



SURGEON PROFILE:

Dr. Marc A. Levitt

Use of the Lone Star Retractor System™ in Pediatric Colorectal Procedures

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In this article we will share the experience of Dr. Marc Levitt and his use of the Lone Star Retractor System™ in his pediatric colorectal procedures. Dr. Levitt comments on this self-retaining retractor system and how it helps him perform safer procedures with better outcomes.

Dr. Marc A. Levitt

Dr. Levitt is the Associate Director for the Colorectal Center for Children at Cincinnati Children's Hospital Medical Center. He joined the full-time staff at the hospital in June 2005 when he and Dr. Albert Peña were recruited to create the world's first and only multidisciplinary and comprehensive colorectal center for children. Dr. Levitt received his undergraduate degree from the University of Pennsylvania, and his medical degree from the Albert Einstein College of Medicine, where he was elected to the Alpha Omega Alpha Society and worked with Dr. Peña as a medical student in 1992. Dr. Levitt completed his general surgery residency at the Mount Sinai Medical Center in New York and also served as a clinical and research fellow in pediatric colorectal surgery with Dr. Peña at Schneider Children's Hospital. He completed his pediatric surgery fellowship at the Children's Hospital of Buffalo, and was a pediatric surgical attending there, serving as the clinical director of their Pediatric Miniature Access Surgery Center. In August 2002, Dr. Levitt once again joined Dr. Peña at Schneider Children's Hospital.



What features of the Lone Star Retractor System are most important to you for your surgical technique?

I think one of the biggest challenges of colorectal surgery is exposure of the anal canal and rectum so that you can do things trans-anally both luminally and outside of the rectum. Dissection outside of the rectum and any work intra-luminally is very difficult without good exposure. So, in my opinion, without a doubt, it's the best instrument to give the surgeon exposure to this intricate area, and you do better surgery if you have better exposure.

It also doesn't block the field. The relatively unobtrusive retractors and the very thin stays get retracted out and the ring is not blocking any of your visual field. It also gives uniform retraction and rather than in just two directions it allows for retraction in multiple directions; 8+ depending on

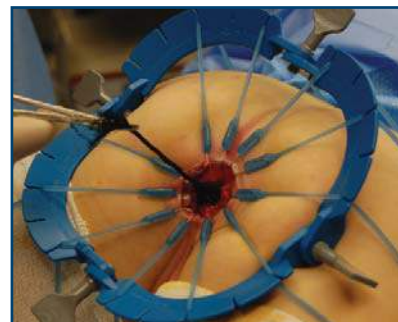
how many stays you put on, which I think stresses the tissue less.

It is a fixed retractor so the field does not move and it's not dependant on an assistant holding the retractor. You also have circular visualization rather than if you were to retract at three o'clock and six o'clock; you might see well horizontally but not in the vertical direction. This one gives you a nice tunnel view.

It's very gentle as long as you don't pull too hard on the stays and therefore doesn't injure tissue. It's very good at delineating the very distal rectal anatomy most specifically the pectinate (also known as dentate) line, which is key for the work that we do in pediatric surgery. We need to start our surgical dissections slightly above the pectinate line in order to preserve the pectinate line because it's very important with regard to continence. This gives you exposure to the area just above the dentate line and successfully preserves the dentate line.

What is your favorite combination of retractor and stays to use, and why?

I like the square because it's the most circular. The retraction is uniform and the field is very symmetric. I prefer the blue stays because they're sharp so that they can be precisely placed and they are the right size so they don't pull out. So, my preference is the blue stays on the square retractor.



The other retractor that works well is the bigger circle plus the smaller circle [the snowman retractor]. I don't often use the diamond because it's not a circular field, so it's a little wider in one direction but narrower in the other direction.

What are the major procedures for which you use the Lone Star Retractor System?

