

ANDERS TROELSEN

<https://doi.org/10.71165/spjo-nmwu>

SUMMARY

Professor Anders Troelsen's trajectory from Western Denmark to the presidency of the European Knee Society reflects a career anchored in the systematic application of registry data. A former handball player, he transitioned from trauma surgery to a focus on unicompartmental knee arthroplasty and fast-track recovery protocols. His research on the uncemented paradox remains a citation landmark. Today, he prioritizes international knowledge transfer and multicenter trials, ensuring that surgical precision is matched by robust clinical evidence for future generations of surgeons.



Hailing from western Denmark, Anders Troelsen has made the world his canvas for study and exchange. From Copenhagen to Boston, he has built his career on a core belief: the power of data to advance orthopedic surgery. As President of the European Knee Society and a fervent promoter of unicompartmental knee arthroplasty, he shares a vision where international collaboration and the transmission of knowledge are the true drivers of surgical excellence.

Let's start from the beginning. Can you tell us about your journey into medicine and what drew you to orthopedic surgery?

It became clear to me that I wanted to pursue orthopedic surgery during my second to last year of medical school. I had an internship in a local emergency room where I treated wounds, set broken bones, relocated joints, and applied casts. I occasionally had the opportunity to go into the operating room, and I found the experience of manually helping patients very rewarding. My parents are school teachers from the western part of Denmark, which is considered a bit of an outlier. It was unusual for someone from my high school class to attend university in Copenhagen; In my class in medical school I was the only one out of 28 students. I felt a bit like the country boy in the big city, but it was a positive experience.

Medical school was a joy, and Copenhagen is a lovely city. During my early training rotations, I returned to the outskirts, which was a fantastic experience because it was very hands-on. We were understaffed, with about four people covering a shift meant for ten, but this was a fabulous

opportunity because it allowed me to do so much. That's where I truly began my operative career, performing a high volume of basic traumatology. I discovered I had a talent for surgery.

You also developed an interest in research. How did that come about and who were your early mentors?

I met a surgeon from Aarhus, Denmark's second-largest city, who suggested I consider research. The systematic process of collecting data to determine better patient outcomes appealed to me as an important addition to my career. I went to Aarhus and met one of my first mentors, Kjell Søballe, while completing my PhD in hip-preserving surgery. He was renowned in the Nordics for his periacetabular osteotomies (PAOs) and his mini-approach to the procedure, which was the focus of my PhD.

I also had a trauma mentor, Michael, who taught me the importance of generosity -of giving back and teaching younger people. I later had the privilege of performing bilateral hip arthroplasty on him. After my three-year PhD, I returned to Copenhagen as promised to my wife and started at my current workplace in the southern part of the city. There, I met another mentor, Henrik Husted, a pioneer of fast-track surgery and rapid recovery. He was a friendly and highly skilled surgeon who truly inspired me to become an arthroplasty surgeon and took me under his wing.

Your career then took you abroad. Could you speak about your time in Boston and the influential figures you worked with there?

I felt the need to travel, so I undertook a six-month research fellowship at Massachusetts General Hospital (MGH) in Boston. There I met two fantastic people: the renowned Dr. William Harris and his successor, Henrik Malchau. They were both incredibly generous, opening up their research environment to me.

Dr. Harris was no longer working full-time, but he would come into the office out of pure interest. The best place to interact with him was at the coffee machine, where all the important conversations happened. As a pioneer in areas like polyethylene, he had experienced and developed so much, yet he remained genuinely interested in who you were, your interests, and your ambitions.

Henrik Malchau is a very international figure who knows many people around the world. He is excellent at connecting people; when you sit at a table with him, he ensures everyone gets to know each other. He believes international networking is critically important, and he is right. He is also a super generous person, and we developed a close connection and have an ongoing collaboration.

What was the focus of your research in Boston?

I worked on a few papers, one of which has become one of my most cited works, known as the "uncemented paradox." It was a basic paper where we reported on the observation that despite cemented implants showing superior survivorship in registries for elderly patients, cementless implants were being increasingly overutilized. This paradoxical finding was an important message that was very well-received globally. It was a very fun project to work on, and the idea primarily came from Henrik.

What happened after you returned to Copenhagen? Did your international experiences continue?

I came back to Copenhagen, finished my specialty training in 2012, and by 2014, I was appointed Professor of Orthopedic Surgery at the University of Copenhagen and a senior consultant in my

department. The progression was rapid, but because I had focused my training on arthroplasty, I was already maturing toward a specialist role.

