Techniques are presented for sewing clothing for children or adults with handicaps. Considerations in sewing adapted clothing include the most appropriate type of pattern for a particular disability, fabric choices, and items needed for clothing construction. Eight sources of sewing supplies are listed, with descriptions of items available. Several publications of interest are noted. A method is offered for adapting a pants pattern or altering a pair of pants for a person in a wheelchair. Instructions are given for making vest-bibs and wrap-around skirts for wheelchair users. A reprint of an article from "Threads" magazine, "Keep on Stitching" (Sharon Gilbert), offers sewing project suggestions for persons who are physically challenged, focusing on sewing tools, pattern selection, fabric selection, fusibles, and fasteners. (JDD)
SEWING: EASIER WITH ADAPTATIONS

A stitch in time saves money. The Guest Editor for this publication is none other than our own Emily Brook, Editorial Assistant at the PAM Assistance Centre. Emily was formerly a Home Economics teacher in Elsie and Olivet Schools.

Perhaps you will be inspired to fashion some gift items using some of Emily's suggested devices and resources. If you have the interest, she leaves you little in the way of excuses for not sewing! So here is Emily:

--Arselia S. Ensign, Editor

The school year is well underway--and many times we find that clothing which fit a few months ago is now much too short, or doesn't fit in other ways. Clothing especially designed for the handicapped child or adult may be very expensive, possibly not available in colors or styles you would choose, or just not available in stores in your area. There are many catalogs featuring special clothing, but at times these same types of garments can be made at home or easily altered to your needs.

How could I possibly find time to sew? I'm not able to sew! The list is long and varied. We would like to focus on sewing techniques, devices, books and ideas to help a person who would like to sew--for fun or out of desperation--to realize the wealth of information available in the marketplace.

One of the first considerations to be addressed is: What type of pattern would be best for my particular disability or problem? Raglan sleeves or petal sleeves instead of set-in sleeves will be less restrictive in a garment. Long, full sleeves might present a fire danger if the person is able to use a stove. Flared skirts are pleasing, but too full or too long skirts can create a mobility hazard. Many patterns available commercially can be adapted to particular needs. Jackets can be altered to fit a wheelchair user without wrinkling; pants can be altered so that there is no gap in back or wrinkles in front. Extra pleats, and fullness can be added if needed. Zippers can be added in the seams; Velcro can replace buttons or even a shoulder seam. Skirts and pants can have cut out seats, or special lapped construction. This is one advantage to sewing--custom fit.

Are some fabrics better suited to clothes for the handicapped? Yes, there are some fibers and fabrics that for various reasons will not be the best choice for handicapper clothing. Wool and wool blends can be soft and warm. However, these should be machine-washable. Blends containing only 20% wool, which is more easily washed, can feel just as good, have a longer life, and keep their shape better. Cotton, always a good choice,
cool and absorbent. It is sometimes blended with polyesters, which makes for easier care. It
can be drip dried with a minimum of ironing, meaning it will stay looking nice while being worn. 
**Nylon** is a cold clammy fabric unless the yarn is bulked or crimped to make it absorbent and
stretchy. Nylon in undergarments, however, tends to be clingy, making it harder to put on or
take off. **Polyester**, a man-made fiber, can be found in thin woven or knitted fabrics. It is
most often blended with cotton. **Acrylic**, a versatile fiber resembling wool, is used for knitted
or jersey garments and for outdoor clothing. Other good choices of fabrics are **velours, single
knit jersey, and stretch terry**. A local fabric store will have sales personnel who are very
knowledgeable about fabric. Armed with a pattern of your choice, in a size that will fit, and
your color preference, you will be ready for your creation.

**What items are needed for clothing construction?** One of the most important items is
a **sewing machine**, which can be rented at a moderate cost if desirable. You will need some way
to cut fabrics. **Scissors** (sharp) preferably with a bent handle are easier to use. The cost will vary, depending on quality from $10 up. **Electric scissors** are easy to manipulate. For straight cutting, a
**rotary cutter**, such as an Olfa, costing about $12, and a **self-healing board** at a cost of $10-$35 (depending on size) makes for fast easier cutting. The combination is perfect for arthritic or handicapped hands.
The cutters come with a straight or curved handle. **Magnetic pin catchers** come in a variety of styles. One will fit on the sewing machine. A liquid **glue stick** (water soluble), can be used for "glue
basting" lace or trims in place before stitching. A new item, **Glue Wash** will glue badges, athletic letters or decorative patches in place. This is hot water and
dryer safe. It will mend tears, secure hems and prevent fraying of fabrics. The cost is $2-$3
per bottle. **No-Fray** is a seam sealant that stays soft. It is a permanent, machine washable,
colorless way to stabilize fabrics that tend to fray. It also stops runs in nylons. The cost is
$2-$3 per bottle. Another useful item is **non-woven interfacing**, such as Pellon, which is an
iron on interfacing for stabilizing facings, pockets and buttonholes. **Stitch witchery**, a bonding
net, is useful for securing hems or decorations. It comes by the yard or in 1 inch strips, and
can be attached with a steam iron. Most of the items listed above and below can be found in
larger fabric stores, or ordered directly from a listed source.

