



Assistive Devices for Computer, Ergonomics, Leisure and Walking - Family/Patient Information

Which assistive devices can help using a computer?

Individuals who have had a stroke may find it difficult to use the computer. The next section will give you ideas about what assistive devices can be used for this task.

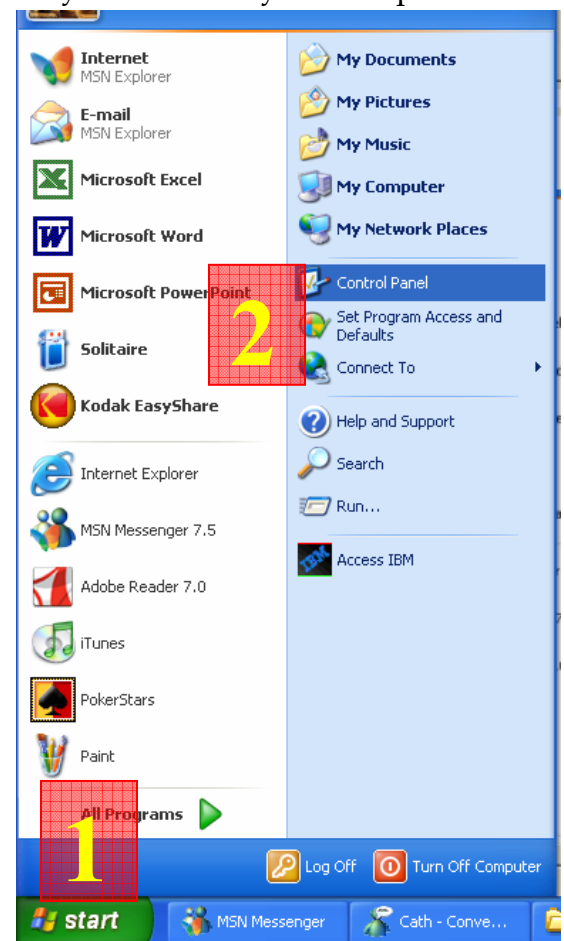
First, it is important that you consult an occupational therapist if you think that some devices would help you to use your computer more easily. She or he will evaluate your physical and mental capacities as well as your environment, needs, and goals. Based on this evaluation, devices that best fit your needs will be chosen.

- **Accessibility features on Windows:**

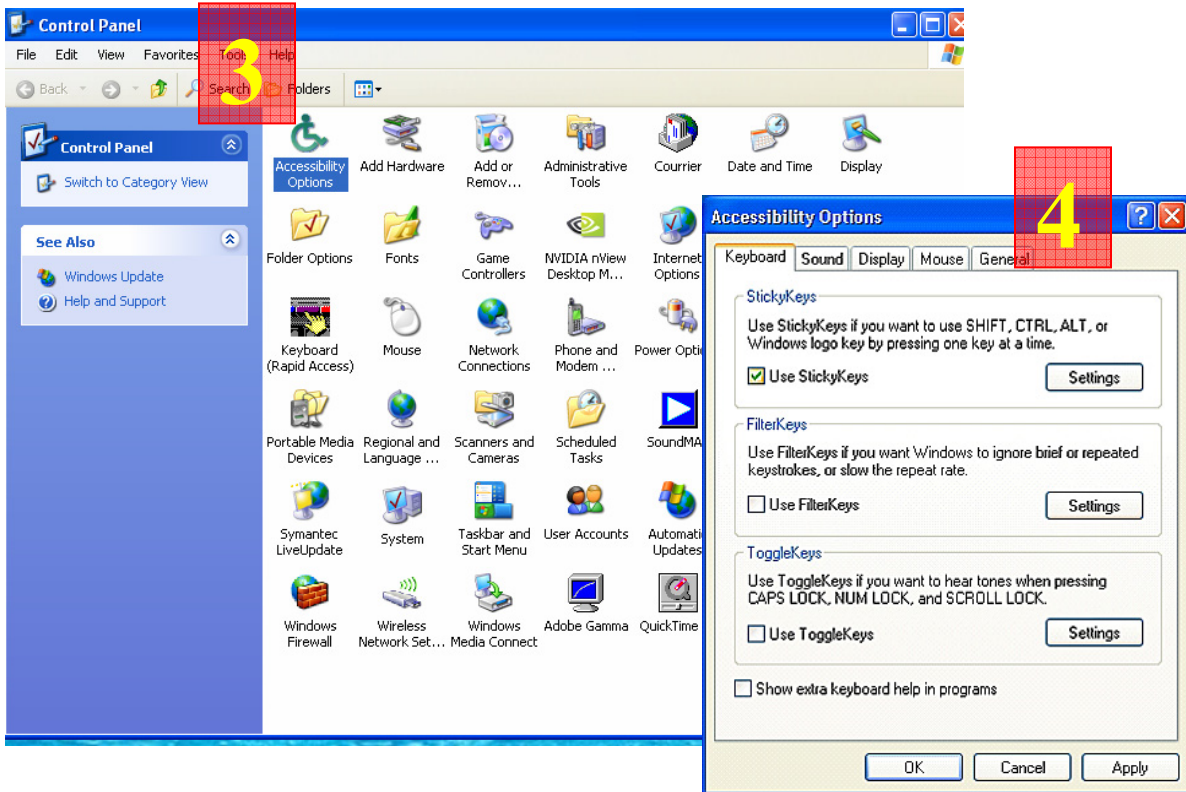
Accessibility features are basic functions that Windows offers and that can help you to use your computer. These features are free and are already installed on your computer if you are using more recent versions of Windows.

