

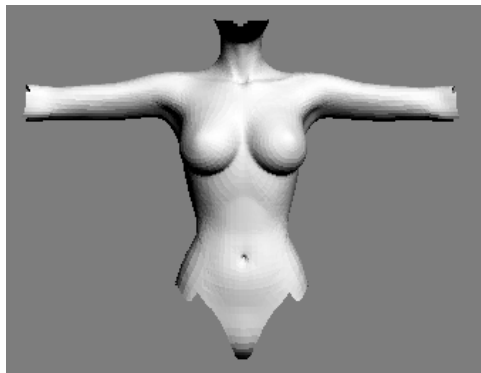
# Basic Clothing Modeling - The Shirt

Shirts can seem like a complicated matter - but don't let them scare you away from creating what you want for your Poser figures. They do take a bit more planning and work than a skirt, but once you know what goes into making one, they won't seem quite so scary.

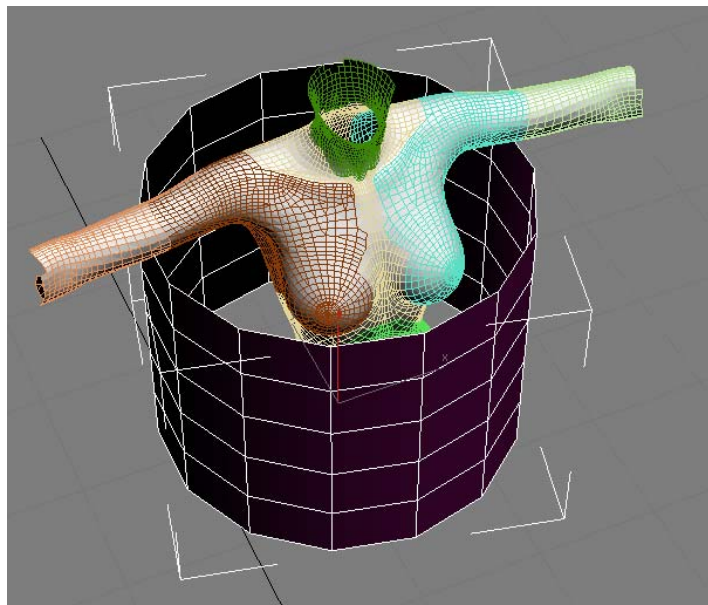
Now, remember that unless you're using 3dsmax, your screen isn't going to look the same as my screenshots. And with that, let's get started!

One of the easiest types of shirts to make would be a strapless tube top type thing for a female figure - and you can build one of these quite easily with just a cylinder primitive. (just like in the skirt tutorial!)

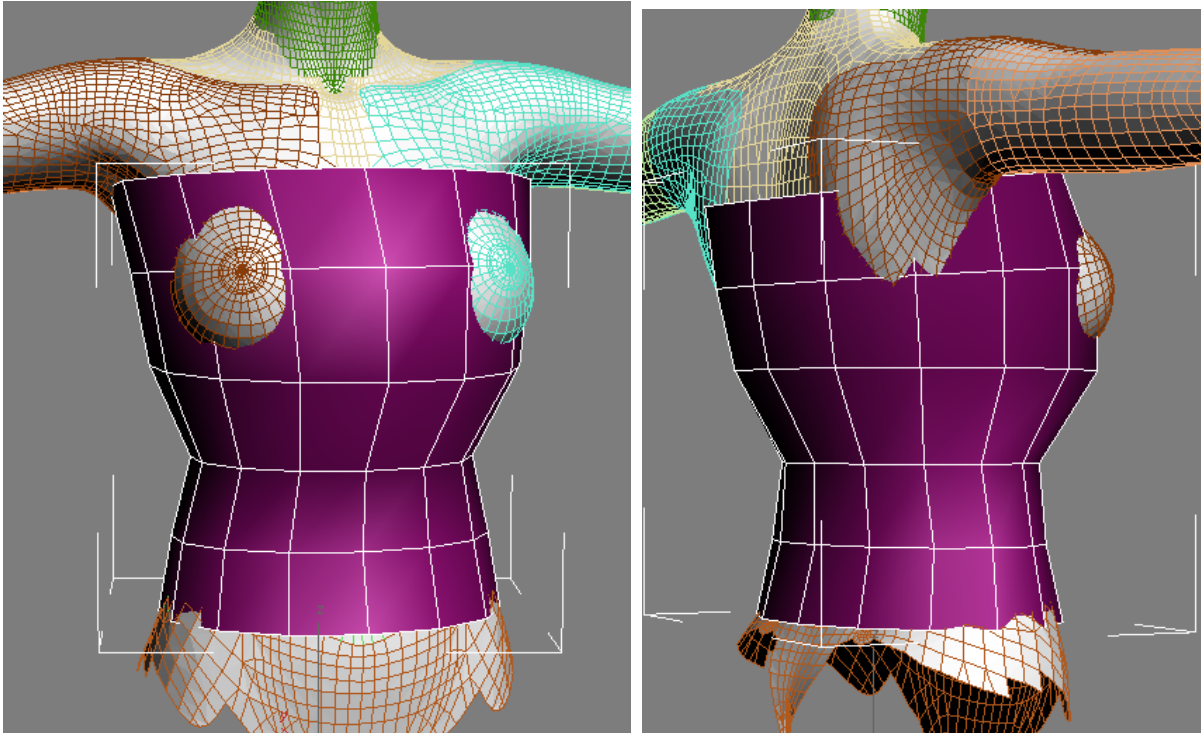
I've imported a figure to model around (in this case Aiko3) and deleted the parts I don't need for making a simple strapless top. This just helps give a 'cleaner' workspace - I don't need to see her toes if I'm making a shirt.



Next, I'll generate a cylinder. And by deleting the top and bottom cap polygons, I'll have a nice open tube to work with. Position the tube around the figure's torso.



Now, we just need to adjust the cylinder to match our figure's shape as close as possible. This can be accomplished by selecting each row of vertices, or series of edges and scaling and moving them until we have the desired fit/placement. The first part of this process is to get the general shape down, as you'll find you'll probably have to go in and adjust individual verts and/or polygons to pull them out of the body, or move them a bit closer.