One valuable catalog is CLOTHILDE, 1909 S.W. First Ave., Fort Lauderdale, FL 33315-2100. One of the items that caught our eye is the **Third Hand**, a clip to hold fabric taut,
for hemming, embroidery, or any hand sewing. The cost: $4.16. Also there is a **Needle Grabber** to help pull a needle through fabric with ease. Cost: $.80. Of interest could be
**Patterns by the Yard**, a no-trace, translucent pattern to pin on fabric, cut and sew. No need to
try to fit each piece on the fabric. It comes for skirts, pants, tops, dresses, and lists
variations for each pattern. Cost: $7.12. There are needle threaders, magnifiers to attach to
the sewing machine and other interesting devices to make your sewing task easier. They also
carry rotary cutters and mats.

**VIS-AIDS**, 102-09 Jamaica Ave., P O Box 26, Richmond Hill, NY 11418, has available a **EZ In Needle Threader** for $1.29. This practical, easy to handle device threads the finest needles in a jiffy. They also have
self-threading machine needles (for machine or hand sewing), self threading needles, and hem clips to eliminate pinning or basting apparel or drapery hems.

**AMERICAN FOUNDATION FOR THE BLIND**, Consumer Products, 15 West 16th St.,
New York, NY 10011, carries **sewing machine magnifiers** ($8.75), fiberglass measuring tape
with tactual indications which are reinforced holes, a small hole every 1/2" and a larger hole
at every 1", with a double hole every 12" up to 5 foot. This will not stretch. Also available is
a **mini-battery lite** ($18.00) with folding arm and swivel reflector for direct light where
needed. The arm extends 9", and operates on 2 regular C size batteries. A **high intensity**
magnifier lamp ($42.95) has a 5' distortion-free 2X acrylic magnifier attached to the lamp shade. Optimal distance of lens from reading material is approximately 8". This provides exceptionally clear and enlarged images.

INDEPENDENT LIVING AIDS, 27 East Mall, Plainview, NY 11803, offers magnifiers, self-threading needles, magnifiers, and various needle threaders. A new item, electric iron safety guard ($41.95) is designed to help people iron clothes with maximum safety and convenience. This clever device protects the hands from being accidentally burned and enables you to use your hands as a guide to ensure the job is done properly and safely.

MAXI-AIDS, 86-30 102nd st., Richmond Hills, NY 11418, offers various needle threaders ($0.65 to $2.65) as well as machine magnifiers ($8.90).

MAGNISTITCH, P O Box 2424, Birmingham, AL, 35201, has a handy around-the-hand magnifier for $14.95. This fits the hand and would be ideal for hand sewing or embroidery.

For the sewing machine, TYSINGER SEWING AND VACUUM CENTER, Route 9, Box 567, Asheboro, NC 26203, sells a “Speed Box” arm activated control. Just unplug the existing control and plug in the “Speed Box” control. This modification would be great for wheelchair users. The cost: $125.00 plus $5. shipping and handling.

HERRSCHNERS, Hoover Rd., Stevens Point, WI 54587 carries sewing aids, craft materials, craft kits, and instruction books. They also have Fiskers, sewing scissors with surgical steel blades for left or right handers. Price is $12.99.

PUBLICATIONS OF INTEREST

CLOTHING DESIGNS FOR HANDICAPPED, by Anne Kernaleguen, University of Alberta Press, Edmonton, Alberta, CANADA, can be ordered from MADDAK or your medical supplier. This valuable book gives directions for altering clothing and patterns for special needs. It shows designs for persons with limited finger and arm movement, those using crutches, braces or casts, the incontinent, blind or elderly. It is geared to the average home sewer and illustrated with drawings and photographs.