Here are the main ones:

- **Sticky keys:** This feature was designed for people who have difficulty holding down more than one key at the time. It can help you if you can only use one hand to type. If you activate this function, you will be able to use SHIFT, CTRL, ALT, or Windows logo keys by pressing one key at the time.
- **Filter keys:** This function can help you if you have difficulty controlling the movements of your hands and fingers as it adjusts the keyboard response so that inadvertently repeated keystrokes are ignored. If you activate it, brief or repeated keystrokes will not be taken into consideration. With this feature, you can also slow the rate at which a key repeats when you hold it down.
- **Toggle keys:** when this feature is turned on, you will hear tones when pressing on the locking keys (CAPS LOCK, NUM LOCK, and SCROLL LOCK). A high sound plays when the keys are switched on and a low sound plays when they are switched off. This feature may help some people who have a vision impairment and for whom hearing a sound when activating a key is helpful. If you would like to try these



accessibility features at home, you can look the pictures below; they will guide you in activating them.

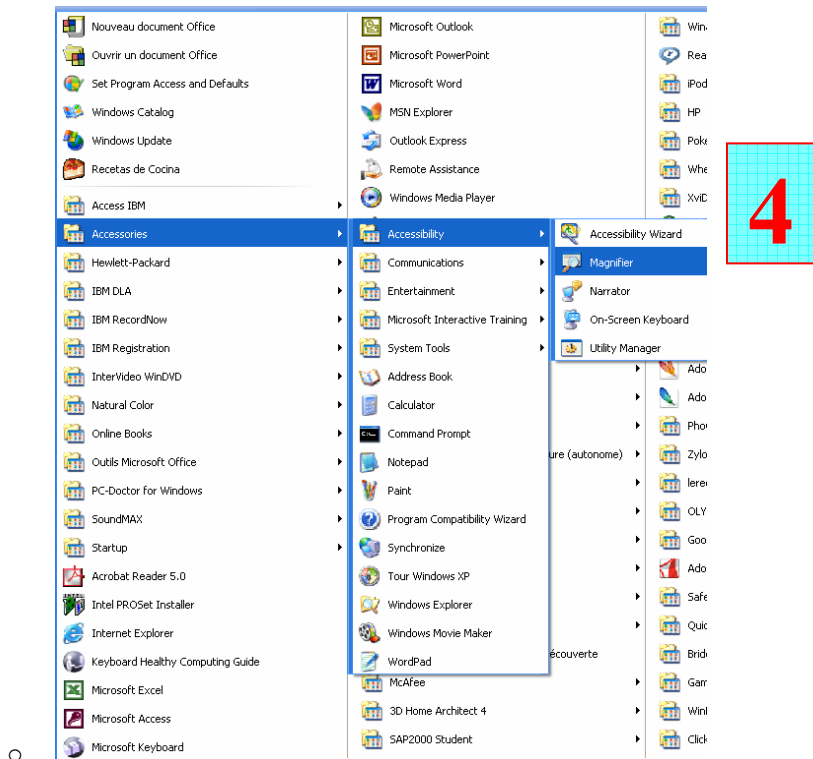
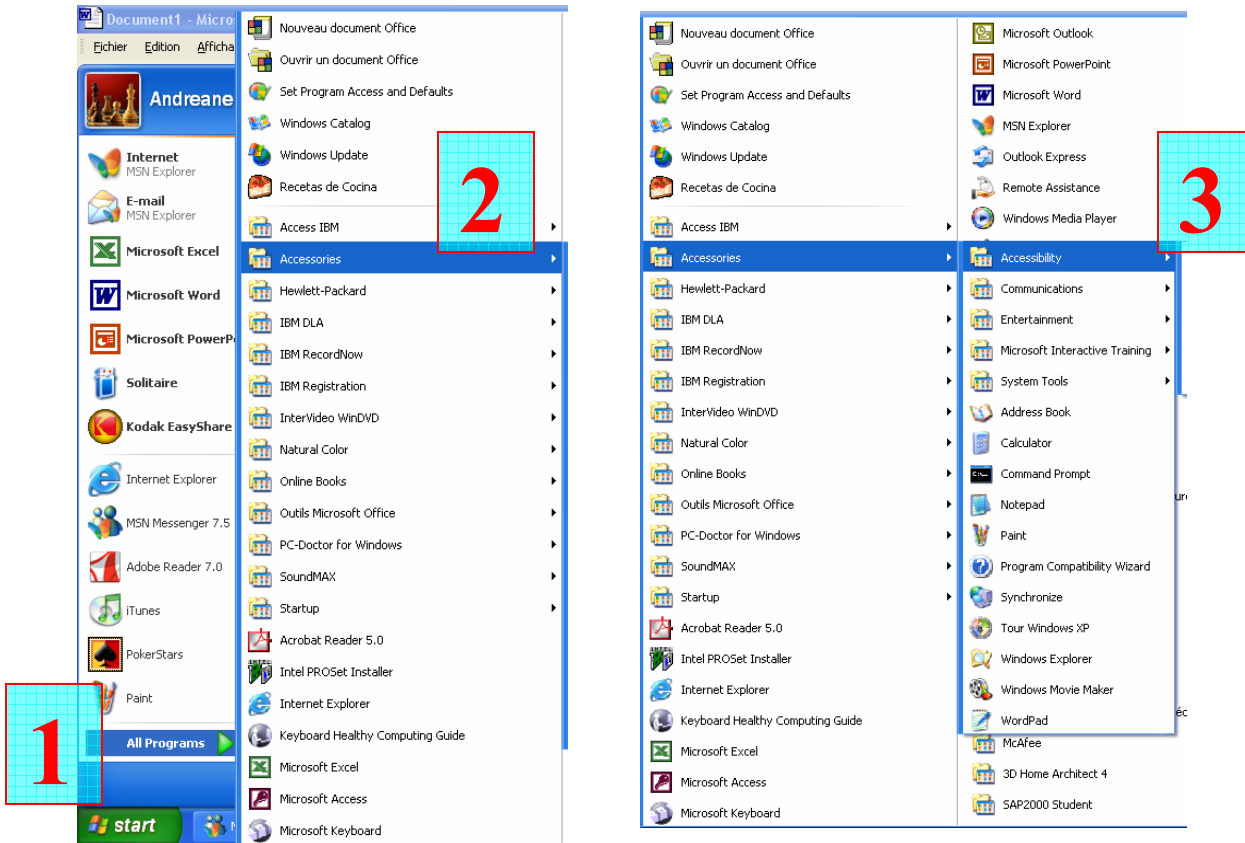


- **An on screen keyboard is also available:** This may be helpful for you if typing on a regular keyboard is too difficult. It is a virtual keyboard displayed on the computer screen. It allows you to type by using a pointing device.



- **A magnifier** can be used if you have difficulty reading the small characters because of decreased vision. A narrator can be used if you can not read the characters with the magnifier or if you find it difficult to read. It reads what is displayed on the screen for people who have low vision. It is designed to work with many programs: Notepad, WordPad, Control Panel programs, Internet Explorer, the Windows desktop, and some parts of Windows Setup.

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If you would like to try free accessibility features offered by Windows, you can go on <http://www.microsoft.com/enable/products/windowsxp/default.aspx> do to get more information.

The features available on Windows are very basic. If you have major difficulties when using your computer, you might need more advanced programs and technologies.

- **Ergonomic equipments:**

Ergonomic equipments are accessories that you can use that will help you to maintain a good position and to be more comfortable while using your computer. Here are a few examples of ergonomic equipment that could be helpful for you:

- **Foot rest:**

A foot rest might be useful if your feet are not in contact with the floor when using your computer. This will help you in maintaining a good position when using your computer.