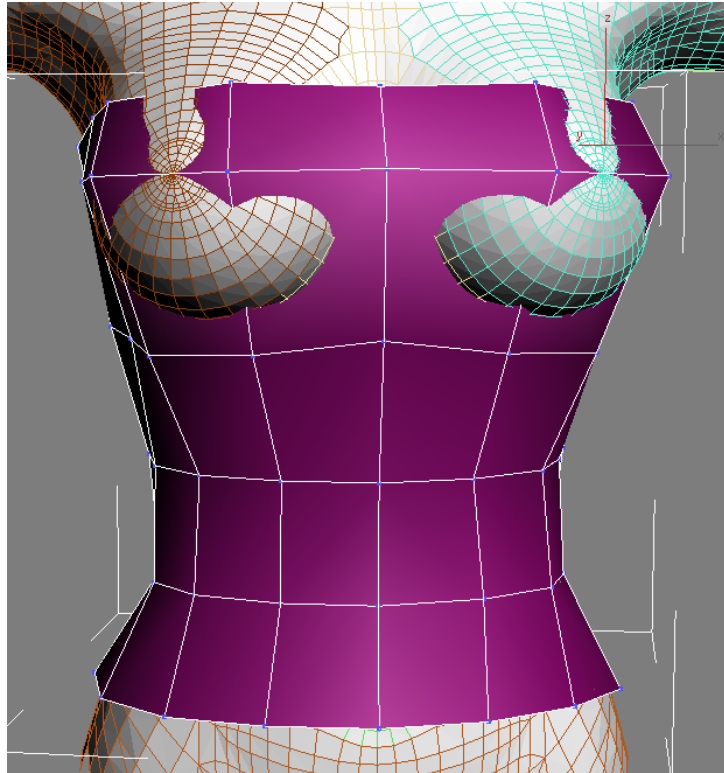


What? No, we're not making that kind of top - but this is where we have to go in and find tune things. Go in and snag those verts that may have ended up inside the anatomy we're trying to cover and pull them out, and adjust others closer to the body as needed.

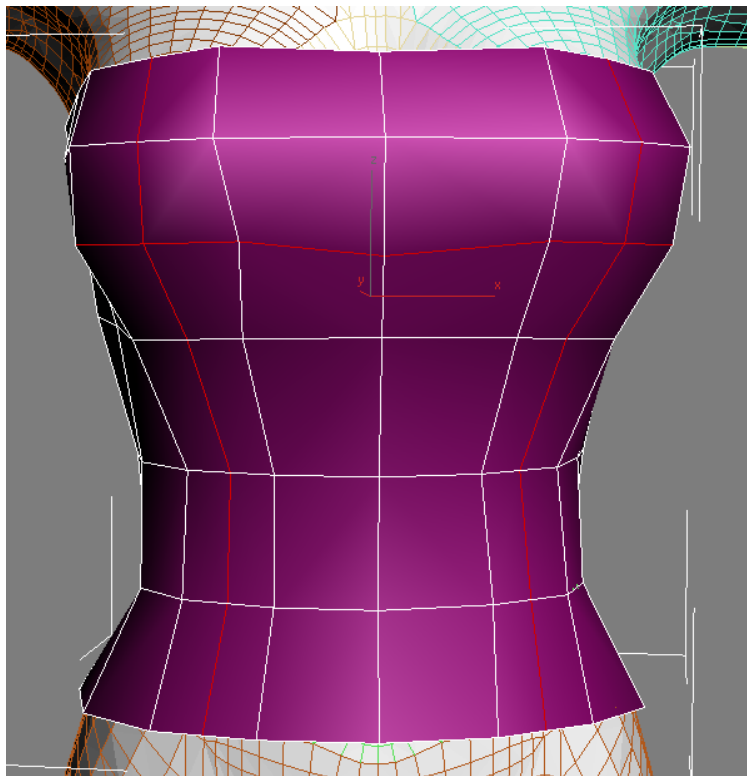
Here, I've further adjusted the shape, but you can see there are still some issues. I need a better fit around the chest, but that's proving difficult with the large polygons I ended up with in that area...so how are we going to fix that?

Fear not! (uh yeah...filler smilie time again)

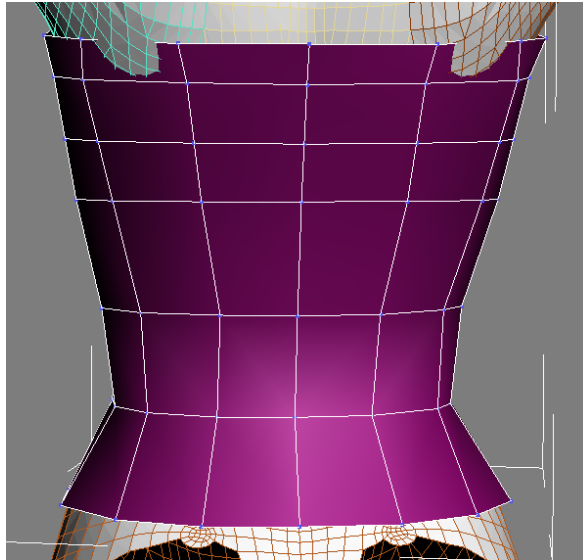




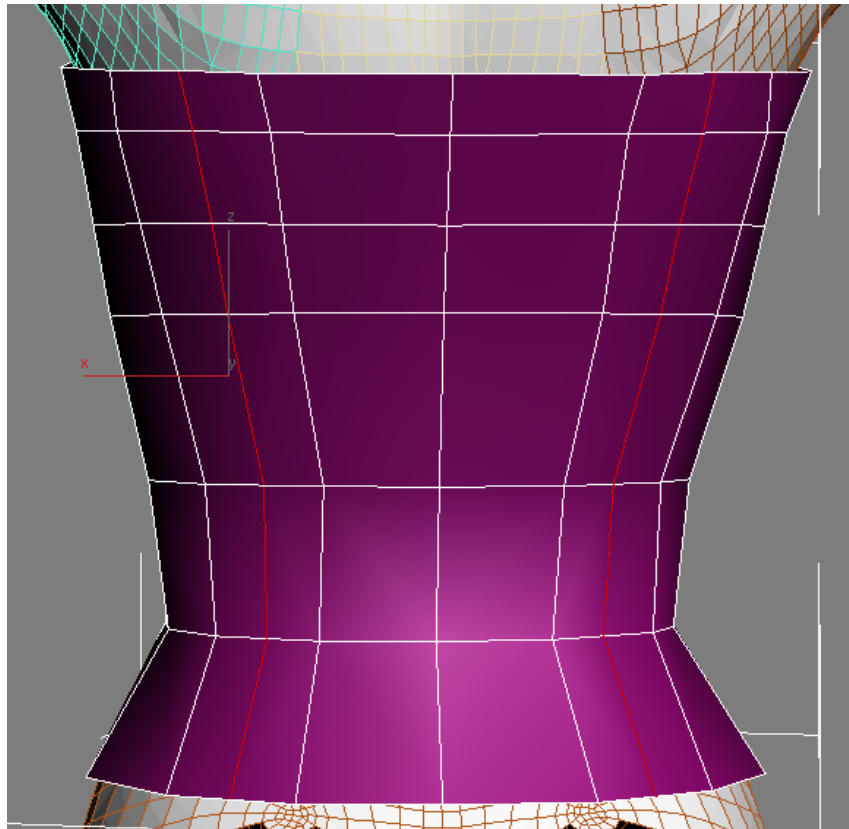
To solve the issue, I just need to split the larger polys into smaller ones and that will give me more to work with. The red edges in the image below are where I sliced the existing polygons to better fit around the chest of the figure.



