

Dr. Andrea Spiker:

Welcome everyone to the Arthroscopy Association's Arthroscopy Journal podcast. I'm Dr. Andrea Spiker, from the University of Wisconsin. Today, I'm honored to be speaking with Dr. Thomas Byrd, who is a hip arthroscopy specialist at the National Hip Institute in Tennessee. Dr. Byrd is widely considered one of the grandfathers of hip arthroscopy, and today's podcast episode will highlight some of Dr. Byrd's very first publications in the Arthroscopy Journal, including the article titled, "Hip Arthroscopy Using the Supine Position," from 1994; the article, "Hip Arthroscopy: An Anatomic Study of Portal Placement and Relationship to Extra-Articular Structures" from 1995; and a third classic article, titled "Labral Lesions: An Elusive Source of Hip Pain," from 1996.

Welcome Dr. Byrd, and thank you so much for joining us.

Dr. Thomas Byrd:

Thank you so much for having me.

Dr. Andrea Spiker:

Well Thomas, as we'll highlight today, some of your very first articles published in the Arthroscopy Journal related to hip arthroscopy, you've been involved in establishing and furthering the field of hip arthroscopy since the 1990s. To start us off, can you tell us a little bit about your current practice, and then we'll discuss more of how it all began with each of your highlighted articles.

Dr. Thomas Byrd:

I think most of my practice these days definitely focuses on and revolves around hip arthroscopy as a method for preserving the hip joint, and as I tell people, I'm not a true hip preservation surgeon, I'm a sports medicine guy that scopes a lot of hips. I think the perspective offer is a little bit one dimensional, but we try to make sure that we're looking at it from all angles, when it comes to patient care.

Dr. Andrea Spiker:

Wonderful. You nationally are known as somebody who has been an expert in the field for decades now, internationally as well. What are some of the other things that you're involved in as well? You're a team physician, you have a booming practice in Nashville, and work collaboratively with physical therapists and athletic trainers. Can you tell us a little bit more about some of your other endeavors?

Dr. Thomas Byrd:

Again, my background is mostly in sports medicine. I did a total joint fellowship, but I only did the total joint fellowship because I figured there were a lot of people come limping in to see the sports medicine doctor that really need a joint replacement. If I was going to take care of them, I might as well try to do a good job. My main focus was always sports medicine, and like most sports medicine guys, I cut my teeth on knees and shoulders, but always had more of an interest in elbow arthroscopy, just because it was something that other people weren't doing as much of. This hip stuff took on a life of its own, and it's become the main focus of my practice over the last decade or so.

Dr. Andrea Spiker:

That's wonderful history. Let's start by discussing the article titled, "Hip Arthroscopy Using the Supine Position," which was published in the Arthroscopy Journal in 1994. In this paper, you presented your first 20 patients who underwent hip arthroscopy in the supine position. Can you tell us a little bit about

what the practice had been in hip arthroscopy prior to this publication, both in your own hands as well as what you were seeing amongst other hip arthroscopists around the world?

Dr. Thomas Byrd:

I think, when I did my first hip scope, I'd never heard of hip arthroscopy, much less done one or seen one. One of my partners had a 16 year old kid with loose bodies in his hip, two years following closed treatment of an acetabular fracture, and she was going to do an arthrotomy and take them out, and said, "What do you think about trying to do something arthroscopically?" I thought, "well, I've never heard of such a thing," but I thought, "As long as it didn't do something dumb, like cut the femoral nerve, we'll try it, and when it doesn't work, you can flip him over and do your arthrotomy." We tried it, and I tell people, Dr. Andrews didn't teach me how to do hip arthroscopy, but he taught me the basic principles, and I just use the techniques and principles that he taught me for other joints like the knee, shoulder, ankle, and elbow, and just figured out a way to try to apply those to the hip.

