

My name is Ross Milner. I'm a vascular surgeon at the University Chicago. I'm also codirector of our Center for Aortic Diseases. Typical patient that we see in our office: 69-year-old man followed on semiannual surveillance for his aneurysm and has slowly expanding AAA which has now met an appropriate criteria for repair. He has a slightly angulated neck. He has a very calcified iliac arteries and a relatively narrow aortic bifurcation. And you can see that on both views of the iliac anatomy here. So the challenges with this type of case, are you have an angulated, relatively short neck, you have a narrow aortic bifurcation, and calcified iliac arteries. The way the Endurant is designed, it can handle all of these anatomic challenges in a very positive way. So when you think about this, there are many different options for us to treat our patients; open repair is always an option, but obviously has higher morbidity and mortality than an endovascular approach, especially in a short-term. Fenestrated would be an option for this patient. It is something that could be considered. The iliac access may make it a little bit challenging, and there is sufficient neck to do this. Chimney approach is off-label here in the U.S. but could potentially be an option as well, and at the time that this case was done, ESAR wasn't a possibility for this case but would be something I would strongly consider in a younger patient at this time. So the least invasive option obviously is with an endovascular approach. We want the aneurysm to shrink and want to have a successful repair. So to do this I selected a 28 millimeter Endurant IIs device. You can see the goal is to get this as close to the renal arteries as possible. Selected a 16 millimeter distal diameter limb for the left side, and a 20 millimeter distal diameter limb for the right side. Here you see the proximal deployment, which again, the critical part of this is just like we do with an open surgical technique – we want to gain as much neck as possible and really land the device right at the renal arteries. This device is able to do that very accurately. And here you can see on a completion angiogram – accurate deployment at the left renal artery, and iliac limbs which were appropriately size these iliac diameters, and as close as possible to the hypogastric arteries on both sides. We do most of our surveillance after our initial one-month CT scan with duplex, which I know many of you do, and this shows you an example of an aneurysm which at the time was close to six centimeters, when treated, which has now shrunk to 4.4 centimeters in maximum diameter and has continued to shrink over time. But this shows you our paradigm that we use with ultrasound, and in addition to maximum diameter we're able to look for any evidence that its an endoleak. You don't see any flow within the aneurysm sac. So the typical surveillance paradigm that we use and we've discussed a lot about what is the best paradigm and how can we try to minimize the need for our patients to come back. We do a CTA at one month. Unless there is any renal insufficiency we will do an unenhanced CT scan with an aortic duplex. We do an aortic duplex annually right now, and we do a KUB every other year just to look at the integrity of the device and make sure there is no migration. If there is a type II endoleak, which we'd like not to see, then we do change our surveillance paradigm and will make decisions on when to see them based on sac behavior dynamics.