Just when you think you've reached the top, you see another mountain to climb. I met some wonderful people from Oxford who invited me over for inspiration. I obtained a license to practice in the UK and performed my first 20-25 unicompartmental knee arthroplasties (unis) in Oxford, which was a tremendous learning experience. I worked primarily with Andy Price, Will Jackson, Nick Bottomley, and Abtin Alvand, as well as David Murray and Chris Dodd. The following year, I visited three other European centers: Lyon with Sebastien Lustig, Marseille with Jean-Noël Argenson and Sébastien Parratte, and Florence with Andrea Baldini. I believe it is crucial for surgeons to visit others if they have the chance. You always pick up new things, big or small, and gain inspiration. We must avoid getting stuck in our own ways.

You were also a talented athlete. Did your experience in team sports influence your career?

Yes, I played handball, a major sport in Denmark, throughout my youth. I played with some who later became national team players and reached the level of the selected teams just below the national youth teams. However, I reached a point where I had to choose my focus. My mind was set on becoming a doctor, and I wasn't mentally prepared to commit to being a full-time professional handball player. But I still love the sport.

My background as a team player has been influential. You learn the discipline of being on a team and the principle that you are only as good as your team. It sounds like a cliché, but it's true. You can have your best day, but if your teammates are struggling, everyone loses. There are aspects of team sports that are definitely generalizable.

Now in a leadership position, how do you leverage your experience to improve patient care, and what is the role of evidence in your work?

The academic part of knee surgery is what carries everything. Being a good surgeon has a limited reach, but if you use data to show which surgical choices optimize outcomes for everyone—patients and surgeons alike—it creates powerful leverage for improving patient courses and implementing concepts like fast-track recovery. Evidence is fundamental for building new structures and advancing the field.

In Denmark, we have a positive story around unicompartmental knee arthroplasty (UKA). For me, it started about ten years ago, and I see the interest around me continually increasing. This is largely evidence-based, as Danish surgeons are very adherent to evidence. They also understand the importance of surgical volume to maintain technical skill, achieve good outcomes, and keep revision rates low. So, the pivotal point is evidence and how you adhere to it.

How does the Danish national registry contribute to this evidence-based approach?

We have a mandatory national registry with a completeness of around 96-97%, which provides very good data. It's not enforced by punishment but by a social expectation; nobody wants to be the last one not contributing their data. This allows us to understand everyday surgeries, their outcomes, and how changes in practice affect those outcomes. With this data, we can support surgeons in their decision-making.

For example, I helped to separate the outcomes for unis and total knee arthroplasties, as they are very different operations. We also show usage data to encourage departments that choose to

perform units to do enough of them, as we know volume is critical for outcomes. The registry is not just a research tool or a feedback mechanism; it actively supports current best practices.

Your department is also known for pioneering changes in practices like thrombo-prophylaxis. Can you elaborate?

We have some excellent, well-established national collaborations. If you are a designated “fast-track center,” you can participate, contribute your data, and follow uniform protocols for things like thrombo-prophylaxis. In that setting, we have significantly cut down the duration of prophylaxis. A patient who is a candidate for same-day surgery and mobilizes successfully can be treated with just a single dose. We are able to do this while demonstrating the safety and efficacy of the treatment.

Can you describe your current department and team in Copenhagen?

My hospital is in Southern Copenhagen, serving a catchment area of about 650,000 people. It’s one of the biggest orthopedic hospitals in the country, with a huge emergency department and a large arthroplasty section. We recently went through a generational change, and now I am literally the “old guy.” But this has been a positive transition, and we have a very good team now with a great team spirit. My colleagues include Kirill Gromov and Christian Nielsen, whom you know from the European Knee Society.

I feel safe with my colleagues and trust that they have my back. We have a structured organization: My colleague Ann Ganestam manages clinical work, while Kirill and I organize our academic work, with each of us having distinct areas of responsibility within a collaborative framework. I currently supervise or co-supervise between five and eight PhD students, both in-house and externally.

What are the main topics of your current PhD students’ research?

Lately, my own subjects have been focused on unicompartmental knee arthroplasty. We have one excellent project on medial uni by Christian Bredgaard Jensen and another student, Kristine Bunyoz, who will be defending her thesis early next year on lateral uni. They will both be presenting at the EKS open meeting. The goal is to support the surgical environment around UKA using the rich data we have in Denmark from the registry and our fast-track collaborations. For me, providing that academic support to colleagues is valuable and rewarding.

How is orthopedic surgery organized at a national level in Denmark? Is there a dedicated knee society?