I knew how to fix hip fractures, and I knew how to use a fracture table, so we just developed a technique with the supine approach. After that, I found out that the lateral decubitus position was popular around the country and around the world thanks to Jim Glick, who's really the grandfather of hip arthroscopy as we know it today. He has devised the lateral decubitus approach, and when I first started, I didn't know I was supposed to do it in the lateral position. We just did it supine, and as we had a few cases that came along, it seemed to be effective and worked.

Dr. Andrea Spiker:

And you make it sound easy, but two things about that initial case that you described. First of all, that hip anatomy is very complex, and I think no doubt your additional training in hip arthroplasty helped really understand that region. And secondly, even today with all of our advanced techniques and instruments, I think loose body removal still remains a quite challenging procedure when it's related to the hip.

So how did you find that very first procedure when you got in there, were you having those similar challenges with the anatomy as you applied arthroscopy, and then getting loose bodies out of the joint is not the easiest thing to do in any joint, but especially the hip.

Dr. Thomas Byrd:

And I think maybe ignorance is bliss, we didn't think about it too much. We were just trying it and had a sense of the anatomy and felt like we could get into the joint without damaging any of the important surrounding structures. We weren't sure how much distraction we could get, but we ended up being able to get into the joint. And again, I'll just use the principles Dr. Andrews taught me about taking loose bodies out of other joints, we used the biggest cannulas we had to flush some out in the shaver, and some of them we just had to free hand out. They were too big to take out through any of the cannulas, but it worked.

Dr. Andrea Spiker:

And here we are today, that's wonderful. Now in this paper in 1994, you published your techniques using figures of the operating room set up, anatomic drawings and portals, and even radiographs to detail how you entered the joint. So quite incredibly, when I was reading this paper, these look very similar to our OR setup today. So how much do you think your described technique from the early nineties has changed in the past three decades?

Dr. Thomas Byrd:

Well, the basic principles and the foundations that have served us well, and have really changed very little, now we've built on those and added a lot of things. We've got a lot more portals we use, we've got a lot better instrumentation and things, that we've gone from just cleaning things up and taking stuff out to true restoration procedures, which hopefully have more durable, long term outcomes. But again, the basic principles we used back then still work quite well today. And again, if you look at those drawings, you could apply those in your practice today, just like we did back in the early nineties.

Dr. Andrea Spiker:

Yeah, I agree with you. Now, in this original series, you also described attempting arthroscopy on two patients who have the diagnosis of avascular necrosis. And of course, now knowing what we know, this is not a diagnosis that we typically perform hip arthroscopy on anymore. So can you tell us a little bit about your thoughts on the importance of publishing patients who don't do well with these types of surgeries, and similarly, publishing on complications that we have when we try new techniques in our quest to become better at these procedures, especially early in the description of these techniques.

Dr. Thomas Byrd:

Well, certainly making people, and that's a big part of what we've done, not everything we've done has worked. We've shared with people, things that did work, but we've also shared things that didn't, and tried to be as transparent, and I think across the board, because early on as this started, it was pretty controversial. I didn't just wake up one day and have the wild idea to try to scope a hip, I'm the sort of person likes to do everything the exact same way forever, and never change anything.

So if there's anything that seems innovative that we've done, it's only because whatever we decided to do seemed better than the alternatives that were available to us, such as doing a big arthrotomy on a young kid. We thought it made sense to try, but most things, the key to successful results is in proper patient selection. Early on, we didn't know about labral tears and a lot of other things, that's why our earliest experience was on loose bodies. Because that was really about the only thing we knew how to diagnose, and addressing those arthroscopically seemed more appealing than doing an arthrotomy just to take out loose bodies.

Dr. Andrea Spiker:

Excellent. So, that leads us into your next article, the article titled "Hip Arthroscopy, an Anatomic Study of Portal Placement and Relationship to Extra-Articular structures", which was published in the Arthroscopy Journal in August of 1995. So can you tell the listeners what the status of portal placement was in the early nineties, and what spurred this particular research project?

