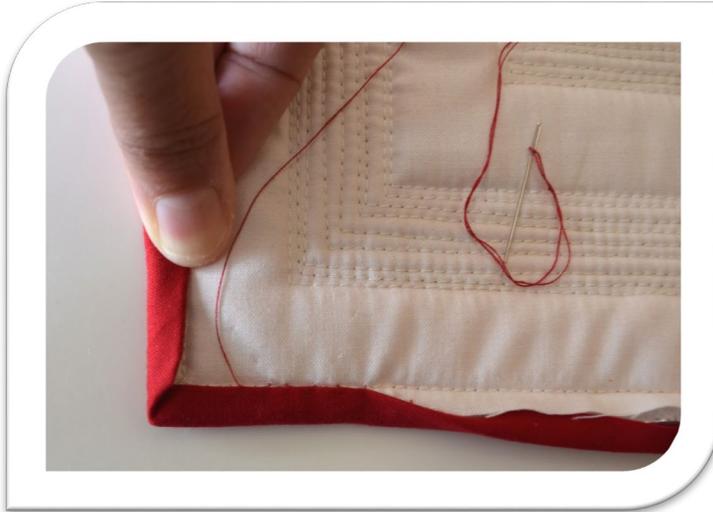


AT FOR SEWING



You are going about your daily activities when all of a sudden, a button falls off your favorite blazer or the hem of your pants gets caught on something and tears away at the seam. Has this ever happened to you? This is a predicament that many people have experienced. Sewing the button back on or restitching the hem is the clear and obvious solution to this

predicament, and there are assistive technologies that may help make needlework (i.e., threading the needle, working the needle through the fabric) easier for you if you are blind or have low vision; or have arthritis, limited hand dexterity or strength, or the use of only one hand. This guide will take you through the sewing process step-by-step and highlight some of the different types of adaptive sewing devices and machines that are available to aid you.

Adaptive Sewing

Step 1. Cut the thread

Sewing requires more than just a needle and thread. You need scissors to cut thread or fabric. If you have arthritis or limited hand dexterity or strength, you may need adaptive scissors that require less exertion and agility than traditional scissors.

One option is the [Peta Easi-Grip® Scissors](#). These lightweight, self-opening scissors have 3-inch-long stainless-steel pointed blades and a continuous loop handle with a built-in spring mechanism that will automatically reopen the blades once released. Available



[Peta Easi-Grip® Scissors](#)

in right- or left-handed models, the Easi-Grip® Scissors come with a blade guard for safe storage. To use:

1. Squeeze the handle either using your thumb and fingers or your fingers and palm to close the blades on the fabric to cut it.
2. Relax your hand and release pressure off the handle to allow the built-in spring mechanism to return to its original position and automatically reopen the blades for you.
3. Repeat until you have cut the desired length of fabric.

Another option is the [Titanium Easy Action™ Scissors \(No. 8\)](#). These self-opening scissors consist of two 10-inch-long stainless-steel blades connected to an ergonomically contoured handle with Softgrip® for increased cutting control and comfort. They also have a spring-action design that



Titanium Easy Action™ Scissors (No. 8)

gently and automatically opens the blades after each cut. The blades are coated with titanium to resist wear, scratches, and corrosion, and they are strong enough to cut a wide variety of fabrics (e.g., denim, silk, etc.). And unlike standard scissors that have blades aligned with the handle, the Titanium Easy Action™ Scissors' handle is positioned at an angle from the blades. This is to provide you with increased control when cutting fabric. To use:

1. Lay the fabric flat on the tabletop.
2. Place one edge of the fabric in between the scissor blades.
3. Cut away without having to lift the fabric or the scissors.

Step 2. Thread the needle

A standard sewing needle is a thin piece of metal used for stitching. It has a point on one end that is sharp enough to pierce through fabric and a hole (known as the eye of the needle) on the other end to pull thread through. If you are blind or have low vision or have a fine motor disability, manipulating the thin thread through the narrow eye of the needle may be extremely difficult. To address this issue, developers have devised alternative solutions.

Adaptive needles, such as the [T60 Easy to Thread Hand Sewing Needle with Large Eye](#), are one solution. This needle looks and feels similar to a standard needle, with the exception of the eye. The opening of the needle's eye is much larger than the eye of a standard needle, making it easier for you to thread. Measuring a total of 2.4 inches in length, you can use the T60 Easy to Thread Hand Sewing Needle with Large Eye as you would any standard needle. To use:

1. Hold the needle in one hand and one end of the thread in the other.
2. Insert the end of the thread into the eye of the needle.
3. Grab the short piece of thread that passed through the eye of the needle on the other side.
4. Join the shorter end of the thread with the strand that is still connected to the spool and pull out however much you need.
5. Cut the strand that is still connected to the spool.
6. Align the two ends of the strand together and tie a knot.