COOPERATIVE EXTENSION SERVICES OF MICHIGAN STATE UNIVERSITY, East Lansing, MI 48824 or County Extension Offices have a bulletin series available, Clothes for Independent Living. These have a minimum cost.

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<td>Clothing Comfort when using Crutches</td>
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CLOTHES FOR DISABLED PEOPLE, by Maureen Goldsworthy, published in Great Britain by B.T. Batsford, Ltd, 4 Fitzhardinge St., London, W1H 0AH, contains information on adapting purchased clothing as well as adapting commercial patterns to fit various needs. There are also knitting and crochet patterns, aids to dressing and sewing tips.

SINGER LIBRARY, books by Cy DeCosse, Inc. 5900 Green Oak Drive, Minnetonka, MN 55343, is a series on using the sewing machine to save time, sewing for children, and adjusting for fit. Each book is $12.95 and they are available in various sewing centers.
CLOTHING FOR DISABLED PEOPLE, Rehab Brief, Vol. IV, No. 4, Feb. 27, 1981, available from the National Rehabilitation Information Center, 8455 Colesville Rd., Ste. 935, Silver Spring, MD 20910-3319, is a concise useful survey of clothing problems and solutions from the wearer's perspective.

HOW TO MAKE SEWING PATTERNS, by Donald H. McCunn, available from The Disability Bookshop, P.O. Box 129, Vancouver, WA 98666. Cost: $10.95. This book contains a fast, easy method of drafting patterns so the fit is totally exact. It is in slightly larger print and contains many illustrations.

HOW TO ADAPT STYLISH CLOTHING FOR THE MOVEMENT IMPAIRED, by JoAnn Wright, Designer. These are unique videos offering live action procedures and drawings to make adapting clothing easy. They are available from Therapy Skill Builders, 3830 E. Bellevue, Dept. C-12, Tucson, AZ 85716. The cost is $49.95 each. Titles are: #4173-C Men's Wear, #4174-C Ladies Wear, and #4175-C Children's Wear. Each video tape runs 30 minutes.

THREADS, a magazine from The Tauton Press, 63 South Main Street, Box 355, Newton, CT 06470-9959, is a treasurehouse of information for sewing and craft enthusiasts. It features sewing hints, pattern drafting, embroidery ideas, knitting and crochet patterns, quilt making ideas and procedures as well as ideas as to sources of supply. The cost of a subscription is $22 per year (6 issues).

For further reading check your local bookstore, or write various pattern companies, such as Simplicity, Butterick or Vogue.

Here is a way to adapt a pants pattern, or alter a ready made pair of pants for a person in a wheel chair. This adds proper ease to pants back to cover waistline, and will remove excess material from pants across stomach area.

Procedure for pants pattern:

1. Cut pattern horizontally across hip line (about 9" below waist) from center back to side seam.
2. Pivot to open up the slit 2". (Fig. 1)
3. For up to 4" alteration, a second horizontal cut can be made and each cut spread up to 2". OR as shown in Fig. 2, the pattern can be extended above the waistline.
   a. Mark a point 4" above center back waistline point
   b. Angle from this point to existing side waistline point
   c. Complete center back line.
   This procedure can also be used to alter commercial pants to eliminate the gap at the center back. (Fig. 3)
4. For pants front, at a point about 5" below waist, make a fold 2" deep at center front, tapering to nothing at side seam. (Fig. 4)
5. Smooth resulting angles and cutting lines as needed.
IDEAS FOR GIFTS

Vest-Bib

Bibs made to look like a vest are very appropriate attire for men. A variety of colors and fabrics are suitable including: flannel, polyesters, corduroy and cotton. Lining could be terry, plastic or both.

To make Vest-Bib pattern: Mark off 6" squares on pattern paper or brown wrapping paper. Draw pattern to scale from drawing in diagram. Fabric 30" square is needed for this size. Ties can be made of fabric and attached at small square symbols, or elastic bands can be used and fastened with hook tape. The front and lining of the bib are stitched, right sides together, leaving a 3" opening for turning.

Wrap around Skirt for the Wheelchair User

Easy to put on and comfortable to wear, this wrap-around skirt is ideal for the wheelchair user or incontinent woman. Just as warm and fastened more securely, this skirt eliminates the need for a lap robe. Use quilted or warm fabric.

