MENTORS IN ORTHOPEDICS

ANDREAS HALDER

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SUMMARY

Professor Andreas Halder, President of the German Orthopaedic Society, directs one of Europe's most active joint replacement centers. His transition from arthroscopic reconstruction to high-volume arthroplasty was informed by a research tenure at the Mayo Clinic, which instilled a systematic approach to clinical inquiry. Currently focusing on the integration of robotics and data-driven outcomes, Halder advocates for a return to patient-centered care. He remains committed to mentoring the next generation while refining the evidence-based guidelines defining current surgical practice.

Andreas Halder was the current president of the German Orthopaedic Society and the Co-chair of the German Orthopaedic and Trauma meeting (DKOU) in Berlin this year. He is Professor of Orthopaedics in the Otto von Guericke University in Magdeburg and head of the second biggest orthopaedic department for joint replacements in Sommerfeld close to Berlin. He talks about the current challenges of the German Orthopaedic and Trauma Society, his personal carrier and why he loves to be an Orthopaedic surgeon.

What does the German Orthopaedic and Trauma Society mean to you and why Germany still has three societies?

> The German Society for Traumatology is a separate society from the German Orthopaedic Society. In 2008 there was the union to form the Orthopaedic and Trauma Society (DGOU). There are still three boards and a lot of members pointing out that the historically formed two societies have a certain role. The priority for all young members and the number one society to join is, of course, the DGOU. There are still two specific sections within the DGOU named Orthopaedic Society and Trauma Society, with their own members and specific tasks.

The German Orthopaedic and Trauma Meeting in Berlin is the biggest orthopaedic meeting in Europe. What was the main topic this year?

> The main topic was "With Passion for the Patient" and we had three teams preparing the congress. It is one team from the Trauma Society, one team from the Orthopaedic Society and one team from the Practitioner Orthopaedic Doctors (BVOU). We all sat together and said: What would you like to point out within the meeting? And we stated, that in former years we were all busy with the union of our societies and technical solutions like robotics, navigation, political problems, reimbursement, and other stuff. We wanted to get back to the main tasks of a doctor, namely, to care about the patient and we want to put the patient in the focus of our congress. During the congress we wanted to find out specific needs of the patient, for example, traumatology of the elderly, individualised joint care, individualised programmes of joint or extremity care, individualised rehabilitation programmes and so forth. So, we wanted to focus on our patient and discuss why, at least in part, the patient left the focus of the congress and doctors. For the second part we wanted our young doctors to be really committed to Orthopaedics and Traumatology and wanted them to do their job with passion. With the congress we wanted to teach them, to train

them, and we wanted to motivate them to join us, performing our great and broad spectrum of conservative and surgical therapy within orthopaedics. “With Passion for our Patients” as motto for our congress we wanted to attract young people, our new generation, to join our orthopaedic and traumatology profession, and we wanted to refocus on our patients and their needs.

What are the main future topics for DGOU and the DKOU congress in Germany?

First of all, for the DGOU we have to finalise until 2025 the union of the two entities: Orthopaedics and Traumatology and to develop the role of the sub-societies. This is surely the most important part because many people have to join in a new board, so we have to rearrange the societies. For the DKOU congress it’s kind of post-COVID challenge. We have to see or experience how many people will profit from taking part in a hybrid version, and how many people will profit from this face-to-face meeting. We strongly believe that face-to-face at the congress is superior to a remote participation in a congress because it’s all about personal relationship and personal and social exchange at the congress. That’s why we have decided to broadcast only the international sessions in English via the web and the rest of it is all face-to-face. And we face, of course, the challenge of the industry, because the industry must cope with the new Medical Device Regulation in Europe. Their financial resources will be exhausted to overcome all the difficulties of the Medical Device Regulation and the sequels of Corona and supply chain limitations, and so forth. So, we will probably have to fight for money for the congress; and to define the format for the future of the DKOU, but I strongly believe that this once a year – I would say – second biggest world congress – will have a strong position in the Orthopaedic world.

Where have you been trained, and how was your Orthopaedic career?

I started studying in Berlin in the eighties, but I wanted to move out of Berlin, because I was born in Berlin, so I wanted to see another city. I changed to Münster and came back to Berlin in 1990 and started my residency in the Oskar-Helene Heim, which was formerly the biggest orthopaedic University hospital in Germany, 300 beds in Berlin Zehlendorf. After working some years on the private ward of the former chairman of the Oskar-Helene Heim, Prof. Weber, I left for a clinic in Birkenweder in the North of Berlin with a Consultant who became chairman in this clinic. I was very busy with surgery in this clinic, but the scientific part was not well developed. I decided to pursue the kind of clinical career, and to be able to do this and to work scientifically I thought its best to move to the States and continue my education there. I was already a consultant when I went for two years to the Mayo clinic in Rochester in the late nineties to do two years of research in the knee and the shoulder. Returning home, I went back to the clinic in Birkenweder and found out that I was probably willing to have an own department to develop. I applied for a chair position in the Sommerfeld clinic in 2000 and took it over in 2001. Sommerfeld was formerly in the German Democratic Republic (DDR) the biggest department for joint replacement but in 2001, in fact, the insurance companies were thinking about closing the whole place because they were thinking: maybe we don’t need it anymore. We had to make a big effort to preserve the clinic and later we managed to renovate everything, to build new operating theatres and today we are the second biggest department for joint replacement in Germany with about 3500 total joints a year and about 5000 operations including spine and the other extremity surgeries.