A quick check of the back shows me I'm going to have to add in a couple more slices to work around the shoulder blade area - but that should just about do it for this top.



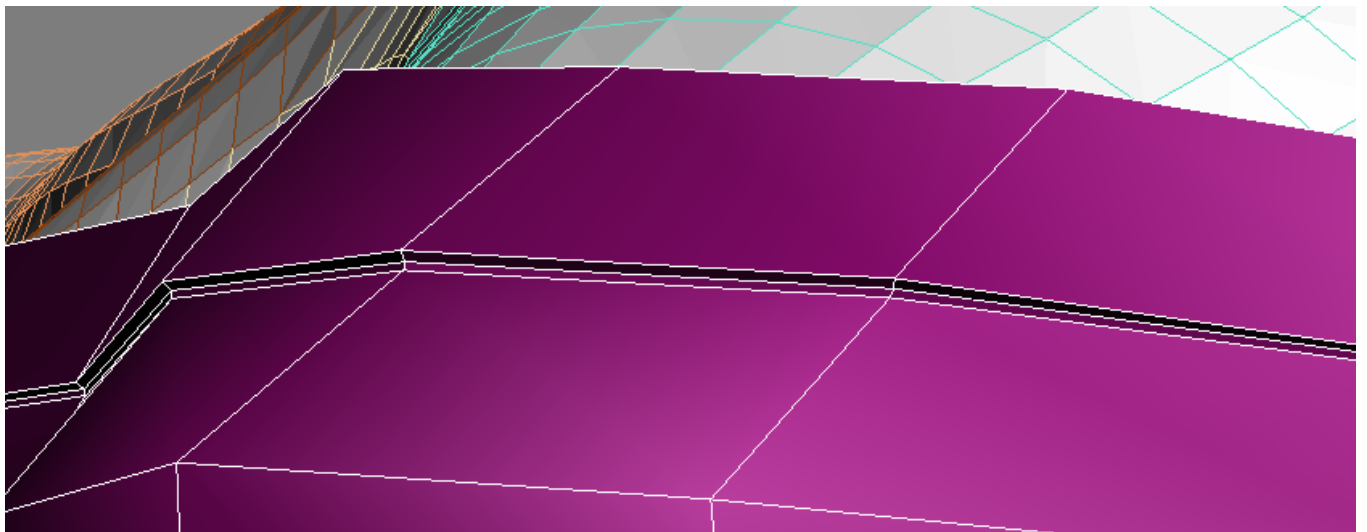
And here are my slices and my fixes for the back of the top. Our next step is to smooth/subdivide the mesh and see if there are any final adjustments to make.



Here's the top with a meshsmooth modifier on it. Looks pretty decent to me, though a little plain - but we can fix that up with no problem.



Let's add a bit of trim to the top and bottom edges to spice things up just a bit. Remember we want to do this to the base mesh without any smoothing/subdivide actions on it, so turn those off until later. I sliced the top row of polygons again, did a small extrude, and then made another slice close to the first to keep a sharper edge to the first.



The same was repeated for the bottom of the top, and then smoothing was turned back on to check the results.

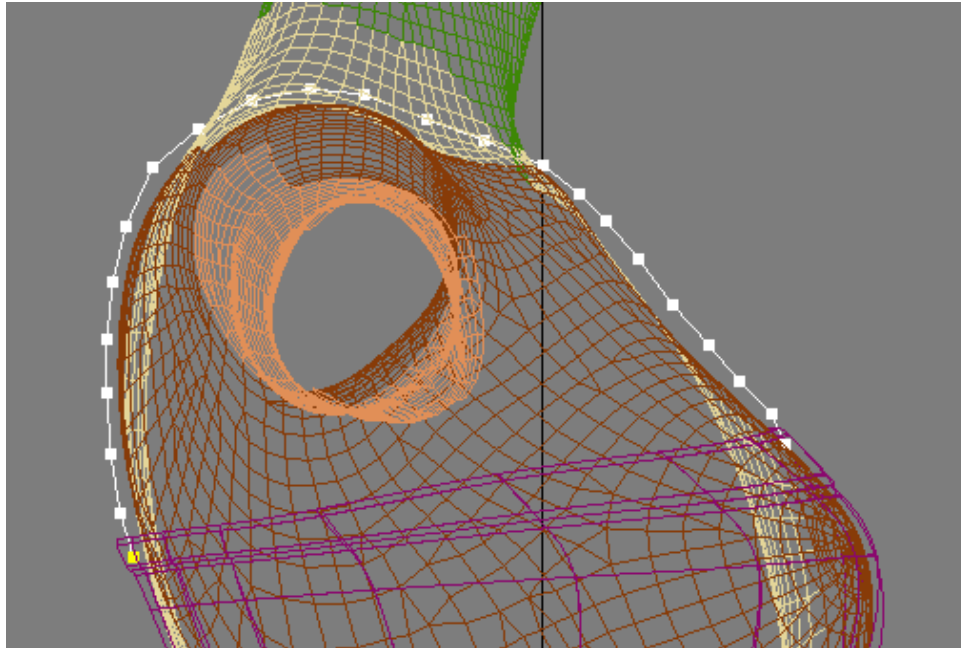


And there! We just made ourselves a nice little sleeveless top for our Poser girls to run around in.

