Dr. Justin Arner and Dr. Kevin Plancher discuss the article titled, "The Shoulder Trans-pectoralis

Arthroscopic Portal is a Safe Approach to the Arthroscopic Latarjet Procedure: A

Cadaveric Analysis"

Justin Arner: Welcome everyone. I'm Dr. Justin Arner from the University of Pittsburgh

Medical Center in Pittsburgh, Pennsylvania. Today, I have the pleasure of speaking with Dr. Kevin Plancher, founder of Plancher Orthopaedics and Sports Medicine, clinical professor at Albert Einstein and adjunct clinical assistant

professor at Cornell.

Dr. Plancher was the author of the paper titled, "The Shoulder Trans-pectoralis Arthroscopic Portal is a Safe Approach to the Arthroscopic Latarjet Procedure: A Cadaveric Analysis," which is published in the February 2021 issue of the

Arthroscopy Journal. Welcome Dr. Plancher and thank you for joining me.

Kevin Plancher: Good morning, Dr. Arner. Justin, it's really a great pleasure to spend a little time

with you this morning.

Justin Arner: Great, thanks. I appreciate that. First off, I think this is a really well designed

study and I think we can chat a little bit about that. I think it's really an important one that will be useful more and more in the future so

congratulations to you and your co-authors for that. What inspired you to

perform this study?

Kevin Plancher: Well thank you, Justin. And I would have to say that the Latarjet as you know, is

one of the most common surgical procedures that's used today, for Europe first of all, for first time dislocators as well as a Bankart procedure, where it appears in the US, we use it more, but it's shifting tides seem to be occurring. The Latarjet as you know, started out in 1954 and in fact, as I said, 72% of the physicians in Europe do treat the first time shoulder dislocated with a Latarjet. Even recent in our literature, systematic reviews and meta analysis suggests better clinical outcomes over the Bankart. Some colleagues, Bliven and others reported fewer recurrences with the Latarjet, better patient reported outcomes,

less restricted external rotation that we all worry about after doing this

procedure so that the athlete can get back with this Latarjet procedure and they

compared it to open and arthroscopic Bankart.

But unfortunately the Latarjet is a technically demanding procedure and in my own hands and I think in a lot of others, a large learning curve. And the literature shows and people that are examined now for their boards show that there's a lot of complications that occur like glenohumeral arthrosis, superficial infections, superficial vein thrombosis, musculocutaneous neuropraxis, graft non-unions is a big one and intraarticular hardware loosening. Traditional arthroscopic teaching also discourages us the creation of an arthroscopy portal medial to the level of the coracoid for fear of damage to all the brachial plexus and vital neurovascular structures. We thought it would be important to study and determine how close really are these neurovascular structures?

When you place a medial portal through a trans-pect portal, as well as describe maybe the standardized measurements, could we figure it out to help all of us to make a trans-pect portal placement to provide a reproducible portal guide? Because as you know, Laurent Lafosse in 2007 published in our journal, the Arthroscopy Journal, the first inklings of an arthroscopic Latarjet and Pascal Boileau in 2010, modified a little. It was time I thought for me to feel better now doing open Latarjets, can I move the needle to an arthroscopic Bankart to an arthroscopic Latarjet?

Justin Arner:

Right. I think it makes a lot of sense because I think it's pretty anxiety provoking to be on that side of the coracoid. I think that makes perfect sense. Can you tell us a little bit about your study design and the results that you found and did anything surprise you going into it?

Kevin Plancher:

Well, first about the study design, we used 12 shoulders as it says, in six decapitated, eviscerated, fresh frozen cadaveric torsos. We chose torsos rather than shoulder specimens to avoid disruption of the native anatomy and to preserve the native anatomic relationships, to replicate what we actually do in an operating room all of us. We decided after failing a few times to think about what's the best way to create a portal track and we used long spinal needles rather than what we might do in the operating room is a six millimeter arthroscopic rod. And for the study purposes, we felt that using the spinal needle ensured that no structure would be pushed out of the way. Rather it would fall in the path of the spinal needle and the structure would be spared in line with the portal. But if we were unsuccessful, we know that we would hit that structure.

