

## ALEXANDRE LÄDERMANN

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### SUMMARY

This month, we profile a Geneva-based surgeon whose career integrates rigorous European training with American technical innovation. Having refined his expertise under mentors such as Gilles Walch and Christian Gerber, he focuses on the clinical validation of shoulder arthroplasty and arthroscopic techniques. His commitment to evidence-based practice is matched by a dedication to teaching within the Swiss university system. We discuss his transition from reconstructive challenges to biological interventions, alongside his interests in apiculture and the cultural history of Geneva.



This young dynamic surgeon tells us about his training in Europe and the United States, as well as his current and future vision of shoulder surgery. Research, innovation, and writing are the foundations of his daily work. Challenging popular perceptions and using clinical work to validate the benefits for patients is an obsession. In this interview, he shares his passion for his home town, his art, and the bees in his garden.

### Where did you train?

I trained at the University of Geneva and I began my career in the university hospitals there. As part of this, I was sent to the hospitals in the surrounding area, in the towns of Nyon and Sion. This meant that I had the chance to meet the shoulder and elbow surgeons, Pierre Hoffmeyer, a supervisor at the university hospitals, and Nicolas Riand, a former fellow of Gilles Walch, who works at the hospital in Sion. By their sides, I developed a fascination with the upper limb which led me to undertake a first fellowship in 2007 with Gilles Walch. I honed my understanding of the field of arthroscopy with Steve Burkhart and Patrick Denard in 2010 in San Antonio. I then did the SECES US travelling fellowship in 2012 and completed this with a fellowship in Balgrist with Christian Gerber in 2013.

### **Can you tell us what these encounters brought to you in your personality as a surgeon?**

From Gilles Walch I learnt honesty, as well as clean and effective operative techniques. I returned from San Antonio with an ethic of determination and focus on implant development. Christian Gerber taught me rigour, and how to manage a department. Finally the SECEC travelling fellowship really filled up my address book. This was the perfect combination in my view.

### **What is the structure of your professional life?**

I work across three sites in Geneva. This means I work partly in a private hospital, Hôpital de La Tour and in a private clinic, Hirslanden La Colline. I also spend one day each week working in the Geneva University Hospitals. There, I operate on patients who don't have additional health insurance, while teaching trainees. This close and constant partnership with not only the university hospitals but also the faculty of medicine means that I continue to have access to the research and anatomy laboratories, which is crucial for the majority of scientific research being carried out. As part of my private work I currently work with an assistant and a research fellow.

### **Is there a Swiss school of shoulder surgery?**

At present there is not one school, but several. This means that competition is fierce between the various centres, irrespective of whether they are part of a university. In my view, this offers richness and an opportunity since we all have to be "friendly" competitors, and we have to try to do better each day. Having extremely motivated and gifted colleagues, and being in the middle of a dynamic scientific team, compels me to innovate and to improve the management of my patients. This is a positive dynamic, and the one who benefits most is the patient.

### **You have been involved into SECEC. What is your fondest memory of this congress?**

That would be going back around 11 years. I was in Lyon. A great image from this town which is a jewel in the crown for shoulder surgery, recognised throughout the whole world. I had a first "shoulder" shock therapy in 2007 with Gilles Walch. During this fellowship I had studied lengthening the arm after reverse total shoulder replacement. I went to present these results at the SECEC conference in 2008 in Bruges. During this presentation, Angus Wallace got up. He had brought a tape measure with him and he then explained to me that it was completely unnecessary to take complicated x-ray measurements of this lengthening when what I was suggesting could be done very simply by external measurement. Surprised and somewhat taken aback, I became increasingly bogged down attempting to explain to him that this wasn't necessarily easy due to the presence of sterile fields during the operation. I also told him that the people in Lyon that I had examined consumed a lot of sausages and wine, becoming fat, which would make such measurements random... until Gilles Walch got up and rescued me.

### **What challenges lie ahead in the field of shoulder surgery over the next 10 years?**

I believe that our role is firstly to make the wheel rounder. In all fields, there is still immense progress to be made. Firstly, we must continue with what we know how to do, and do well, which is listening to our patients, looking at our results, trying to understand our complications and our failures, and finding solutions and explanations for each obstacle that crops up to darken the lives of our patients and their surgeons. This work, which is the real justification for scientific research, has already begun and must continue. For example, it has led to lower complication rates after reverse total shoulder replacement, down from 20 to 3%, within around 10 years. It requires a

remarkable level of reflection, reconsideration and analysis. I don't think that the progress made in the field of more basic sciences is accessible in the short and medium term. We have put a lot of work into the use of PRP in very specific rotator cuff tendinopathies, in selected patients, with intraparenchymal tears. The injections were delivered with ultrasound guidance, at the point of the abnormal image. In spite of these efforts we have not seen any clinical or even radiological benefit in our patients. Moving from testing to the clinical setting can sometimes be disappointing. The clinical conditions are complex and just because it seems to work in cells or rabbits, this does not mean there will always be a clinical benefit in the end, and even less so if the idea is brilliant and exciting. This is why I like to analyse my results and publish them. You have to be able to remain both enthusiastic and critical.

### **What are the challenges that lie ahead for future generations?**

Here, the problem is different. The research that is basic today should in time become applied. So I hope, and most of all for patients, that we no longer spend our days attempting to fix poor quality tendons to osteoporotic bones. Some traumatic rotator cuff avulsions will doubtless still be repaired. But it is likely that we must learn to act in anticipation. Future generations will perhaps perform rotator cuff repairs differently, probably percutaneously and with ultrasound guidance.

With preventive work, perhaps by detecting damage earlier, we may be able to cure partial damage with injections only. We are currently putting together a study into the injection of autologous mesenchymal stem cells in rotator cuff tendinopathies. This is a long and fastidious process, with a great deal of administration, but one which could have major implications. I also think that prosthetic surgery will change. Ideally there would be no more chafing! Navigation is increasingly successful, and will allow us to carry out true minimally invasive surgery, without going through the time-consuming step of creating cutting guides. In summary, I am not at all worried for future generations. There is plenty of innovation in our profession. Even if the healthcare systems fall apart, even if the economic constraints continue to push us to treat patients for less money, even in Switzerland, our profession will remain fascinating.

### **Can you tell us a bit more about Geneva?**

Geneva is a delightful and safe central European town. It is often considered to be the smallest international city in the world. I grew up there and I love it not only because I think it is beautiful but mainly because it is steeped in culture. Because of its history, it is considered to be the protestant Rome. Due to its location, it was coveted many times by its French, Italian and German neighbours. It is packed with museums that are generally free and it is a few minutes away from not just the lake but also the mountains.

I could talk to you about Geneva for hours but the simplest thing would probably be to come and see it for yourself.

### **What are your hobbies?**

Firstly, I try to do regular physical activity. I'm also passionate about bees and I have three beehives. Finally, I spend time in the garden where I grow as much as I can so that I can try to eat as local and organically as possible.