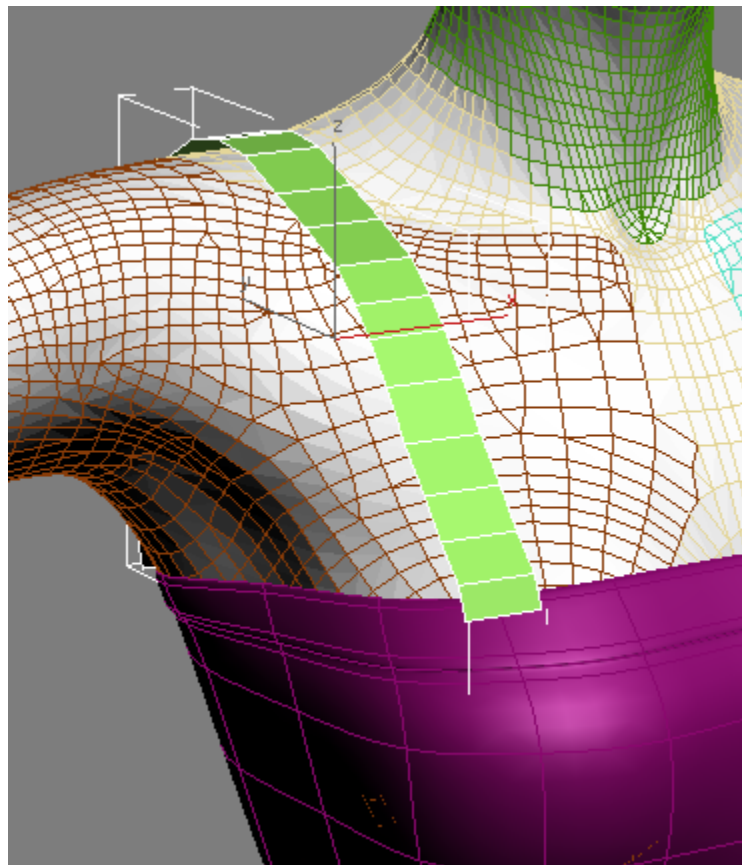
What was that? You wanted something with straps??? Ahh...we can do that too. One way would be to model a separate piece and simply attach it to the top we just made. We'll talk about that first, then we'll talk about making something like a tank top.

An easy way to add straps to our tube top is to generate an extruded spline....which hopefully most modeling apps can do...otherwise I've just lost half my audience. You can also generate a single poly plane, placed either at the front or the back and extrude the top edge on around the figure's shoulder to the other side and achieve the same effect. Or a Nurbs curve you later convert to a mesh...or whatever way you can find that works best for you and your modeling app...I'm going to show the extruded spline version for this part. Hang in there or skip to the tank top part to see an extruded edge approach

I have generated a spline going up across the figure's shoulder, following the shape of the body. This doesn't need to be super exact at this point as we'll need to adjust things anyway for the best fit, and the look we want - be it a thin little strap, or something fuller, to whatever you can think of.

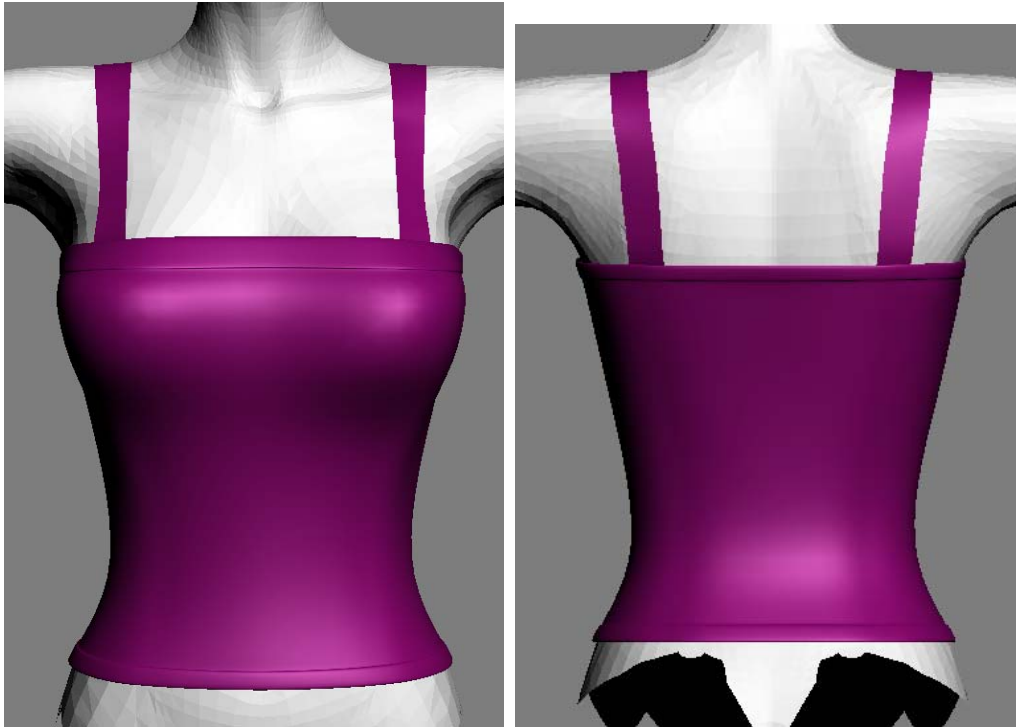


And here's my extruded spline, positioned roughly where I want it. I'll just need to adjust the ends, tucking them in behind the trim we made earlier, and a bit of the positioning.