Dr. Thomas Byrd:

Well, several things. Certainly as you can tell, we kind of went about this backwards, because we described how to do hip arthroscopy and put the portals in the joint, and then after the fact we kind of went back and said, well, maybe we ought to take a look at the relationship of those portals to the neurovascular structures. And it was a very simple study, we took four pelvises that had both hips, and so we gave us eight hips, and basically just down in the operating room at night, we would put Steinmann pins into the hip, and then dissect it out and just see the relationship of the surrounding neurovascular structure. So it was a fairly primitive study, but I think to me, those early papers, it's not so much the conclusions and the data, as much as sort of what it represented at the time.

Cause I go back to that first paper on the supine position, actually that was based on our experience with 12 cases. And by the time the paper had been accepted, our experience had mushroomed to 20. So they let me put in the 20, and I think what's the important message there is for young people, you don't have to have done thousands of something before you may have something meaningful to contribute to the literature and educate other surgeons.

Then on the anatomy study, the interesting thing is that was the first paper ever accepted at the Academy on anything having to do with hip arthroscopy. And I think maybe it was vanilla enough that they were willing to accept it, because remember this was very controversial back then. So we were, I guess the fact that we weren't talking about outcomes or how great it was, we were just showing the anatomy, they couldn't exactly reject it when all we're talking about is how to educate people on the surrounding anatomy, and hopefully how to stay out of trouble.

Dr. Andrea Spiker:

What was the response when you first presented the anatomic study? Was it also just taking it at face value of an anatomic study, or did people then explain or display some of the hesitancy about hip arthroscopy in general?

Dr. Thomas Byrd:

Well, again, that was a very vanilla sort of neutral study, because nobody's going to argue with you about the anatomy. When you get into talking about how to do hip arthroscopy, what you're doing it for, that's when you start taking some shots, and I certainly took a lot of shots early on.

Dr. Andrea Spiker:

So back to the anatomical study, did you find anything that you weren't expecting at that point, or was it confirmatory for what you knew about the anatomy around the hip?

Dr. Thomas Byrd:

Well, it did help to reinforce that we were a safe distance from the major neurovascular structures of the femoral triad and the sciatic nerve, we were a safe distance from those. Probably the most interesting thing I found out of that was that for the anterior portal, the lateral femoral cutaneous nerve had divided into at least three or more branches. So there wasn't just, you weren't dealing with just the body and the nerve itself. Most of those branches actually spread lateral to the anterior portal, and as people talk about using a more laterally based portal, one of the arguments was, oh, you're going further away from the lateral femoral cutaneous nerve. Well actually, if you wanted to avoid those branches, you would move it more medial, but you're not going to move it more medial, because that places you closer to the femoral neurovascular structures. So that was probably one of the sort of interesting things we found, but mostly just reinforced that we were a safe distance from tiger country.

Dr. Andrea Spiker:

Excellent. So next, let's touch on your third paper published in the Arthroscopy Journal, this one in 1996 on hip arthroscopy. This one was titled "Labral Lesions, an Elusive Source of Hip Pain". And here we might be getting into what you describe as "tiger country" with the feelings about hip arthroscopy at the time. So in this article, which is an excellent read, you mentioned the history of the published literature related to acetabular labral tearing, and really it consisted of multiple case reports, most of them related to traumatic hip dislocations and bucket handle labral tears. So do you recall, based on what was out

there at the time when you first became a believer in the labral tear as a source of non-traumatic hip pain?

Dr. Thomas Byrd:

Well, I can certainly tell you the first labral tear that we did, and that was 1992, after we'd done like three loose bodies, because again at that point, loose bodies were all we knew about. And actually one of the physical therapists came to me and said, I've rehabbed these people, the loose bodies in their hip. He goes, I think my brother's got loose bodies in his hip, he'd been in a motorcycle accident 14 years before, he used to work framing houses. He had to give up work because he never knew when his hip was going to give out on him. All his studies were normal, and we thought, well maybe you've got some sort of radiolucent loose bodies that we just can't see in these studies. And after 14 years of symptoms, maybe it's not premature to say let's take a look. And I really thought it would be a normal hip scope.

