in the Town Halls

### **4TH AID RELATED TO HOUSING**

- Aid for the elimination of architectural barriers in the home or building
- Technical aids for functional adaptation of the home and acquisition of tools (crane, articulated bed, etc.). It is requested through the Municipal Social Services
- Aid to obtain the municipal license for renovation purposes. Department of urban planning
- Help for the acquisition of housing for the disabled people

### **5TH TAX AID**

- Deduction in the base tax of the personal income tax, annual tax declaration
- Exemption of vehicle registration tax
- Reduction of inheritance tax (inheritance). Information at the Treasury offices
- Exemption of the annual circulation tax

### **6° OTRAS AYUDAS**

- Free pharmaceutical assistance: for those under 18 with a degree equal to or greater than 33% of disability. And, for those over 18 with a degree higher than 65% of disability
- Large family status (with 2 children if one of them has a disability)
- Access to the social spa and wellness program. Through Municipal Social Services



### 2.9.1 THE IMPORTANCE OF PHARMACOLOGICAL CONTROL WITH ACQUIRED BRAIN DAMAGE PATIENTS

In many cases, alterations derived from brain damage require pharmacological control. The guideline (type of drugs, doses and schedules) determined by the responsible physician should always be respected and any changes, evolution and / or adverse effects should be reported.

### 2.9.2 ALTERATIONS IN THE DREAM

Many people who have had brain damage have problems with both insomnia and excessive sleepiness of very different intensity. The causes of these problems are usually diverse and include both the brain injury itself, and other factors such as the presence or absence of pain, the mood, certain drugs or the consumption of some substances (alcohol, coffee, nicotine, etc.).

Sleep disorders can increase cognitive and behavioral problems so it is important to regulate them from the start.

#### ESTABLISHMENT OF ROUTINES FOR THE CONCILIATION OF SLEEP

During the day:

- Follow a routine: always try to get up at the same time
- Reduce downtime during the day
- Try to stay active during the day
- Reduce the number and duration of naps

At night:

- Follow a routine: always try to go to bed at the same time
- Avoid caffeine, alcohol, nicotine or large meals before bedtime
- Remember: the bed is a place of rest not of work
- Create a restful atmosphere (light, noise, temperature)

### 2.9.3 MEDICATION GUIDELINE

Respect the schedules and guidelines set by medical staff for the administration of drugs.

### 2.9.4 SKIN CARE FOR THE PREVENTION OF ULCERS.

To prevent the appearance of pressure ulcers, examine the skin at least once a day, closely monitoring any reddened area. Keep the skin clean and dry, especially protecting bony areas (heel, sacrum, head ...).

### 2.9.5 WHAT TO DO IN THE EVENT OF AN EPILEPTIC CRISIS?

In the event of an epileptic crisis, keep calm and avoid crowds around the affected individual.

Our **recommendations** are:

- Try to keep calm and avoid crowds around the affected individual
- Lay the individual on the floor sideways with a pillow under his or her head
- Turn his or her head to the side to make breathing easier
- Loosen any garment adjusted to the neck (tie, shirt) and waist (belt, pants)
- Move away objects that can cause injury
- Protect the individual against hits on the head or be aware of sudden falls
- Do not try to hold him or her to stop the seizures
- Do not try to open or put any object in his or her mouth
- Stay close until he or she regains consciousness

When the crisis has passed, let him or her rest lying sideways until full recovery. After a convulsive crisis there is usually confusion, muscle pain and headache that can be more or less intense.

The doctor should always be contacted if crises have appeared. And, it is recommended to go immediately to the Hospital **in these situations**:

- If it is the first crisis that appears
- If there are several crises without regaining consciousness between them
- If the crisis lasts more than 5 minutes

### 2.9.6 MEDICAL EMERGENCIES WITH ABD PATIENTS

Some warning signs that indicate that we should go to the Hospital immediately are:

- Sudden episodes of confusion, weakness in arm or leg, fall weakness of the lip in the corner of the mouth or impaired language
- Confusion or loss of consciousness that appears immediately or days after hitting the head
- Suppuration, gastric secretion, obstruction or exit of the feeding tube (PEG)
- Continuous epileptic crises, a crisis that lasts more than 5 minutes or the first crisis.
- A fall that causes strong functional limitation, severe pain, deformity, confusion or dizziness.