Your fellowship in the Mayo Clinic. What specifically was different to your education and training in Germany, and what were the major points you learnt and you brought home when you came back?

> Well, firstly, they are very professional. In Germany if research is done, it's usually after you do your surgery, somewhen in the afternoon or the evening. In the Mayo clinic, there is a whole research department, in my case it was a biomechanics laboratory and about 50 people were working there. They were paid by the Mayo clinic, and partly by industry. So, of course, if you do the whole day research in a kind of professional environment, there is much more output than if there would be leisure time research in the evening. So, I think that research in Germany, especially clinical research or research in the hospital should be more professionally organised.
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> Secondly, I thought that the quality of surgery is great, and you can observe many things, but many ideas are born in Europe. I think that Europe has a great potential for surgical and research ideas and lots of creativity originates from Germany. Of course, in the US there is a more professional way to execute it and I would say there is a different approach, but very few centres do surgery on large numbers of patients. By far the most hospitals in Germany do relatively small numbers with a lower degree of experience. One of the strengths of Europe would be that we have quite several centres with many people doing lots of work. And I would say if we could organise our research and publication work on a more professional basis and with more confidence, we could have a much better scientific output in Europe.

What is your personal sub-specialisation, and why did you choose this Orthopaedic pathway?

> In the nineties when I was in the Oskar-Helene Heim and the smaller clinic in Birkenweder, I was mainly doing reconstructive surgery for the knee and the shoulder because I loved to repair the joints versus just replacing. Of course, I did replacements, but not on a large number, so my specialisation was arthroscopy and all arthroscopic surgery. Together with Michael Strobel in Münster I was working on the book "Diagnostic arthroscopy of the knee" in the late eighties, and this was also my doctoral thesis. In 2001 when I became chairman of this large hospital for joint replacement, I switched my focus to joint replacement, and I found out that it's not so easy. It's not just about putting a piece of metal between two ends of bone, and it could be more or less well done but you can improve it to a great deal if you just think about it and try to improve implants and the surgical technique. Nowadays my specialisation is joint replacement of the knee, hip and shoulder, but I love sports medicine and arthroscopic surgery and I still do it.

How do you feel as a Medical Director working for a private group, and what is the difference to the public healthcare system from your experience?

> Well, in the private sector you must be much more efficient, of course. So, our private owners want to make some profit, at least partially to reinvest into the different hospitals they own. So, you always have to justify if you spend money, you have to justify each individual position of resident, consultant, physiotherapist and nurse. You have to earn their money with what you do, so you must be economically much more efficient than in a community hospital. In a community hospital they get, partially at least, large amounts of money if they run into deficit. For example, Charité clinic in Berlin just gets 200 million Euro from the public if they have some deficit so they don't need to care so much about their economic efficiency. On the other hand, of course, the process of application for some money it's probably easier than in a community hospital, because, if you say: Well, I want to improve patient care, my surrounding or build a new operating theatre,

whatever, and you can justify by what you do, it's easier, and you get it done within a relatively short time. This probably is a lengthier way if you are in the community hospital.

Your scientific career. Where and when did it start?

Well, I never planned to make a scientific career. Yes, I started in university because I love teaching of students, residents, physiotherapists and nurses and I'm interested in research questions. I was always interested in specific questions without being interested in a scientific career. For example: Why do I have to do acromioplasty of the shoulder: in my mind a doubtful operation – is this really the right way, to just burr away a part of the acromion. But at some point of my career it became clear that if wanted to stay in a hospital and to become chairman I had to have some sort of scientific qualification. I was at that point of time in a very small unit where I did lots of surgeries, but no scientific work, I decided to leave for the US to do a kind of research fellowship and I was able to finish my habilitation in 2004 and after more than eight years of teaching and of ongoing publications and scientific work in 2012 I became professor in the University of Magdeburg.

Who were the most influential people for your career?