So we filmed it thinking if I'm going to scope a normal hip, we might as well make an educational video out of it. And when we put the scope in, they had a bucket handle tear of his labrum flipped up inside the joint, which we excised, and after 14 years of symptoms, his pain was gone. Things have to hit me like a ton of bricks, that's when a little light went off, said there's other things inside the hip besides loose bodies, we're just not very good at diagnosing what can cause these problems. And that was probably the main case that sort of set me on this track, realizing that there was more to the hip, and potentially hip arthroscopy, than what we'd previously been aware of. And as I looked at the literature, kind of gradually accumulated a few labral tears that we'd addressed.

And interestingly, the early literature, most of the reports described posterior labral tears. And as I was looking at these hips, I was seeing mostly anterior labral tears, and I'm thinking what's going on, am I just, are these iatrogenic? Am I creating these labral tears going into the hip? But as we went back and looked at it, there were three articles on labral tears in the literature. But if you look closely, there were three articles written by the same authors on the same group of patients. And that's where what I was seeing was different, and I wanted to share it. And that's where we put this article together, and actually I originally submitted it to Clinical Orthopedics, and I remember they sent it back with this incredibly long list of corrections and revisions and recommendations. And I meticulously made every single correction that they asked me to make, and sent it back in, and they rejected it anyway.

They said it was anecdotal, and I was editorializing. Well, that's when I took the article and I submitted it to the Arthroscopy Journal, and they liked it so much they published it as a Current Concepts article. And I remember one of the reviewers said, this is the first article I've ever seen that I had no recommendations. I just don't know how to say it any differently. Now, I'm not a great author, and I wasn't a great author back then, but it was a good paper because of all the criticisms that clinical orthopedics had made, and I incorporated all those, so the reviewers made it into a much better article. So I sort of got to look good based on the work and effort of the clinical orthopedic reviewers who eventually rejected the article.

I think that just shows you how much more open-minded the Arthroscopy Journal was at the time.

Dr. Andrea Spiker:

I was going to say the exact same thing. So even in the nineties, the Arthroscopy Journal was supportive of these, what are now very, very common practice, but recognize that you were one of the first people to venture into this final frontier of orthopedic surgery.

Dr. Thomas Byrd:

It's interesting, because Gary Paling was the chief, the editor in chief of the Arthroscopy Journal, and they put me on their editorial board, and then eventually I became an associate editor, not because of my own brilliance, but just because again for that first article, mostly it was well written because of all the revisions that had been offered to me.

Dr. Andrea Spiker:

Well, that's wonderful. And I think, personally, that it's well deserved, and that you're downplaying it. But speaking of that article, and again, this is something that I think has less to do with the actual editorial comments, but really the state of your curiosity and investigation at the time in hip arthroscopy. These are a couple lines from the conclusions of that 1996 paper.

So I quote, "one must proceed cautiously as we continue to learn to interpret the arthroscopic appearance of the anatomy. However, in selective cases, arthroscopic debridement of labral tears can result in significant improvement on intermediate follow up. The long term consequences are as yet unknown." So in this article, the cases that you presented in this paper all had a labral debridement. So now that we are 30 years later, and we have subsequently studied the labrum much more, how has your approach to the labrum changed?

Dr. Thomas Byrd:

Well, I certainly hope it's changed a lot, because I think back then, and I'm going to back up for a second, and I think this is relevant. It's important to point out that the evolution of hip arthroscopy back then was different than other joints like the knee or shoulder, because in the knee or shoulder, we went from traditional open procedures for recognized forms of pathology, and we evolved that into less invasive arthroscopic approaches for the same problems. But in the hip in the past, we weren't doing big open operations for poorly explained hip pain. So most of the things that we were going in and addressing arthroscopically, especially labral tears, in the past had basically gone unrecognized and untreated, and patients were just resigned to living within the constraints of their symptoms. And once we started looking in the hip and realizing there were labral tears, then we're nudging the radiologist and getting them to be better at diagnosing these things.