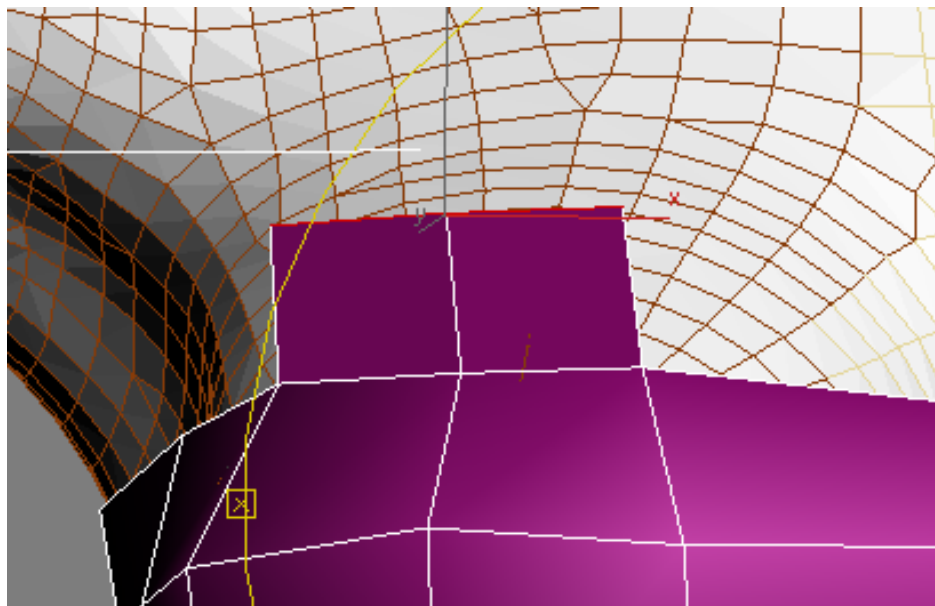




I made a mirrored copy of the strap for the other side, and joined the two strap meshes to the tube top. Note - they are not welded to the top mesh itself, just "attached" to it as one mesh object.

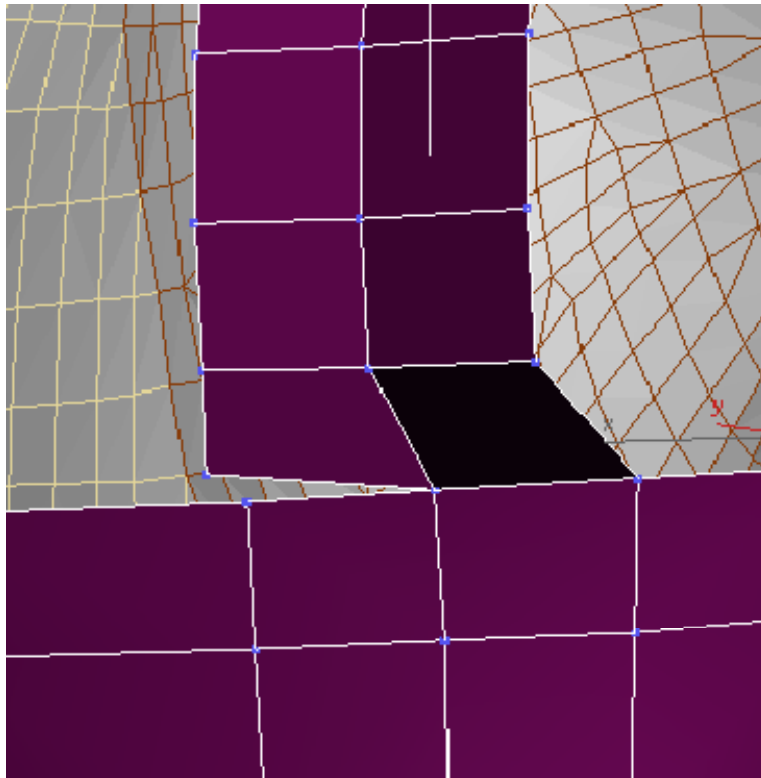


Let's move on to making something more like a tank top where the straps are more an actual part of the main mesh. Here, we can start with a simple cylinder base just as before, only this time we'll extrude out some edges. Below, you can see I selected two edges along the top of the mesh and extruded them upwards, matching the base curve of the underlying figure as I move up.