Difficult to say and many of my colleagues have one or two mentors for their career but I never had a mentor. It started in the Oskar-Helene Heim, and I was working with Professor Weber on his private ward with little scientific and clinical work which could move my career on. Afterwards I worked with a consultant of the Oskar-Helene Heim, who was my chairman in the smaller clinic in Birkenwerder, but he did not really do sports trauma and arthroscopy research. But, in the Mayo clinic, there was Bernard Morray, he was a neighbour of ours in the States. He was teaching me many things. Kai-Nan An of the orthopaedics biomechanics lab was a great person, and I think they both taught me a lot about research, clinical work and about what you should do and not do in the States. For example, when I first met Bernard Morray, he asked me why I came to work in the Mayo Biomechanics lab. I said to him, well I get to publish papers to get many impact points to be able to make my habilitation in the university in Germany. He said: No, no, that's not the right way. You must think about what you want to tell the orthopaedic world. If you know what you want to tell the orthopaedic world, you can publish or not, but it's so important that you always have the topic in mind that you want to investigate and what you want to tell. And then you are successful and you should do it with a full heart. And that's what I respected, and I tried to change my mind in those days. And from 2001 onwards, it was maybe Professor Neumann who was a kind of mentor in the Otto von Guericke University in Magdeburg, supporting me to run through my habilitation. So, if I want to count: It's Bernard Morray and Kai-Nan An in the States and it's Wolfram Neumann from Magdeburg who helped me and, of course, later on all the people in the board of the society: Fritz Niethard, Werner Siebert and Bernd Kladny.

You are the head of the guidelines committee of the German Orthopaedic Society. So, how important are guidelines for you?

For me, personally, they are very important, because they summarise current available evidence in certain subjects relevant to daily practice. As an orthopaedic surgeon or doctor you cannot read daily all the published literature but if there is a summary guiding you through your diagnostic and therapeutic process each day, I think it's very useful. It should be short and practical and guidelines with 100+ pages, I think they probably miss what they wanted to do. I think from

> practical and forensic standpoint guidelines are very important. Of course, you know that the guideline is not a law and you are not bound to it, but on the other hand, every lawyer and every judge always pulls out the guideline and says – what did you do? In common sense guidelines are very important, but they are more than a recommendation in the public sense. The most important part of the society's work, apart from education, research and political statements is guideline work. Because this determines what all the doctors in the countries do every day and give the boundaries of evidence-based medicine. For the future my wish is that we all recognise the importance, commit to work and ask for financial support for guideline work.

One of your scientific topics is robotics. Do you think it's just another industry hype like navigation and PSI, or is it the future?

> I think we are still in the infancy of robotics with big machines and infrared technology. I always compare it with the first mobile phones with luggage cases carrying with you. Robotics can make sense for more difficult surgery to help the surgeon for intraoperative orientation and precision, like bi- or tri-compartmental partial implants in the knee, or difficult spine surgery. I think maybe in the future we know more about clinical results and their relationship to intraoperative implantation values like which leg axis should I aim for in this specific patient. One of the big benefits, apart from intraoperative precision is data collection within the surgery. If we can collect all implantation data from surgery via robot: exact angles, values of rotation and hight of resection, and link this to the postoperative clinical outcome, we know better in the future what we should do intraoperatively. Data collection can be, in fact, one of the gamechangers in the future. Linking clinical results to intraoperative values with artificial intelligence, we maybe will know in ten years more about the successful knee operation.

You are very busy with your clinical, scientific and society work. How do you manage your work-life balance?

> First of all, working is great, and I love working in the hospital for the society as well as for congresses. But there must be certain reserved time spots for your family and for your private life. For example, I try to avoid meetings on the weekends, and I always try to reserve this time for my family. In former years I was even joining meetings on Saturdays, and sometimes late on Saturdays, and this was a mistake. I try every evening to see my kids before they go to bed and to have a wine or a beer with my wife. I try to connect with my family, every day and at least every weekend. I take care also for my own mental health, and I have some hobbies which I pursue with a passion.

What are your hobbies beside Orthopaedics, which seems to be one of your main hobbies?

> I love to do sports, at least two or three times a week but I wouldn't call this a hobby. It's just for my physical well feeling and for my mental wellbeing. I am collecting old medical books, usually illustrated books to follow the scientific development of anatomy, orthopaedics, and traumatology. For few years I have started collecting classic cars and it's great to drive them and to really enjoy that these cars run for 50+ years still in the same way. Today, usually after six to eight years we must throw away these electric cars, so I think classic cars are one of the most ecologically beneficial ways of moving and apart from this, they are just beautiful, and their mechanics are fascinating.

What would you recommend to a young resident to become a good orthopaedic surgeon?

> Well, they must do what they really love. And if they love to do manual work, to treat joints and bones, it's probably the right way. There is no other specialisation in which you have such an immediate success of treatment. Not in internal medicine and not in general surgery. If you have lots of pain originating from a torn meniscus and with a minimally invasive arthroscopic surgery, you resect or suture this meniscus and it's immediately okay and the patient can walk again. After longstanding hip pain from osteoarthritis of the hip and you replace the hip, it's an immediate success, the patient can walk two hours after the operation nearly pain-free. The subject of treating joints and extremities, I think, is extremely fascinating. You get immediate success usually in your patient after correcting or repairing the joint or a bone and the success of healing and the satisfaction of patients being able to move again is fascinating. If you have a good 3D understanding, the desire to work manually and want to see the immediate result in your patient, it's Orthopaedics and Traumatology. This includes a great, broad spectrum from conservative approaches to maximum surgery, from the cervical spine to the lumbar spine, so everything is possible, and that's why I think it's a great speciality.

Thank you for the nice interview.