## 2.10 THE FAMILY



### 2.10.1 YOUR ROLE IN THE CARE PROCESS OF INDIVIDUALS WITH ACQUIRED BRAIN DAMAGE

Families are an essential part of the care process. A well-informed, well-organized family, working in collaboration with a care team can better manage the situation.

The most important aspect in the care process is the joint action of everyone, both professionals and family. Family members provide the rest of the team with the most accurate information about the symptoms and difficulties that the person has in his or her daily life; They work daily to maintain and strengthen the improvements achieved by the health professionals and are of vital importance to motivate and encourage the patient in daily efforts to recover.

**“Your help is essential”**

Family members of people who have suffered brain damage need to face initial trauma and changes (physical, cognitive and behavioral) that occur as a result of brain injury.

The impact of brain damage can be as important for family members as it is for the affected person because it often requires a break of the life project of the people who are part of the family. Since the whole family is affected, we can say that:

**“It’s not just individuals who suffer from brain damage but rather whole families”**

## 2.10.2 DIFFERENT STAGES OF THE FAMILY'S EMOTIONAL REACTION

### SHOCK "I wish he or she survived"

This stage involves a state of confusion, anger, frustration and helplessness of the family.

### HOPE. "It will be fine"

This stage involves a state of optimism and belief in fast recovery and denial of the situation.

### REALITY. "There is progress, but recovery is very slow"

This stage involves a state of depression, anger, guilt and isolation by the affected family member.

### ACCEPTANCE "The patient will not be the same anymore"

This stage involves a state of awareness of the situation and acceptance of changes.

### BALANCE "Our lives are now very different."

This stage entails a state of readjustment of expectations and family restructuring.

## 2.10.3 THE CAREGIVER'S SYNDROME

A common phenomenon is the accumulation of stress (tension, fatigue, exhaustion) on the caregiver, which often culminates with the sensation of a burden or negative psychological consequences. The burden represents a set of conflicting emotions.

### MAIN NEGATIVE SYMPTOMS

- Physical and mental exhaustion
- Emotional lability
- Depression
- Anxiety
- Abusive consumption behaviors
- Sleep disorders
- Alterations in appetite and weight
- Social isolation
- Cognitive difficulties
- Work life problems

### THE IMPORTANCE OF THE CAREGIVER'S SUPPORT

As with other diseases and vital situations, when a person suffers brain damage and needs care and attention from others, there is usually one person that feels most responsible and who carries the weight of caring for the individual with ABD. Depending on the degree of dependency of the patient, the primary caregiver may be so focused on giving attention that he or she stops "taking care of him/herself".

The caregiver can stop enjoying or even having free time, stop taking care of his or her physical appearance, stop having social life outside of what it means to take care of the affected family member or leave aside previous occupations. This, at first, can be seen as a small sacrifice necessary for the good

of all, but with the passing of time and sometimes even with an indefinite prolongation of the situation, problems can appear, that are important to prevent.

Although, dedication is carried out with pleasure and voluntarily towards a family member who is very loved ... The changes that have occurred in his or her life are so great that it is inevitable that stress, tensions with other people and despair appear... This affects the family member who has suffered brain damage and the quality of care received. Therefore, it is important to support the caregiver to improve the quality of life of both the patient and the person who cares for him or her.

#### **BASIC TIPS TO AVOID THE "CAREGIVER SYNDROME"**

- It is important that the caregiver has moments of relax in which he or she enjoys free time for leisure or social activities, previous occupations or self-care
- Rest is also very important
- It may be convenient to have someone to talk about feelings, express your emotions, and assume what has happened, etc.
- It is also important to learn, with the help of professionals, how to treat the family member who has brain damage. This will help us understand the new situations that occur when living together and it will help reduce problems, concerns and sources of stress
- And, above all, keep in mind that care should not be assumed only by one a person, but as a responsibility shared by those who are close to the person with acquired brain damage and who somehow "care" for him or her.





Co-funded by the  
Erasmus+ Programme  
of the European Union



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