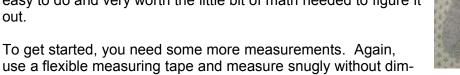# An HJS Studio Pattern:

Shaping Knee Socks

Be sure to visit my page about my generic sock pattern because this pattern builds on that one—this pattern gives the leg shaping of a knee sock, then you switch to the regular sock pattern for the foot.

The first pair of handspun socks I made for myself were knee socks, seen in the picture here. They were also the first pair of knee socks I ever made, yet they were no problem to shape and easy to make. You just need to have a good gauge swatch, and good measurements of the leg you want to fit. Plan to make the socks a little smaller in width, but not length, than the gauge suggests, for the very best, clingy, stay-up fit.

Knee socks need to be shaped as well, to help keep them up. A snug fit at the knee, increasing to a snug fit at the calf, then decreasing to your ankle stitches, all clearly visible in this photo, is easy to do and very worth the little bit of math needed to figure it out.

To get started, you need some more measurements. Again, use a flexible measuring tape and measure snugly without dimpling the flesh.

Additional Measurements For Knee Socks		
Abbreviation	**Measurement**	**Your figures**
K	Circumference of leg just below knee	
C	Circumference of calf at widest part	
K-C	Distance between just below knee to widest part of calf, then subtract about 1 inch / 1.25 cm	
C-A	Distance between widest part of calf to narrowest part of ankle, then subtract about 1 inch / 1.25 cm	
K-A	Distance between just below knee to narrowest part of ankle	

Holly Shaltz
PO Box 136
Boyne City MI 49712
(231) 582 3206
fax (231) 582 0426
holly@hjsstudio.com

Knee socks need to stay up to be comfortable to wear. In order to make sure your socks stay up, even when they've been slightly stretched by wearing, round down each of your circumference measurements slightly before multiplying by your stitch gauge. Aim for a multiple of eight stitches that's at least 1/2 inch / 1 cm smaller than circumference you measured for **K** and for **C**.

After recording these numbers, the regular sock stitch and row table will take over for the foot of the sock.

Cuff

Cast on **K x G** stitches, rounded down to a multiple of eight stitches slightly smaller than the leg you measured. Work as many rounds as you like, the longer the better, for a cuff you can pull up over your knee for extra warmth, and to help hold the sock up when folded down.

From ribbing to top of calf

Here you will increase at regular intervals from the base of the ribbing (just below your knee) to a little below the top of your calf. Step by step:

Stitch and Row Record for Knee Socks	
Sock section	**Number of stitches or rounds**
Cast on cuff stitches	
Ribbing rounds	
Rounds to calf from knee	
Number of rounds between increase rounds to calf	
Total calf stitches	
Rounds of plain knitting at calf	
Rounds to ankle from calf	
Number of rounds between decrease rounds to ankle	

1. Figure the approximate number of rounds from just below the knee to just above the top of the calf by multiplying **K-C x RG**.
2. Figure out how many stitches your calf section will have by multiplying **C x G** (rounding down to a multiple of eight for a snug fit).
3. Subtract the number of ribbing (cast on) stitches from this number. Round this number down to a multiple of 4.
4. You now have the number of stitches you will need to increase between the knee and the top of the calf.

Each increase round has two increases in it. I like to run these at the center back, with two plain stitches between them. Like so: Knit to last three stitches before end of round. Make 1, k1. Next needle: K1, make 1. Continue rest of round even. Consult a knitting instruction book for different ways to make a stitch. Yarn overs are easy and lacy. I like using what I call a 'backward loop', which is essentially a half hitch, when I'm making chore socks.

Divide the number of stitches you need to increase (step 4, above) by two to find out how many increase rounds are needed. Then divide the total rounds in the **K-C** distance by the number of increase rounds. That number, minus one for the actual increase round, is the number of rounds you work without increases between the increase rounds.

Chances are you have a fraction when you do that. Round to the nearest whole number, and see how many rounds it will take you to do the increases. If it lands you anywhere be-

fore the center of your calf, it will work. If longer than that, subtract one round from each set between increases, and see how that sounds. Remember, knitting stretches! Don't sweat this too much. You can always add or subtract a few rounds or increases/decreases if you need to. You can also knit something like one plain round, an increase round, two plain rounds, an increase round, repeated, if you think that will give the best distribution of increases.

From top of calf to bottom of calf

So, let's say you find you will be working two rounds even, then one increase round, to the top of your calf. When you've finished the increases, measure the knitting carefully between the stitches on the needle and the base of the ribbing. Be sure you don't measure the ribbing, as that's extra.

Subtract this length from **K-A** (distance between knee and ankle). That's how much you still need to knit for the leg. Then, subtract **C-A** from that number. Ideally you'll have about 1-2 inches / 2-5 cm left. This distance is what you will knit plain for the widest part of the calf, before beginning the decreases to your ankle. Having a plain section here makes the nicest-looking, smoothest-fitting sock.

If you have a smaller difference, then you may need to reknit the increase section with one fewer plain rounds between increase rounds because otherwise your calf section will look pointy. If your increases end well above the calf, the increases will end slightly above the fullest part of the calf, making a baggy section just above the calf. In that case, you will need to reknit the top section with about one more round between decrease rounds.   This sounds complex, but if you measure your gauge swatch—stitch and row—very carefully, you will probably get the shape right the first time.

Having figured out what length the plain calf section will be, multiply that length by your **RG** and knit that many rounds without increases or decreases.

From bottom of calf to ankle

It's time for decreasing, always fun when knitting! Just like before, we figure out how long this section is, how many stitches we want to end with, how many decrease rounds, and how many plain rounds between decrease rounds. Err, if at all, on the side of shorting the leg a touch. The ankle will fit better if the leg decreases end a bit above where the heel will begin. Decrease rounds are done about the same as increase rounds, if you like the idea of keeping two stitches between the decreases: Work to the last three stitches on the last needle of the round (the one ending at center back). K2 together, k1. Next needle: K1, slip 1, k1, pass slipped stitch over, and continue the rest of the round plain or in your chosen pattern.

Specifically:

1. Subtract the number of ankle stitches, **A x G**, rounded down to the nearest multiple of eight, from the number of stitches on the needle right now.
2. Divide that number by two to get how many decrease rounds you need.
3. Multiply **C-A x RG** to give you about how many rounds will be worked from the bottom of the calf to the top of the ankle.

4. Divide the total rounds by the decrease rounds. Round down to the nearest whole number.
5. Subtract one from that number to give you the number of plain rounds knit between decrease rounds.
6. If the number is a fraction, round down to a whole number.
7. Figure out how many rounds you will end up with and see if that ends you a little above the ankle.

When you've knit that section of your knee sock, all that's left is to continue the leg until it is definitely long enough to reach from just below the knee to where you will divide the foot to work the heel (the **K-A** distance).

You've finished a lovely, shapely, knee sock leg! Now you can continue with the sock pattern I devised, starting with the heel flap, and knit the heel and foot of your sock.