If you think about the blunt tip switching sticks that we all use in routine shoulder arthroscopy, they cause less damage, which is great because it pushes structures out of the way, rather than spearing them head on but if we were going to prove validity, we really wanted to make sure we weren't missing the fact that we did hit a structure. Methodologically, we wanted to ultimately show a safety of creating a portal medial to the level of a coracoid using this arthroscopic Latarjet procedure and define a standardized, so to speak, safe zone for placement and to avoid all the neurovascular structures.

Justin Arner:

Yeah, I think the use of the torsos is pretty genius because the studies I've been involved in with biomechanics and things like that, once you start getting into the nitty gritty, getting that scapula positioned appropriately is complex. And I wonder, even with shoulder arthoplasty, we're using these guides and we don't know how the shoulder's attached to the person, everyone's a little bit different. I think that makes a lot of sense.

Regarding the discussion you mentioned about kind of making those safe measurements, as you kind of alluded to Dr. Boileau wrote a really nice editorial commending you, which I recommend the listeners read, but what tips do you have to create this portal in a safe manner? How do you recommend doing it? I guess just walk us through that.

Kevin Plancher:

Sure. I'd be honored. First of all, a shout out to Pascal, we are good friends and I know that he would be tough on me. And so he was very kind and I think it is a good read because he's so smart. As he said in his editorial comment and we absolutely agree, the angle at which the glenoid is approached in the Latarjet is of critical importance, whether you do it open or arthroscopic. And especially arthroscopy, that trajectory must be initiated sufficiently medial to achieve that appropriate orientation for the screw placement or we choose to use screws as he does something a little different parallel to the glenoid face at that 45 degree orientation, towards the tip of the coracoid.

It absolutely should be made as we'll talk about probably outside in. And what we recommend as we described this safe zone is if you measure and the problem was in the past, all the articles talked about finger breadths and my finger breadth may be different from yours, Justin, and absolutely other listeners. 45 to 50 millimeters distal to the coracoid process, 30 to 35 millimeters medial to this lateral tip of the coracoid process. If you go in and create this medial trans-pect major portal, I think you have to do it and you must do it in the subdeltoid space under direct visualization, please.

Justin Arner:

Yeah. I think those measurements, at least starting off, really I think will make us more comfortable. And I think the figures in your paper are really helpful. I recommend everyone checking those out as well. As you mentioned it before, can you tell us a little bit about the outside in versus the inside out techniques and what your thoughts are regarding that?

Kevin Plancher:

Well, I always, when I did basic surgery for the shoulder, I always was outside in guy. First of all, rather than years ago, may not remember, we started with arthroscopic Bankarts, we placed a switching stick out from the back of the scapula, all the way to the front and it always scared me and the suprascapular nerve was affected. I learned early on, 20 years ago, that I'm not a fan of the inside out. We recommend no different than Dr. Boileau that once that coracoid is osteotomized, as well the conjoined tendon and the pec minor are retracted, it's important to use a cannula, like he says and protective vital structures. And I don't know how to say it, but just going from outside in is simple. We many of us create it and I think you do too and our listeners, in routine arthroscopy of taking a spinal needle and finding a portal after we have visualization from the back in front and so I think it would only be a natural way to do it.

I will say one of the specimens we found, once you osteotomize, the axillary nerve safety zone moved to one half the distance. And so things change. And I think, especially if you're going to consider this and I would caution those as don't do it yet for revision surgery, things move and outside in just is just natural. I wish I could give a better way to say it, but the inside out that uses switching sticks that's placed in posterior to anterior through the subscap and out the skin places the neurovascular structures at significant risk and I would caution people to not do it.