But we were basically looking in the hips, where we were trying to define the normal arthroscopic anatomy. We're trying to define normal variants, we're trying to define pathological lesions, and then we're trying to treat these pathological lesions when we had no understanding at all as to the underlying ideology. Now that changed once Professor Ganz taught us about FAI, because then all of a sudden we had something that the open surgeons were teaching us, and then we just visually went about sort of transitioning that into less invasive arthroscopic approach.

But early on, say we're seeing these labral tears, we're cleaning them up, and maybe this is a little optimistic on my part, but I feel like when we first started doing hip arthroscopy, we went from having nothing to offer these people, to at least having something to offer them, with modestly good results. And as we've learned more about the ideology of these lesions, and we've gone from debridement to restoration techniques, and hopefully we're having better results and having more durable results. But I don't feel like we went from doing something bad to something good, we just went from doing something okay and hopefully we're now doing better.

Dr. Andrea Spiker:

That's a wonderful perspective on how hip arthroscopy is different than some of the other joints that we arthroscopically, so thank you for that.

Dr. Thomas Byrd:

Now I will say that you and I had the pleasure of working together at the recent AANA Learning Center course in Chicago, and that was actually the 30 year anniversary of that labral debridement I did back in 1992, it was July 27th, 1992. We checked on that guy, we can keep in touch with him because he is the brother of one of our physical therapists, and 30 years later he's still doing okay with his hip, and he's not had any significant arthritic changes, so labral debridement is not always a bad operation.

And that's where for me, historically, I had to have a compelling reason to repair the labrum, because our results of labral debridement were pretty good. The techniques of labral repair were primitive, we didn't have good instrumentation, the rehab process was onerous, but over time as those techniques evolved in today's world, I've got to have a compelling reason not to repair the labrum, because the techniques for repair are much more advanced, the techniques and the technology, the healing capacity of the labrum is well understood. The rehab process has been streamlined. So again, in today's world, the labrum to me is almost always repairable.

Dr. Andrea Spiker:

I agree with you. Yes, thank you for that clarification of the evolution over time. It's been really interesting, and that's fantastic follow up that you have on that very first patient.

As we wrap up our discussion, I'd to hear your reflections in general on re-reading these papers published nearly 30 years ago, in preparation for our podcast today. What came to your mind related to the research, the surgical techniques or the field of hip preservation in general, and how it's really evolved over these past decades?

Dr. Thomas Byrd:

Well, again, I think those articles kind of reflect the evolution of hip arthroscopy, at least in my eyes, that we went from having nothing to offer, to having something to offer, to having something better that we're doing presently, without making any detours going in the wrong direction. And I think it's reflected in those three articles, because if you read those articles, I don't think there's anything in there that you would disagree with today and say they got that all wrong. And a big part of that is we tried not to overstep our bounds. We made the observations that we made, we didn't try to extrapolate too much out of those. I think the principles of the technique that we describe have held up, the anatomy doesn't change, but also on the labral debridement, we're not saying, man, this is great and everybody ought to do it, we're doing it and Hey, it's working pretty well, but let's see how this plays out.

Dr. Andrea Spiker:

Well that's very excellent thank you so much, Dr. Byrd for sharing your thoughts, reflections and expertise with us today, it's been a true pleasure talking to you.

Dr. Thomas Byrd:

Well, I'm honored that you would think to reach out to me and let me participate.

Dr. Andrea Spiker:

Dr. Byrd's classic articles titled "Hip Arthroscopy Using the Supine Position" from 1994, "Hip Arthroscopy, an Anatomic Study of Portal Placement and Relationship to Extra-articular Structures" from 1995 and "Labral Lesions, an Elusive Source of Hip Pain" from 1996 can be found online at

www.arthroscopyjournal.org. This concludes our episode of the Arthroscopy Journal podcast. Thank you for joining us.

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