T60 Easy to Thread Hand Sewing Needle with Large Eye

Another option is the [Easy Threading Needle](#). Unlike standard needles, this needle has a small groove with an opening at the top of the eye that allows you to tug the thread through the groove as opposed to inserting it through the narrow eye. To use:

1. Jab the pointed end of the Easy Threading Needle into a piece of cork or a dry bar of soap (it should be standing upright with the eye at the top). This is to keep the needle securely in place as you thread it.
2. Twist the strand of thread around two fingers (one from each hand) until approximately a 1- to 2-inch line of thread is tautly stretched between your two fingers.
3. Run the stretched line of thread against the eye of the needle until you find the groove.
4. Pull the strand of thread down through the groove and into the eye. You can check to make sure that the needle is properly threaded by gently pulling up on the thread. If it remains securely inside the eye, you can move onto the next step.
5. Cut the length of thread you need from the spool, join the two ends of the strand together, and tie a knot.



Easy Threading Needle

Another type of solution for threading needles comes in the form of needle threaders. Unlike adaptive needles, needle threaders are devices that help you thread standard needles easier. One low-tech option is the [Wire Loop Threader](#). This gadget consists of a slender metal tab or handle connected to a thin wire, flexible loop. The loop is where you insert the thread through, and because it is larger than the standard eye of a needle, it may be easier for you to insert the thread through the loop as opposed to the eye. To use:



Wire Loop Threader

1. Push the wire loop through the eye of the needle.
2. Insert the thread through the wire loop.
3. Pinch the tab with your thumb and index finger and gently pull the tab and the wire loop through the eye of the needle. The wire loop will pull the thread through the eye as it comes out. You can now remove the Wire Loop Needle Threader.
4. Pull the shorter end of the thread out through the eye of the needle and join it with the strand that is still connected to the spool.
5. Cut off however much you need and tie the two ends of the strand together in a knot.

Another option is the [Hexe Threader](#), a small plastic device that holds the needle upright and pushes the thread through the eye of the needle with just the press of a button. It has a plastic base containing a pointed spool holder on one end and a small chute on the other for holding the needle. There is a button to the right of the chute and a small groove in between the spool holder and the chute. For added convenience, it also has a built-in tread cutter. To use:



Hexe Threader

1. Place the spool of thread on the device's spool holder.
2. Insert the needle (with the eye of the needle pointing down) into the device's chute.
3. Take the end of the thread and drape it across the groove in the device.
4. Press down on the device's button to activate a small rod that pushes the thread through the eye of the needle until the thread protrudes from it.
5. Pinch the protruding piece of thread between your thumb and index finger to pull it through the eye, while releasing the button, and join it with the strand that is still connected to the spool. Your needle is now threaded!

6. Cut off however much you need using the built-in thread cutter and tie the two ends of the strand together in a knot.



[Sit-On Needlework Frame](#)

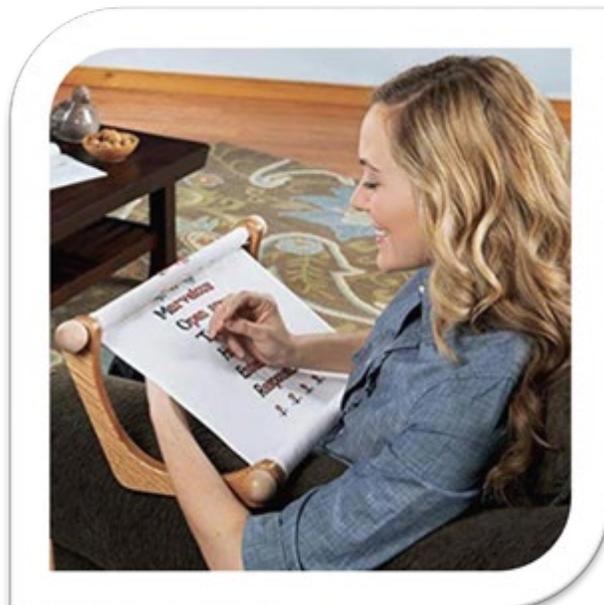
Step 3. Sew

Now that you have cut the fabric and threaded the needle, it is time to sew. Developers have designed sewing clamps and stands to hold up garments you are sewing, which may aid you if you have limited hand dexterity or strength as well as the use of only one hand.

One option is the [Sit-On Needlework Frame](#). This is both a holder and stand that clamps the garment in need of mending above your lap and directly in front of you so that you can focus on sewing. It consists of a split rail scroll frame that has two 4.5-inch-long clamps mounted on top of a

height-adjustable stand, the bottom of which can be tucked underneath your legs as you sit and sew. The clamps can be positioned 0 to 18 inches apart and will hold a garment tautly in front of you, giving you clearer access to the part of the garment that needs mending. And when you are done, you can twist the knob, rotate the angle of the frame so that the back of the garment is facing you, and tie off the stitch. In addition to sewing, the Sit-On Needlework Frame can be used for cross-stitching, crewelwork, embroidery, and beading.