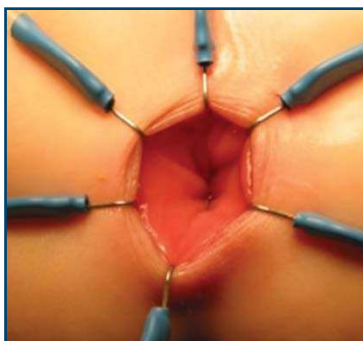
Any procedure that needs exposure to the anal canal and the rectum. In pediatric colorectal surgery those most commonly include Hirschsprung's Disease, either a primary or a redo trans-anal approach. We use it for rectal biopsies, where we want to do a trans-anal luminal biopsy. We use it for resection of the rectum in idiopathic rectal prolapse. We use it for ulcerative colitis and Crohn's disease to remove the rectum, and we use it for any luminal problem, like a rectal polyp.

Preserving the sphincter and the dentate line is important during these procedures particularly the Hirschsprung's procedure.

How does the Lone Star Retractor System help you do this?

It very clearly can identify the dentate line. My technique actually is to put all the stays in to show the dentate line and when I'm going to do a trans-anal dissection I will then, before I start my dissection, put the stays in again but a little deeper so that it actually rolls the dentate line. You actually don't even see the dentate line for the entire operation because it's hiding underneath the stays.

Now, having said that, that's one component of continence: the anal canal/dentate line. The other component of continence is the sphincters, and you have to be very careful with the Lone Star, or any retractor at all, that you don't overstretch the sphincters. The sphincters are a circular complex of muscles surrounding the rectum, and if you pull too hard with retractors, or if you pull to hard with the Lone Star stays, you can overstretch those muscles that surround the rectum. You really want to create a tunnel view, where you can see well but not see so well that you are overstretching the sphincters. I think that's a danger if you pull too hard on the stays.



What did you use before the Lone Star System was available?

Well, not a good option but you can put metal retractors in like a nasal speculum or handheld retractors. Another option is to place a stitch from skin to bowel and invert the anal canal. That requires placing actual stitches into the skin of the buttocks. So there are a lot of other very suboptimal choices. Obviously if someone is holding the retractors, then they can move those retractors and it's not a circular or uniform exposure.

When did you first use the Lone Star Retractor System?

You know, I honestly don't remember. I'm sure I started using it when I was a resident because as a resident we did a lot of adult colorectal surgery, and when I became a pediatric surgeon it was already very available and luckily it was available at the institutions where I was getting my training.

If you had one thing to say about Lone Star, if you were presenting this to another surgeon, what would resonate with another doctor the most?

Better visualization. Better and safer visualization. Once someone has seen the exposure that the Lone Star affords, they realize that they've been looking at the same anatomy without nearly the same view. They've been looking at it with a suboptimal view.

One of the positioning points of the system is that it is better than another pair of hands. Do you find this to be true and do you have any examples?

Oh yeah, for sure. Because another set of hands can only retract in two directions, whereas the Lone Star can retract in 8, 10, 12 directions, all symmetrically. Plus there is no human body attached to those hands that are in the way of the exposure. So it really allows you if you need to, operate essentially alone because the Lone Star just sits there and doesn't get in your way.

Have you seen any patient benefits by using this system?

You have neater, more elegant operations and preservation of their continence mechanism by having better exposure.

Have you seen any staff benefits by using this system?

Sure. Well, we are a little bit blessed here because most of the time if I'm going to get an assistant it's a resident or a fellow. I rarely need the scrub to help me. But if I don't have a resident or a fellow, and the only other person available to help me is the scrub, if I didn't have the Lone Star they would need to provide the retraction. Because I have the Lone Star, they can pass instruments and do what they're supposed to be doing.

And last, are there any other points you would like to make about this system?

Well, I would love a way to get more surgeons to know about it and see it in action. You know, that's one of the reasons why we talk about it a lot and show it in our videos and our pictures, because we think it's such a great piece of equipment for colorectal purposes. So many people have never seen it or heard of it, and as soon as they see it they say "wow, how do I get that?" Well, that's sort of crazy. Most surgical instruments you've seen and you dismiss it as either too expensive or "I don't like it," but my sense is there is a lot of people reacting to it like "oh, that's cool – I never saw that before." I would advocate making it very easy for them to start using it because once they start using it, then they'll insist on it.



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