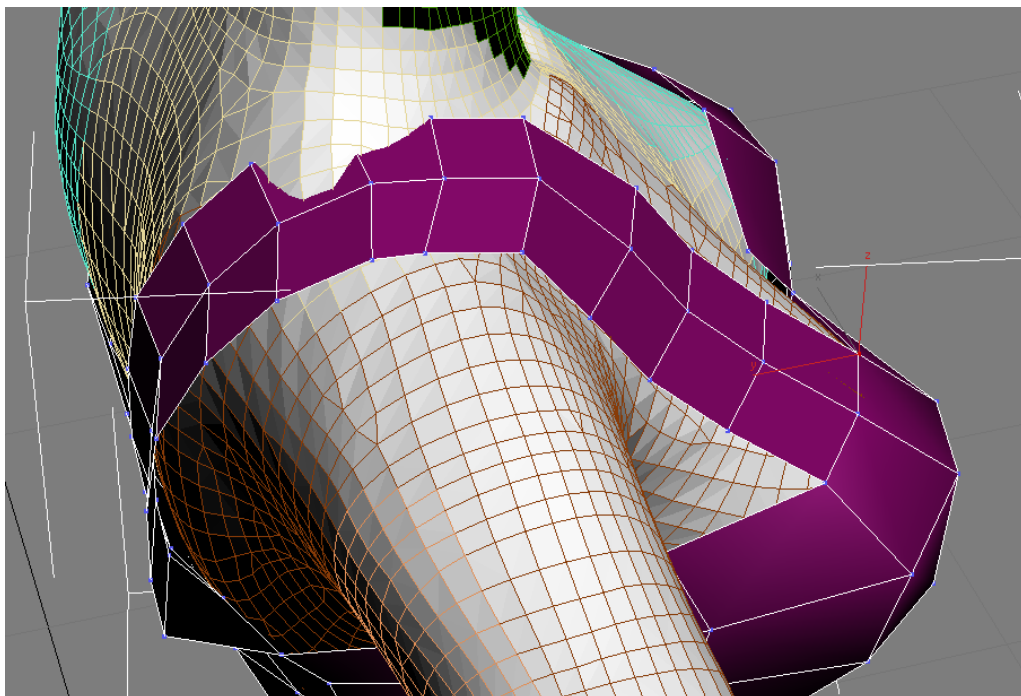


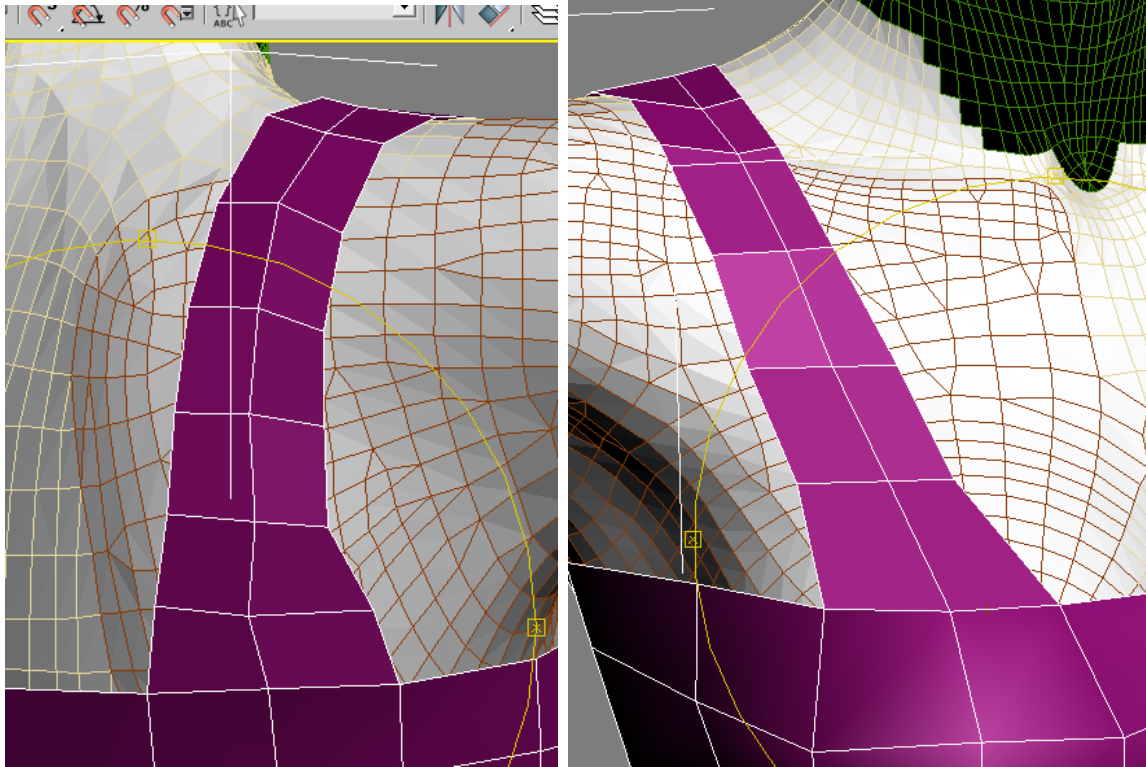


This process is continued on up over the shoulder and back down to the other side of the shirt base. Then the edges/verts are welded to the other side.

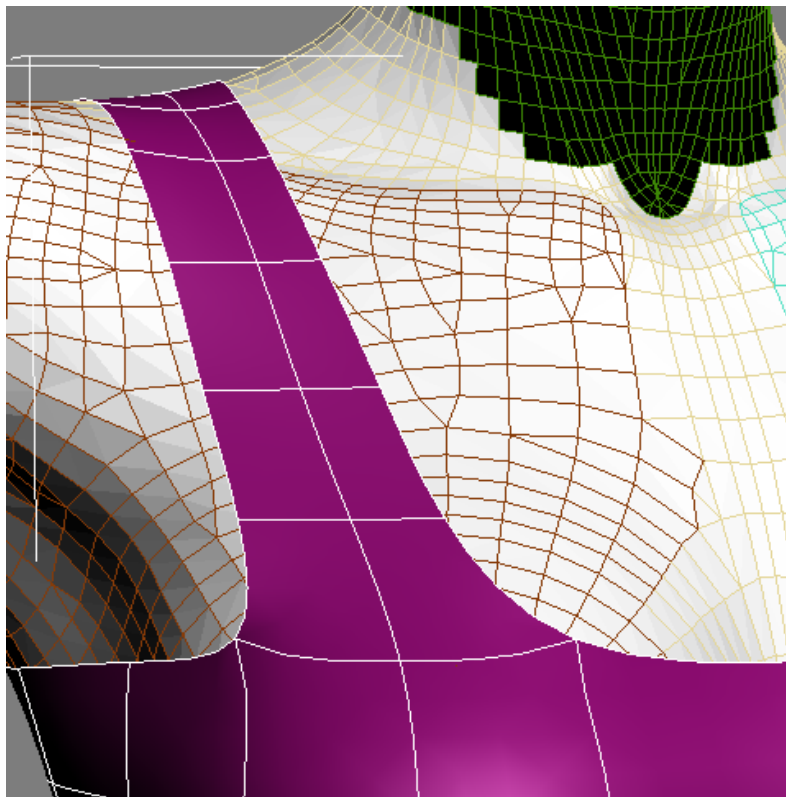


Now, I still have some adjusting to do to the extruded strap to get the shape and look that I want - and I'm sure my figure doesn't want a strap imbedded in her neck either.

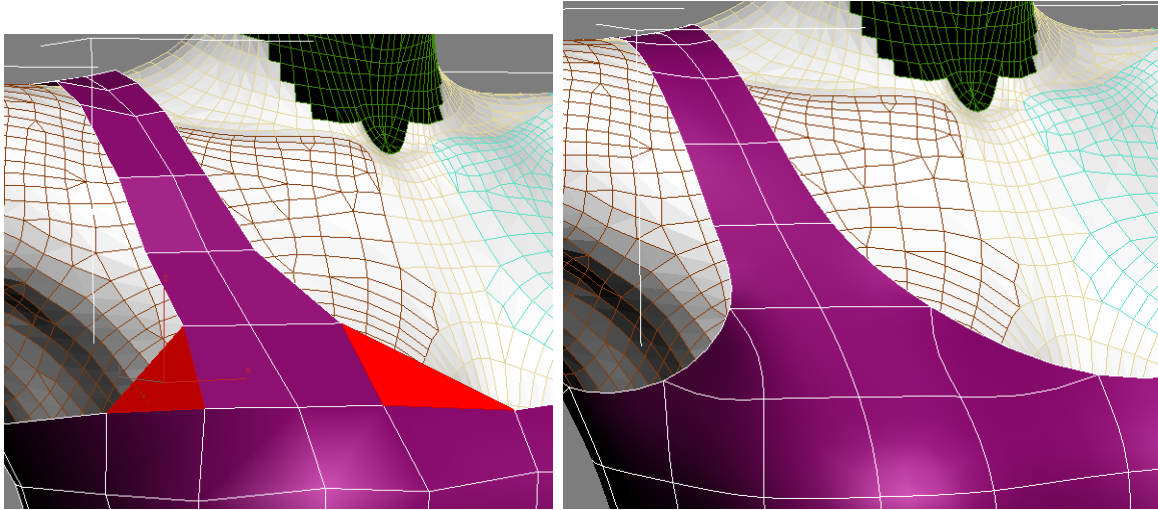




And we have our adjusted strap. Now to turn on our mesh smoothing/subdivide modifier and see how everything looks.