Mark off 12" squares on pattern paper or brown wrapping paper. Draw pattern to scale from diagram. Be sure to note arrows that mark the straight of fabric (measure in from selvage). If using skirt pattern, cut 3" below natural waistline at mid-front to avoid puckering across lap. Use hook tape closures on waistband in back. Finish edges with bias tape.
Customizing clothes and adapting fashion to our own lumps and bumps is nothing new. Over 70 years ago, the Butterick Company advised seamstresses that being abnormally stout or thin was no cause for concern because skillfully planned and fitted clothes could conceal almost any physical defect.

Butterick's advice is still relevant. By sewing for yourself, you can design a garment that reflects your favorite fashion in the exact color, fabric and details you desire. In this sense, designing doesn't mean starting from scratch, but using existing patterns, fabrics and tools with minimum stress and maximum satisfaction.

A sewing project can seem nearly impossible to a person who is physically challenged. When working with my hands became difficult as a result of rheumatoid arthritis, I began to modify my sewing techniques. Ease of dressing also became an issue. As I struggled with a painful, unyielding shoulder joint and fingers and wrists that are often stiff, it became more and more important that my clothes be easy to get into and out of and that they express my personal sense of style and fashion.

I began to look critically at the sewing techniques and products I used. What I developed is an aggressive approach to sewing, one in which you don't follow a standard, but develop your own style, using only what works for you. You skip steps that don't work, add steps that help, and collect tools from any source.

Sewing for yourself allows you to create garments that will fit your physical needs while also fitting your personal style and building on your assets with aplomb and inventiveness. With an eye to color, shape and texture, you can incorporate generous openings and fastenings that are easy to use and reach. You can add style and flair to garments that suit all aspects of your life, including an active professional career and a busy social life.

Some of the methods I'll describe here may seem like shortcuts, but if longer, slower methods work better for you, then those are the methods you should choose. This is an opportunity to learn about your skills and assets; to embrace your likes and discard dislikes; to recognize your right to pace yourself and to experiment.

**Sewing tools**—My definition of a "tool" is anything that helps save time, avoid fatigue and eliminate stress on your hands. For instance, a storage unit that holds implements within easy reach so that you don't have to lift them up or down or reach over your head is definitely a sewing tool. So is a table that allows your machine to stay set up all the time.

A good desk chair that protects your posture is as important at your sewing table as it is at your desk. A chair with wheels is even better, as it facilitates movement between the ironing board and the sewing table.

My favorite time-saving sewing tool is a notebook with fabric swatches, pattern numbers and sketches for clothing I've completed and clothing I would like to make. Since I find it uncomfortable to walk or stand, I shop as quickly and efficiently as possible, and the notebook helps keep me organized. It's invaluable for matching styles and coordinating colors. In it I can note details that I would like to repeat, such as a unique closure, as well as mistakes to avoid in the future, such as elastic that twists in a waistband or a hard-to-reach fastener.

For cutting out a garment, pattern weights are excellent tools. They hold pattern pieces securely onto the fabric and eliminate the need for pinning.

Weights are meant to be used with a rotary cutter that will not lift the fabric from the cutting surface. If arthritis causes pain in your wrists, you may find a bent-handed rotary
cutter easier to use than one with a straight handle. When rotary cutters don’t fit the
situation, you might give electric shears a try. Try several types to be sure you select the
ones that are easiest for you to operate.

For constructing garments, try using long, slender, glass-headed quilting pins. They are
sharp, work well on all types of fabrics and are easy to see when they drop on the floor. A
good tool to use with pins, which will save your fingers and patience, is a magnetic
pincushion. A powerful magnet holds your pins and picks them up in a snap if they spill. A
complementary tool to make for yourself is a yardstick with a magnet glued to the end.
You’ll thank yourself every time you have to retrieve a pin from the floor.

Although I avoid handwork as much as possible, I haven’t found a way to avoid it
entirely. There are ways to make it easier, though. For hand-stitching, you might try using
long crewel needles because they have large eyes and are easy to hold and thread. To thread
needles, I use an ordinary needle threader, as I have difficulty using self-threading needles.

Needle-nose pliers and long-handled surgical tweezers are useful for pulling needles
through fabric or for grasping a tiny threadend. I am also never without my thread nippers,
which I squeeze with the palm of my hand rather than with my fingers. I prefer a soft
leather quilter’s thimble rather than a metal one because leather fits better on my finger and
stays put.

A good sewing machine is an excellent investment. Look for one that offers large
handles and levers instead of dials, tools to insert and remove the bobbin case (or a
top-loading bobbin case), finger push-pulls, push buttons, speed options, and controls that can be
operated by an arm or an elbow as well as a foot. Before buying a machine, look carefully at
how the rethreading system works and opt for an uncomplicated one.