Another option is the [Original Lap-Stitch Frame](#). This frame is designed to rest on your lap or tabletop, giving you the opportunity to stitch without having to hold up the frame or fabric. It consists of a square-shaped frame with two dowels (wooden pegs that hold the fabric taut against the frame) that arcs back at a 140-degree angle. The frame contains four sets of dowels of varying lengths to accommodate different-sized projects. The sets include 6-, 9-, 12-, and 18-inch-long dowels, and they offer a working window that is approximately 10



[Original Lap-Stitch Frame](#)

inches in length (each dowel can be screwed into the frame using the provided knobs). In addition to sewing, the Original Lap-Stitch Frame can be used for cross-stitching, crewel embroidery, and quilting.

Adaptive Sewing Machines

If you have limited strength, dexterity, or movement in both of your hands, you may find using needles (even adaptive ones) difficult. But do not fret—developers have created an alternative solution for you as well...adaptive sewing machines! Before we start exploring these devices, let's first familiarize ourselves with the standard sewing machine.

A sewing machine is a type of equipment that uses a mechanically driven needle to stitch cloth. Here is a brief overview of some of the [major components of a standard sewing machine](#):

- Bobbin – a spindle located near the bottom of the machine on which the thread is wound;
- Flywheel (or hand wheel) – a wheel that allows you to manually lower and raise the sewing machine's needle onto or off of the fabric;
- Needle – a sharp, pointed instrument that drives the thread through the fabric;
- Needle (or throat) plate – a flat, metal plate underneath the needle that goes through when making stitches into the fabric;
- Feed dogs – small, metal ridges on the needle plate that pull the fabric through the sewing machine;
- Presser foot – found below the needle, the presser foot presses the fabric down against the feed dogs, which helps to keep the fabric from slipping; and
- Foot pedal – a pedal that controls the speed at which your sewing machine makes stitches. Pressing down harder on the pedal will make the feed dogs move faster. So, the harder you press, the faster the fabric will move over the needle plate and the faster the machine will make stitches.

Now that we are better acquainted with the standard sewing machine, let's delve into their adaptive counterparts. One example is the [Shad Sewing Machine Model 607Arc2006/7](#)



Shad Sewing Machine Model 607Arc2006/7

This wireless, remote-controlled sewing machine consists of an on/off switch, an interface unit mounted on the machine, a speed controller, and a foot pedal. When you press the switch, the interface unit will pick up the radio signal from the switch and make the sewing machine either start or stop stitching. You can program the speed at which the sewing machine operates using the speed controller (it will stitch at that preselected speed from there on out) and monitor the speed while in operation using the foot pedal. Weighing 18.74 pounds, the Shad Sewing Machine recharges independently and will provide up to 8 hours of continuous use when fully charged.



ByteSwitch®

A mouth-controlled sewing machine is another option, especially if you have limited to no use of your legs in addition to upper-extremity disabilities. Bed Handles, Inc., collaborated exclusively with the Singer Sewing Machine Company to present the [ByteSwitch® Sewing Machine](#). This device looks like a standard sewing machine. However, in place of a foot pedal, it has a controller made of silicone that you hold in your mouth and bite down on. The controller allows you to adjust the speed of your sewing depending on how much pressure you apply to it—the harder you bite down, the faster the machine sews. Connected to the sewing machine by soft tubing, the controller comes with lapel and clothing clips so you can clip it to your shirt and prevent it from falling to the floor while in use.

For More Information

[Contact us](#) at AbleData to learn more about the products described in this guide, as well as other AT for sewing.

References

Duffy, M. A. (n.d.). Using a Hexe or "Witch" Needle Threader. Retrieved from <http://www.visionaware.org/info/everyday-living/recreation-and-leisure/arts-and-crafts/sewing-and-embroidery/using-a-hexe-or-witch-needle-threader/12345>

SewMyPlace. (2015, October 27). *Sewing machine anatomy: A guide to the parts of your sewing machine*. Retrieved from <https://www.sewmyplace.com/tip/sewing-machine-anatomy-a-guide-to-the-parts-of-your-sewing-machine>



The contents of this publication were developed under a contract from the National Institute on Disability, Independent Living, and Rehabilitation Research (Contract No. GS00F0083N, Order No. HHSP233201800215G). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this publication do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.

Address: AbleData, 103 W Broad Street, Suite 400, Falls Church, Virginia 22046
Telephone: 800-227-0216 (Se habla español.)
TTY: 703-992-8313
Fax: 703-356-8314

All AbleData publications, the AbleData database of assistive technology, and other AbleData resources are available on the AbleData website, <http://www.abledata.com>. Copyright 2018, New Editions Consulting, Inc.