- **Good chair:**

If you are using your computer quite often, it might be important to buy a quality chair with arm rests, adjustable height and back rest. It is recommended that you get a chair with no wheels as it is safer and it decreases the risks of falls. Many other types of ergonomic supports are available on the market. You can ask your health care professional or search on the Internet for more information.

- **Keyboard:**

A contracted keyboard can help you if your weak arm cannot move. This keyboard is small enough to be used easily with only one hand.

There are also many different on screen keyboards that are available and that could help you to type more efficiently. These are a virtual representation of a keyboard that is displayed on your computer screen. They can also be useful if you are not able to use a regular mouse as they can be used with other pointing devices such as a joystick.



Many other types of keyboards are available on the market. You can ask your health care professional or search on the Internet for more information.

- **Mouse and other pointing devices:** If your dominant hand is now weak and cannot move as well because of your stroke, you can use the mouse with the other hand. The best thing to do in this case is to put the mouse on the other side of the keyboard and to interchange its buttons by going into the control panel of your computer to change the



mouse options.

Other types of pointing devices such as trackballs, joysticks, and head pointers are available commercially. You can ask your health care professional or search on the Internet for more information.

Which assistive devices can help you communicate?



Individuals who have had a stroke may find it difficult to communicate if one of their symptoms is aphasia (Partial or complete loss of the ability to speak, or to understand spoken language)

If this is your case, the use of assistive devices for communication can help you to communicate more easily. They will also make it easier for you to have social interactions.

The next section will give you ideas about what assistive devices can be used to help you communicate.

First, it is important that you consult an expert such as a Speech Language Pathologist or an Occupational Therapist as choosing the right device needs expert input. She or he will evaluate your physical and mental capacities as well as your environment, needs, and goals. Based on this evaluation, devices that best fit your needs will be chosen.

There are two types of assistive devices that can help you communicate:

- **Alternative communication devices** are used for people who cannot speak. It utilizes other ways of communication such as gestures and writing.
- **Augmentative communication devices** are used for people who are able to speak but with some limitations in this type of communication. These devices utilize other ways to communicate to support speech.

Some of the many techniques and assistive devices that help with communication are:

- **Gestures:** you can use gestures and simple signing to make yourself more easily understood by your family members and friends.



- **Communication boards and books:**
these may contain pictures, drawings, letters, words, sentences, and/or symbols that represent objects. If you cannot speak, you can communicate your needs to others more easily with these devices by pointing to a specific symbol.

- **Electronic devices:**

these produce speech when you activate the device, either by using a keyboard, switches, or other methods. There is a lot of variety in electronic devices and many input methods can be used.



We did not show all assistive devices for communicating here. There are other types of devices that can be helpful. You can ask your health care professional or search on the Internet using words like communication aids, and alternative and augmentative communication, for more information.

Which assistive devices can help with leisure activities (cards, golf, knitting, etc.)?

- **Cards:**

Card shuffling will be easier with an automatic card shuffler. Also, you can give your hand a break with a cardholder when it feels tired. The cardholder is a useful way of playing cards with only one hand.



- **Gardening:**



You can sit on a stool instead of kneeling. If you purchase a garden hopper (see picture) you can push with your feet to move around.

A specially designed garden tool may also be helpful if your arm is weaker after your stroke. For example, the extra support offered by an arm cuff on these garden tools makes gardening less effortful. Look for a handle that is

comfortable and easy for you to grasp.

- **Embroidery:**

If you enjoy embroidery don't stop just because you only have one hand to use. An embroidery hoop holds the fabric and twists to a convenient angle.



- **Fishing:**

A fishing rod holder straps the fishing rod to your body so you can troll and cast with one strong arm. The fishing rod can also be attached to the wheelchair.

- **Golf:**

You can tee a golf ball standing with a tee tool. You can pick up the ball with a claw so you do not have to bend down as much.

With a specialized golf glove, your golf club is attached firmly with Velcro fastening and allows a controlled swing even if you now have a weak grip.



Which assistive devices can help for walking?

One study looked at how a cane affects walking after a stroke. In this study some patients were given a cane and others were left to walk without a cane. It was noted those who used the cane improved on most aspects of walking. The results of this study are promising. But, because this study was not of good quality, we still can't make any firm recommendations.

Thus, to this date there is no solid evidence that assistive devices can help with walking. More research is need before we can support the use of cane or other assistive devices to walk.

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