Justin Arner:

On that same angle, I guess it'd be hard to get your starting point based on your measurements if you're doing it inside out as well. And another thing you mentioned about the safety after the coracoid's removed makes the anatomy as we know when we go back to do distal to the allograph or things like that, revisions, that the anatomy really can be altered. Would you say that any tips to do this after the coracoid is harvest to stay safe? You have the portal in there, so you should be okay. Or what are your thoughts regarding that?

Kevin Plancher:

I think we all move up in complexity when we do surgeries. As we train and when we take on a new procedure, detailed knowledge of arthroscopic anatomy should be done and I encourage anyone to go visit people that are doing the procedure and also go to the lab. But it's paramount to identify and protect the axillary and musculocutaneous nerves to ensure that you're proceeding in a safe manner. We know from the study that the neurovascular structures that are the highest risk seem to be the cephalic vein and the lateral pectoral nerve. And so we can feel pretty comfortable that the axillary nerve is far away if you use our safe zone and starting guide from outside in.

Justin Arner:

I think the guides really make us more comfortable at least starting this out. Another thing you mentioned before about obviously the hardware issues being such an issue with Latarjet. Do you think if we're making this portal from outside in with the right angles and everything, would you suspect obviously we haven't studied this yet, but would you suspect of using screws? You'd think maybe you'd have a better angle at the glenoid that's more reproducible. What are your thoughts regarding that?

Kevin Plancher:

I guess, are you talking about difference of buttons versus screws? Is that kind of the idea that we all know Pascal, Dr. Boileau likes to use the buttons?

Justin Arner:

Yeah. That, but also even if we would be using screws with an open Latarjet versus this arthroscopic technique with a portal that you've studied here, I just wonder, sometimes when you're doing the open Latarjet, it's hard to get that angle. I wonder your thoughts if we would place those screws more in an arthroscopic technique, since we're approaching the glenoid kind of in a standard angle through that cannula if you thought maybe it would be even safer maybe with a screws versus an open procedure.

Kevin Plancher:

Right. Well, as I said before, I think that's really smart of you to say that we know that things have magnified so many times when we do things arthroscopically and we did years ago ACL surgeries, you probably didn't, but I did, many open and we thought we were seeing terrific. And what we learned, we really weren't. And that's why the position of the femoral tunnel changed to get at anatomic. I think that's actually a great suggestion that maybe it's a modified procedure for some, if it's time to put the screws in afterwards using the scope at the better angle. I think you can approach it well. You should feel comfortable. You need to experiment first in the lab. And as I said, visiting others to do it and then place the screw. But the placement of the screw is key.

It has to be at the right angle. And I think for us, it was also the best fixation for us.

Justin Arner:

Yeah. As you mentioned before, what are your thoughts as obviously, Dr. Boileau is such a master in buttons from posterior to anterior be done or anterior to posterior and screw fixation. Tell us your thoughts about the fixation and what works best in your hands or people that it would be maybe starting off doing this arthroscopic.

Kevin Plancher:

Sure. Each surgeon, I encourage finds the best fixation that reproducibly works for them. However, in fairness to all listening, our experiment did not test this though. We didn't do it. And Pascal has an experience, and I know others, I don't want to slight them that are doing arthroscopic, Latarjets in Canada. I have friends that are doing it and across the globe. We just haven't had failures using screws in our hands. And I believe that it is, as you've said time and time now during this interview, obliquity and the angle for which the screw is placed. The operation is technically demanding and like very much with doctor, I like it what he does with his buttons. I just haven't converted to date. Maybe it's time when the pandemic is over, I take that plane to Leon, visit him and I get a lot smarter and visit him and see that it's time for me to convert as well. But I'm just not there yet.

Justin Arner:

All right. I think it's so valuable to be able to see you guys perform these procedures and get all the tips that you've worked through instead of reinventing the wheel. Yeah, I think it's great advice. Regarding these portals or this portal that you've described, do you think it could be useful for us for things like bony Bankart repair? Because that angle is a little different or the distal tip of the allograft or other free bone grafts besides the Latarjet if we move towards that? Or what are your thoughts beyond the arthroscopic Latarjet using this portal?