Be sure to choose a machine with all the features you’ll need, but don’t pay extra for
those you’ll never use. A machine with a dependable straight stitch and a standard zigzag
stitch can accomplish many tasks such as overcasting seams, sewing on buttons and snaps
and making buttonholes. In addition, machine basting, staystitching, and easestitching can
help you avoid pinning in some cases and help your fingers do their job more easily in others.
Some machines have a special stitch that allows you to put blind hems in by machine.

Pattern selection--When selecting a pattern, look critically at the type and location
of openings the garment will have, the construction techniques, the number of pattern pieces
and the style. Multiple-sized patterns are easier to fit than those with just one size per
package. Burda, Kwik Sew and Stretch & Sew offer this feature in all their patterns, while
Vogue, Butterick, Style, McCall’s and Simplicity offer many choices with at least three sizes
per package.

Especially look at the small line drawings and read the descriptions to determine where
openings and pockets are located. Use your sewing experience to determine whether an
opening can be changed to a new, easier-to-reach location. The easiest-to-reach fasteners
and openings are usually on the front of the garment, from the mid-chest to the lap.

Consider the pattern’s basic shapes. Drop-shoulder lines, raglan sleeves, and kimono
sleeves are good for limited arm movement; wrap styles and garments with semi-fitted
elastic waists are easier to put on and take off than those with fitted waists. Skirts and
dresses with some flare are more comfortable and flattering for someone in a wheelchair,
and patterns with front drape can attractively camouflage a body brace.

Look for simple patterns, such as those labeled “Learn How to Sew,” “Very Easy,” and
“Quick.” And read through the directions before buying a pattern to be sure the sewing
techniques called for involve minimal hand and finger stress. Once you find a pattern that
works for you, you may want to make it in summer and winter versions.

Fabric selection - When choosing fabrics, look for ones that are relatively
wrinkle-resistant and that are easy to sew without a lot of basting. To prepare fabrics for
sewing, take all the nonwashables to the dry cleaner to be steamed and preshrunk. Run
washable fabrics through a cycle in your washing machine. This will ensure that the garments, after all your work, won't shrink in the first cleaning.

**Fusibles** - For me, the days of handsewn interfacings are past. With the variety of fusible interfacings and other fusible products to hold pieces in place, there's no need for basting.

Another helpful adaptation is pre-cut fusible waistband interfacing, which comes in different widths and is perforated especially for waistband application. When it's necessary to sew something onto the waistband by hand, this material is easier to sew through than stiffer interfacing.

**Fasteners** - Fasteners on your clothes should be easy to grab and operate, and the fewer the better. To secure openings, I prefer to use buttons with shanks or hook-and-loop tape, such as Velcro. Zippers can be made easier to grasp by tying a loop of ribbon through the zipper pull.

Sewing buttons on with elastic thread makes the button easier to push and pull through a buttonhole. To do this, use a crewel embroidery needle with a large eye to accommodate the elastic. Double the thread and leave the ends unknotted. When you sew into the garment, leave a six-inch-long tail of thread. Sew the button on loosely and keep testing the stretch to be sure you don't lose the elasticity of the thread. Three or four stitches through the button should be sufficient, since the thread is double. The outside of the elastic will fray if pulled through the fabric too many times.

After the button is securely sewn on, tie a knot, using the remainder of the thread in the needle and the long tail. Apply a drop of Fray Check to the knot to make sure it's secure.

Since I use Velcro a lot, I've learned some tricks for its application. Try using the new method of applying Velcro for greater holding power, developed by Velcro USA. Using this method, you leave about half an inch of the tape unsewn at the opening edge to create an anti-peel tab. Rather than separate quickly, the tab lifts slightly from the garment, creating greater holding power.

To avoid skipped stitches when sewing on "Velcro" or other hook tape, use a ball point or universal-point needle. Sticky-backed Velcro is difficult to sew and gums up the needle, causing the thread to break. On garments, apply Velcro so the soft fuzzy half faces the body, to avoid scratching sensitive skin. Close the fasteners before laundering and dry-cleaning to retain effectiveness. If lint gets caught in the hook side, brush it out with a stiff toothbrush.

Sewing needn't be a hobby of the past just because you have arthritis. With these tips in mind, you can dust off that sewing machine, choose a pattern and fabric and start stitching!