

RAD-133

## Gallbladder

These are your general considerations when doing gallbladder imaging. First of all, we want to make sure that the patient still has a gallbladder and we want to make sure that the patient took their cholecystopaque tablets. Ask if the patient had a reaction to the tablets, for instance, vomiting. Ask if the patient had a fat free meal the night before. Have them remove everything and make sure you give the patient a gown. Ask about pregnancy, the first day of their last menstrual period. And then obtain an accurate patient history. We're going to start off positioning for a PA projection of the gallbladder. For a PA projection of the gallbladder we're going to use a 10"x12" lengthwise cassette in the bucky. We're going to put the ID blocker down and remember your patient is in a PA projection so the left side of the patient is closest to you so I'm going to put the left marker on the left side of the patient, moving it in so that it's about an inch and a half from the middle of the cassette. We do the PA projection because it puts the gallbladder closest to the image receptor because it is an anterior structure. So now we're going to position our patient. Make sure that she's properly aligned by looking at her spine and making sure that it's parallel to our image receptor. I'm going to pull her over here a little bit to the left. Ok and also checking the rotation of the patient by looking to see if the ASIS are equidistant to the table. Make sure that your tube is in a line with your bucky. As you can see, I'm not in alignment right now. I'm not lined up. So I'm going to bring my bucky down so now I have my central ray going out there to the center of my cassette. Make sure my tube is in transverse detent. And I'm at a 40" SID. I have a 10"x12" cassette in the bucky so I'm going to set this up to a 10"x12" collimation for right now. And I'm going to collimate once we get our tube lined up to our patient. So now I need to line my tube up to my patient. So I want to be at the level of L2 and to find L2 I'm going to go up about a half an inch to an inch above the lowest rib margin. So if I come around here, and I find her low rib margin, and I should actually be working on the right side so I don't get messed up because the gallbladder is located on the right side of

the patient so I'm going to work off the right side so you don't get confused. I'm going to find the lowest rib margin which is right here, and then I'm going to go up about an inch from that spot. So I'm at the right level longitudinally, now I need to be at the right level transversely. So what I want to do is find the midsag and I want to go 2 inches to the right of the midsagittal plane. So here's her spinous processes, and I'm going to go about 2 inches to the right of that. So we're at L2 and 2 inches to the right of the midsagittal plane and the gallbladder is a fairly small structure so we can go ahead and collimate in from our 10"x12" cassette size. I'm going to collimate in up and down, I want to go down to about an 8" and then side to side I want to go in to about a 7". This exposure is taken on suspended expiration and I'm going to measure the patient and shield the patient before I take my exposure. She measures 15 and a half and I'm going to place the shield over the gonadal area. And this is what a PA projection of the gallbladder should look like.

Next we're going to do the LAO projection of the gallbladder. The LAO is done in order to get an oblique projection of the gallbladder without superimposing the gallbladder on the spine so that's why we do an LAO. So I would change my cassette to get a fresh one. Again, I'm still going to use a 10"x12" lengthwise cassette with the blocker down. This is a LAO projection so I'm going to use my left marker to mark the left side of the patient. Again, remember the patient is in a PA position so the left side's going to be closest to me so I'm going to move my left marker in, I'm going to go about an inch and a half off the middle of the cassette so that it shows up. Again, I have my tube lined up to my cassette cause I haven't moved it at all. The degree of obliquity is going to vary dependent upon the patient body habitus. It goes from 15-40 degrees. We would use a 15 degree oblique for our hypersthenic patients and a 40 degree oblique for our asthenic patients. We need to oblique our asthenic patients more because the gallbladder is located closer to the midline on an asthenic type body habitus. So for our patient, since she's more of a hyposthenic patient, we're going to place her at a 45 degree oblique. So I'm going to have her roll up towards her left side. "I'm going to have you roll up towards your left side, so this way."

And I'm going to use my 45 degree angle sponge to place in front of her. And you can double her pillow up so that her heads not hanging. Ok. Try to keep her left leg straight and her right leg or her right hip and knee flexed so that she maintains that position. This arm should come down. Her left arm should come down straight alongside of her body here. So we're actually going to bring this arm out along the side of her body and her right arm is going to stay flexed and it could be used as a support to help hold her up in that oblique position. I'm going to make sure that her spine is still straight, still parallel with the table, making sure that her hips and her shoulder are properly aligned. I need to move this sponge under her a little bit more. It's important to make sure that the sponge is properly underneath your patient, that it's kind of all the way under there so you're not just utilizing the tail end of it and you're not getting the full 45 degree obliquity. Ok there she looks pretty good. What we want to do is align our central ray to our patient. Again we're going at the level of L2, which I'm going to find the lowest margin of her ribs, which is right here and I'm going to go up an inch from that spot. Now I'm going to go halfway between, well this is how I'm going to center transversely, is go halfway between her spine and her lateral side here, her right side. So I'm going to put one hand here, one hand here, and just kind of bring my thumbs together and that's where I need to be. My table doesn't go down that far so I'm going to have to move my image receptor and my tube up a little bit, which may happen sometimes. So let's do this again. We have our midsag, our right lateral side, bringing my thumbs in together to mark the middle. That looks pretty good right there. I'm going to leave my collimation the same as it was before, where I had 8" long and then 7" wide. And that should be accurate then, and this is the LAO projection of the gallbladder. The exposure is taken on suspended expiration and I'm going to measure my patient. She measures 21 and a half. And then I'm going to provide my patient again with a shield. That's all for this projection.