Kevin Plancher:

When you have the basis of a study and then you want to expand, it's exciting. And so utilization of this portal is still in progress for us. And I do agree it could give access to a distal tibia allograft, although I'm not sure how I'm going to push the bone block through, not get some of the structures. It's going to take careful thought. And I think that's what some of our researchers are doing right now, going back to the lab to ensure feasibility and safety, because we never want to jeopardize feasibility and safety of a patient's health to be compromised when you adopt new technology without careful thought. And I think that was well said by my colleagues, Dr. Lafosse who did so many arthroscopic Latarjet and then tried to alter something and learned lessons the hard way. We don't all need to learn from history. We don't repeat history. Yes, I think it's a beginning. No, we're not there and I don't know if I have the technology, if we have to introduce some kind of device that slides the bone block in past the structures, but I'm not there yet.

Justin Arner:

Right. Along those same lines, tell us, have you personally made the jump to arthroscopic Latarjets? Or how do you recommend doing that? As you

mentioned, going to the lab and watching some of the folks that are doing a high volume of those. Have you made the jump? Or what are your thoughts?

Kevin Plancher:

You're going to laugh at all this, but given my training and my results, my procedure of choice for a first time dislocator without bony glenoid loss greater than 30%, is a modified arthroscopic Bankart with plication sutures, almost like a modified inferior capsular shift. And we're currently investigating our longterm, 10 year plus outcomes to throw down dogma to change it, which I love to do, in contact and collision athletes. To date we've seen 60 of our patients back. We just started in the clinic. We found that all of our athletes returned to their sport without a loss of external rotation, with a low recurrence of instability. Those that we have, about 8% and all were due to traumatic reinjury not because they didn't go out and play. Therefore in my practice, I reserve the Latarjet and the arthroscopy for recurrent dislocators following a Bankart in patients that have significant glenoid bone loss greater than 30%.

Justin Arner:

Yeah. I love the times whenever we kind of challenge the norms. That'll be exciting study. Look forward to seeing that. And yeah, it's nice to break the mold. Sometimes we get down a road and just keep doing the same thing. It's nice to have a conversation. That's exciting.

What are your thoughts in the future regarding bone block procedures? We've heard a lot of great suggestions about fresh allografts with cartilage, even for more primary repairs. Do you think the arthroscopic Latarjet will slowly make its way to the states and will we preserve the Latarjet for further bone loss or be going to more allograft? Or what are your just inklings and gestalt of the future holds for this?

Kevin Plancher:

Justin, I do think this is the beginning of helping to better understand this complex procedure. And I hope that others, a lot smarter than us in our group, investigators, take this as a benchmark and only make it better so that we can take this difficult procedure, make it reproducible, but also easier so that our patients, because remember at the end of the day, it's not about us. It's about our patients every day when we go to work. And I hope that the clinical relevance of this lab procedure, creating a safe zone for a trans-pect medial portal in cadaver leads the way for many of us to solve shoulder instability, which is very common in our young patients and athletes.

Justin Arner:

Yeah, I think it's essential. And again, demystifies this procedure. Again, congratulations and thanks for joining me. And I think we'll be using this more and more. And like you mentioned, this is a great stepping stone, so thanks for your time and really appreciate it.

Kevin Plancher:

It's really been an honor. Dr. Arner, what you do here in spreading the word and working for the Journal so that we can all share information. What a delight on this morning to share with you.

Justin Arner:

Thank you. I think the Arthroscopy Journal's great and the podcast I think is developing more and more. I appreciate that.

Dr. Plancher's article entitled, The Shoulder Trans-pectoralis Arthroscopic Portal is a Safe Approach to the Arthroscopic Latarjet Procedure: A Cadaveric Analysis, is published in the February 2021 issue of the Arthroscopy Journal and is available online at www.arthroscopyjournal.org. Thank you for joining us. The views expressed in this podcast do not necessarily represent the views of the Arthroscopy Association or the Arthroscopy Journal.