

Professor Elizabeth Arendt: the reconstruction of medial patellotibial ligament

Received: 16 July 2017; Accepted: 30 July 2017; Published: 29 August 2017.

doi: 10.21037/aoj.2017.07.08

View this article at: <http://dx.doi.org/10.21037/aoj.2017.07.08>

Elizabeth Arendt, is a Professor and Vice Chair in the Department of Orthopaedic Surgery of University of Minnesota and is a faculty advisor for medical students. Prof. Arendt serves on the Editorial Boards of *Knee Surgery Sports Traumatology and Arthroscopy*, *British Journal of Sports Medicine*, *Journal of International society for Knee and Arthroscopy*, and *American Journal of Sports Medicine*.

At the 2017 biennial meeting of International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) in Shanghai, we were honoured to invite Prof. Elizabeth Arendt (*Figure 1*), who serves at the Department of Orthopaedic Surgery of University of Minnesota, to have an interview with us on the reconstruction of medial patellotibial ligament (MPTL) in *Annals of Joint (AOJ)*.

AOJ: *In the meeting, your speech is about “when is Medial Patellotibial Ligament (MPTL) reconstruction to be considered: anatomy and technique points”. Could you briefly introduce your ideas on this topic to our readers?*

Prof. Arendt: The medial patellotibial ligament has been recognized anatomically, but was first studied biomechanically by Dr. Conlan and his co-authors in 1993 who looked at medial sided structures and their role in stabilizing the patella. Other authors followed but studied patellar stability primarily in early flexion (IE) 0–30 degrees. Then, a study was published in 2012 at Knee Surgery, Sports Traumatology (KSST), looking at the MPTL through a knee of motion that ranged from zero to ninety. Dr. Philippot and his co-authors showed a very strong contribution on both MPTL and MPML in deep knee flexion. At this time I believe that we need to know more about the role of the tibial-based patellar ligaments in preventing lateral patellar instability and stabilizing the kneecap. We have recently published an anatomic study on the medial sided ligaments. We also published a literature review with Prof. Gobbi and Dr. Hinckel from Brazil; the current challenge is to try and understand how this ligament works.



Figure 1 Professor Elizabeth Arendt.

AOJ: *Apart from the anatomy and techniques, what other aspects should we pay attention on MPTL reconstruction?*

Prof. Arendt: At this time I believe the addition of MPTL reconstruction to surgical patellar stabilization is useful when you are treating "Obligatory dislocation in Flexion", in addition to lengthening the extensor mechanism. I don't know what role it plays in our classic lateral patellar dislocation. In other words, should we be using it to augment the medial patellofemoral ligament (MPFL)? If you look at our current literature, there is about an 85% success rate in patellar stabilization with an MPFL; however, there is a moderate number of people who continue to have the sense of instability or the sense of subluxation continuing after this surgery. This could be due to many factors. Nonetheless, I think we have to consider that there may be certain anatomic variants that need both the MPFL and the MPTL. For instance, if you have a person with a very shallow trochlear sulcus, not only

proximally but also in the deeper part of the groove, maybe that's one that needs both ligaments reconstructed.

AOJ: *What do you think of the safety of MPTL (Medial Patello tibial Ligament) reconstruction using patellar tendon?*

Prof. Arendt: Several centres have stabilized the kneecap against lateral dislocations by moving the medial one-third of the patellar to a different location with good results. But I am not sure that they are really reconstructing patello tibial ligament but they do approximate it. So I don't think we know enough. I don't like moving the patellar tendon. I prefer to take a free graft. But studies in the literature do seem to have a reasonable success rate when you are looking primarily at the success rate of using MPTL as a surgical treatment for lateral patellar dislocations.

AOJ: *Could you recall anything of your first MPTL reconstruction? e.g., what were the challenges to do such a surgery? How did you feel after that surgery?*

Prof. Arendt: My first MPTL reconstruction surgery was in November of 2015. I have now performed it in 5 or 6 people. They were mainly people who I did an augment to the MPFL because they have a very strong "quadriceps pull sign" (IE) a very strong superolateral migration of the patellar when they contract their quad. I am not so sure that's the right indication. Since that time, I have also done another 7 people with a habitual patellar dislocation. This is a good indication for this surgery.

AOJ: *What is your expectation of the outcome of MPTL injury?*

Prof. Arendt: Just Like all surgeons, we want satisfactory outcomes of our surgery. However, I think we have to talk about indications before talking about the outcomes. At this point, I cannot say with clarity exactly what are the indications for reconstruction of the MPTL. The only thing that I can say with some clinical and biomechanical support is that if you have a patella that dislocates in flexion, you should consider augmenting it with the MPTL in addition to the MPFL. Other than that, I am not sure what role it plays but I think it's important to continue to study this and determine what role it might play in our treatment of patellar dislocation and improve our success rate.

Acknowledgments

On behalf of the editorial office of *Annals of Joint (AOJ)*, I would like to express my gratitude to Prof. Arendt for sharing her opinions with us.

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the Editorial Office, *Annals of Joint* for the series "Meet the Professor". The article did not undergo external peer review.

Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/aoj.2017.07.08>). The series "Meet the Professor" was commissioned by the editorial office without any funding or sponsorship. VW reports that she is a full-time employer of AME Publishing Company (publisher of the journal). SZ reports that she is a full-time employer of AME Publishing Company (publisher of the journal). The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

(Science Editors: Vicky Wong and Silvia Zhou, AOJ, aoj@amegroups.com)

doi: 10.21037/aoj.2017.07.08

Cite this article as: Vong V, Zhou S. Professor Elizabeth Arendt: the reconstruction of medial patello tibial ligament. *Ann Joint* 2017;2:53.