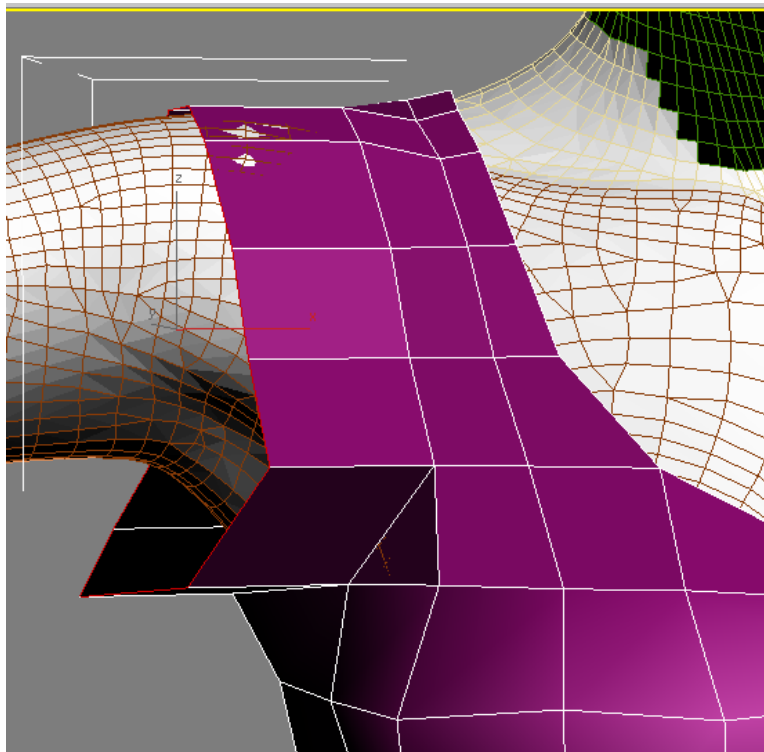
Doesn't look too bad, but I'm not real happy with the transition from the rest of the top to where the strap starts. It's not as much of a rounded shape as I'd truly like. This can be fixed by adding in a few three sided polys to fill the space. Now, I know what you're thinking - three sided polys are bad. Too many of them in our mesh are, yes - but sometimes there are things a four sided polygon just can't do. You can see the difference with the mesh smoothed after adding in the extra polygons.



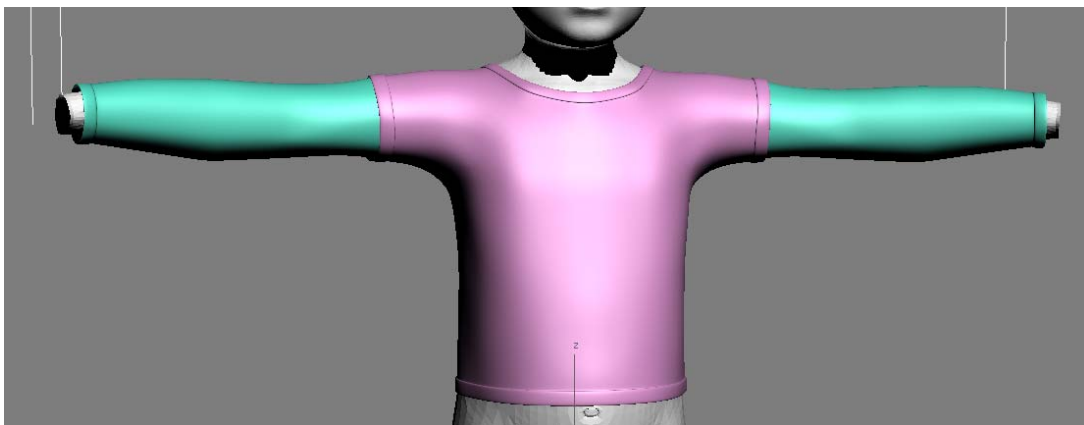
You can see it's a much gentler, more rounded out curve than before when there wasn't anything bridging the gap between the other polygons. Now, you can do the same for the other side of the shirt, or simply delete the other half and mirror the side you already did - whatever works easier for you. (or just leave it with one strap for a different funky look, it's all up to you and what you want to create) And here's an almost finished tank top - you could either create trim around the neck, arms and bottom of the shirt, or simply extrude all the polygons to give it a thicker more cloth like look.



What about sleeves? Well, you could generate another cylinder and position it around the arm and then join it to something like the tank top base we just looked at - or you could simply select the arm opening in the tank top and extrude it out just like with the strap.



Just continue to extrude out until you have the length of sleeve desired. Though, you can see here that there are some adjustments needed on the underside of the sleeve. It can sometimes be easier if you make them now before continuing on with the rest of it. Trim it out as desired from what we've done before - and you have yourself a t-shirt or something more!