The Danish Orthopaedic Society (DOS) is the main umbrella organization, which holds one annual general meeting. During this meeting, the subspecialty societies have time for their own meetings and symposia. We have the Danish Society for Hip and Knee Arthroplasty Surgery, which is a combined society. It is becoming increasingly active and has an open, international mindset. For instance, this year we are holding a joint symposium on infection with the International Hip Society and the European Knee Society. Given that Denmark is a small country of about six million people, this combined structure makes sense, as it ensures there is enough critical mass for meetings and courses.

Given your PhD background, what is your current practice and research interest in hip arthroplasty?

I often joke that the link between a uni-knee and a hip replacement is that they both have excellent outcomes and high forgotten-joint scores. Total hip arthroplasty is a great operation with consistently safe and good outcomes for patients, which is astonishing. The efficacy of the treatment is nearly unparalleled in medical history. I find great joy in performing that surgery and seeing it go well.

From a research standpoint, the challenge is to optimize without diluting the already excellent results. We have a very solid platform, so any incremental improvements must be approached with great care. My recent interests have been in polyethylene, where third-generation vitamin E-infused polyethylene has shown incredibly low wear rates. On the femoral side, I have a particular love for the French paradox cementing technique because it makes so much sense from multiple standpoints, and we are now collecting data to establish its clinical proof of concept. My energy for hip research comes from making these small, incremental improvements.

Let's turn to the European Knee Society (EKS). You were there at its inception. Could you share how it started and what it represents today?

I was at the founding meeting in Zermatt, Switzerland, in January 2015. It was a great world to enter, full of interested people where I immediately felt at home sharing thoughts and hearing the latest input from across Europe. The EKS has established itself as the premier platform for news on academic knee arthroplasty surgery and related topics. I joined the board as a member-at-large a few years later, then moved into the presidential line after serving as General Secretary, and this year I am the president.

The EKS is a union of like-minded academic knee surgeons who meet to inform and improve each other's practices. For me, it's a go-to place to feed your brain. The society has been a success; it's well-branded and known around the world, and we are establishing global contacts. It has been a very positive and steep climb for the EKS over the last 10 years, and this year is our 10th anniversary, which is something to celebrate.

The EKS Open Meeting is coming to Copenhagen. What can attendees expect from the scientific program?

It's important that we create a program that is relevant and timely for surgeons. Unicompartmental knee arthroplasty, which is my workhorse operation, will have a prime position. We'll also spend more time than usual on lateral uni, which is a great but underutilized operation. Additionally, we will cover challenging topics like alignment and knee kinematics. The revision side will also be addressed, covering complex primary, septic, and aseptic revisions. No matter your interest, you will find a track that matches your needs.

We are also using different formats, including many video presentations, to make the sessions dynamic. A significant amount of time will be allotted for panel discussions because we want to hear what specialists think about what other specialists are saying, fostering open and honest dialogue.

Beyond the science, what about the social and networking aspects of the meeting in Copenhagen?

The two days will be about being together with new and old arthroplasty friends. The networking aspect—meeting people and having open discussions—is super important. We want the event to be a central meeting point. There will be industry-sponsored lunch symposia, a beer reception on

the first afternoon for informal discussion, and plenty of time for interaction around the booth area. The social aspect is definitely a key component.

For visitors coming to the meeting, what do you recommend seeing or doing in Copenhagen?

Copenhagen is known for its high density of very good restaurants. I recommend doing a little research, perhaps using the Michelin guide, and picking a nice restaurant; I am sure the food will be excellent. The city itself is very gentle and easy to get around. It's walkable, so you can easily see the top sites. I would suggest a walking tour starting at the Kongens Nytorv, strolling down Nyhavn—the famous area with restaurants and colored buildings—then walking past the opera house, heading north to the King's castle to see the changing of the guards, and then just sitting down somewhere to enjoy the environment.

Looking beyond this presidential year, what future academic projects are you excited about?

I always need new projects that I find inspirational. Academically, I am very much looking forward to a multicenter randomized controlled trial on knee arthroplasty efficacy. We will compare surgery to exercise to clearly define the position of knee arthroplasty in a contemporary world. I also look forward to continuing to teach and educate on unicompartmental knee arthroplasty. Seeing new surgeons show so much interest nationally and internationally is incredibly inspirational. And, of course, I will continue to work on expanding my international network.

Finally, what advice would you give to young surgeons at the beginning of their careers who aspire to be good doctors and surgeons?

To be good at what you do requires dedication. You must be in a position where you can dedicate time and energy, especially when you are young and need to train, which often means time away from family. I would advise finding a spot in orthopedics that you can be enthusiastic about and can dedicate yourself to. I believe that from that dedication and enthusiasm, good things will grow. Having a happy work life makes it easier to achieve a good work-life balance and a good family life. That would be my general advice to pass on.