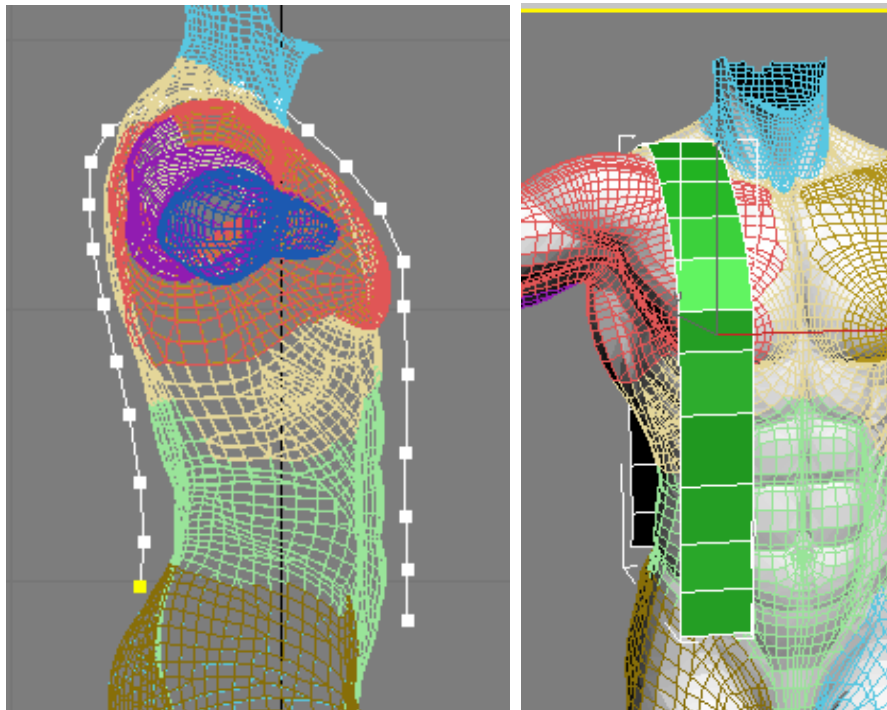


The image above is something I'm working on for Matt & Maddie. The double sleeves are actually separate pieces - so I have a separate t-shirt, with the longer second sleeves tucked in behind where the cuffed edges are. You could certainly build something like this that was all one piece - but why have extra mesh in your renders that you may not want - visible or not. If someone just wants a kid

in a t-shirt, they can load a separate mesh, and not have to worry about turning off the long sleeves or making a transparency map. (then again, people tell me I'm weird...so make your own judgement call)

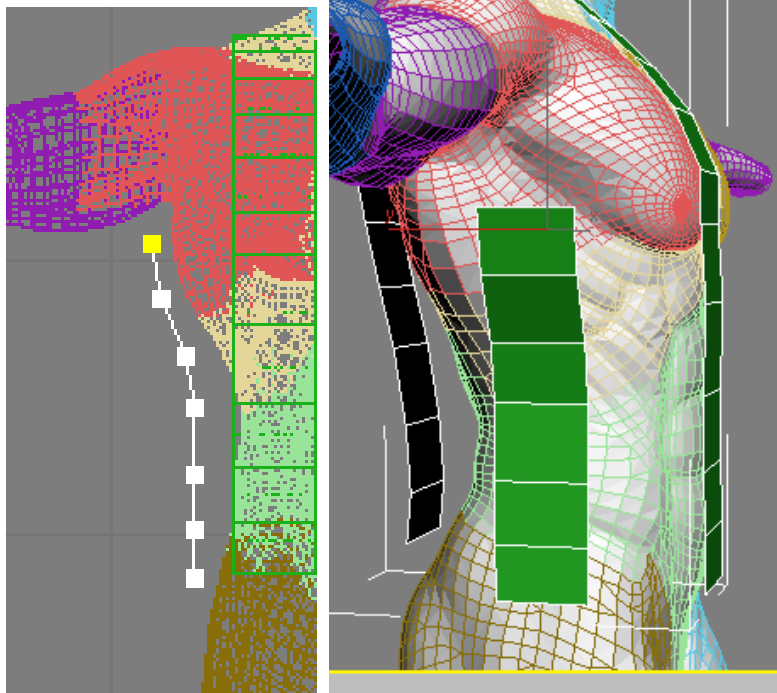
If you don't like building a shirt out of primitives like cylinders or boxes, you can use the extruded spline method as in the straps we did earlier. This is the method I use, to tell the truth, as I don't have to spend quite as much time matching the shape of the character for tighter clothing - or for loose clothing as well. This is a great time saver I've found for female clothing - because we saw what a mess a simple cylinder can be when we get to the chest.

Just for variety's sake, I've brought in a slightly morphed David as our next victim, though the process is the same for female figures. In side view again, I generated a spline around the figure from back to front. Then extrude it to generate my needed polygons.

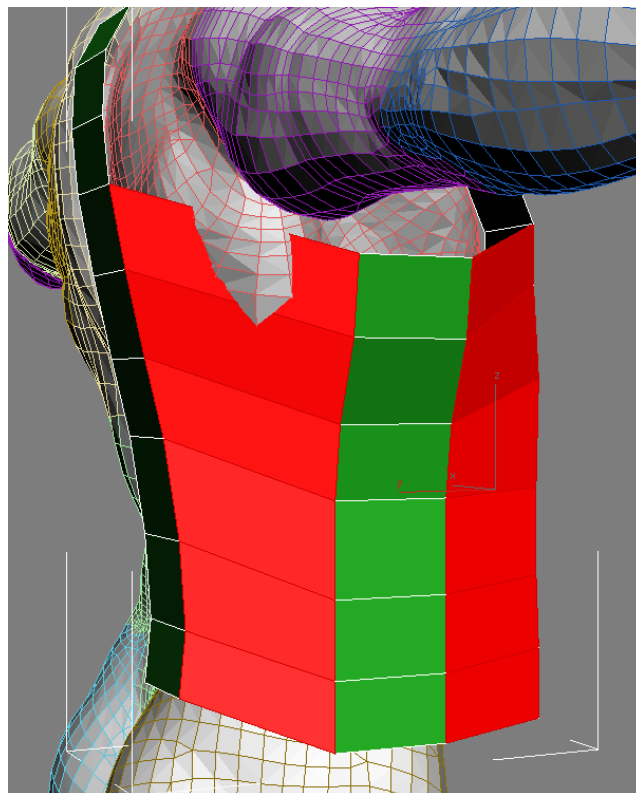


I then switch to a front view and generate a second spline along the side of the figure. This acts as a bridge between the front-back spline. (less polygon cutting this way) Then the two splines are attached/joined to become the same mesh object.





Create polygons to fill the empty space, cutting long ones as needed to best match the shape of the figure. Then you can leave it as a tank top style, or extrude out a sleeve. When you have the one side setup how you want it, simply make a mirrored copy for the other half, and weld the verts together down the center.



That's really all there is to modeling a simple shirt. Once you get the basics down, you can experiment with making all sorts of things!

One thing to keep in mind - unless it's a body hugging corset or spandex nightmare - shirts are generally only snug fitting across the shoulders and chest. The rest of the way down the front and back, they hang out loser from the body. Let the shape of your figure guide you, and you can't go wrong.



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