IBRA scholarship report

Information about Scholar and fellowship

- Name of Scholar (Family Name/First Name): Pflüger, Patrick
- Country of Citizenship: Germany
- Name and Country of Training Center: SWISS ORTHO CENTER, Basel, Switzerland
- Name of Fellowship Director: Prof. Dr. Dr. V. Valderrabano
- Scholarship Type (Program B or C): B
- Scholarship date (from – until): 01.05.-31.05.2022

Professional and personal experience

- What were your professional and personal expectations of the scholarship?

  My professional expectations of this scholarship at the SWISS ORTHO CENTER with Prof. Dr. Victor Valderrabano were to learn more about the operative techniques from one of the leading foot and ankle specialists. In particular arthroplasty and arthroscopy of the ankle. Due to the enormous experience of the fellowship director and knowledge in the field of musculoskeletal research, I was looking forward to discuss a possible collaboration regarding future research projects.

  My personal expectations were to get to know a different city/country with a distinct health system. The region offers many cultural activities such as art, music and also sports activities, I wanted to explore. Further, I hoped to have the opportunity to talk about personal experiences with a mentor, who has already seen and achieved so much.

- What is the main focus of the IBRA training center (in general and of the department) you assisted in?

  Prof. Dr. Dr. Valderrabano is one of the leading foot and ankle surgeons with special interest in total ankle replacement. The operative portfolio includes the entire lower extremity. Prof. Valderrabano treats many revision cases with few previous surgeries. About 60% of the cases are revision surgeries. Further, Prof. Valderrabano is a renowned expert regarding osteoarthritis and therefore the outpatient clinic offers conservative therapy for this condition regardless the localization.

- What did you do during your scholarship/how were you incorporated in the training center's daily routines/activities:

During my fellowship I had the fortune to work with another fellow of Prof. Valderrabano. In the outpatient clinic we had the opportunity to see very unique cases, that were referred to the center. As fellows we had the task to discuss the topic on the basis of current literature. In addition, we were regularly challenged to review a certain topic and discuss our findings with our mentor. Besides the theoretical and scientific input, I had the opportunity to examine patients myself and learn practical tips.
The days in the operating room were demanding and usually involved 8-12 patients. As a fellow you are fully incorporated in the OR team and assist in difficult surgeries.

- How many surgeries have you assisted and which concrete technical modifications and methods have you seen?
  I assisted 41 procedures in the operating room during my fellowship.
  The most impressive surgical procedure was a total ankle replacement in a severe posttraumatic ankle with prior hardware removal. Despite the technical challenges in this severely deformed ankle, the implantation was smooth with a perfect correction of the alignment. I learned that preoperative planning is essential, but three-dimensional thinking is the key to understand the pathology and succeed in the operating room.
  Another operative procedure, that changed my view and really got me thinking is the Lapidus procedure. Before my fellowship I was used to do a plantar plate for the correction of the hallux valgus and fusion of the TMT-1 joint. Prof. Valderrabano is performing a dorsomedial plate due to biomechanical considerations.

- Specify your 3 to 5 favorite procedures and/or new skills you could acquire
  Total ankle arthroplasty
  Total ankle arthroplasty is nowadays an established and safe operative procedure for endstage ankle osteoarthritis, but in contrast to total hip or knee replacement a less common procedure. This might be due to the fact that ankle arthrodesis offers a viable alternative. For patients the fusion of a joint is devastating and the advantages of maintaining the function of the joint a blessing. Prof. Valderrabano is the co-inventor of one of the most advanced total ankle replacements. Assisting the surgery was therefore a pleasure and impressive how smooth and elegant the surgery was performed. Especially getting the feedback of patients after the surgery, when they are able to walk again without pain and doing sports is spectacular.

Lapidus procedure

There are numerous operative procedures for hallux valgus correction. In case of TMT-1 instability/hypermobility, arthrodesis of the first cuneometatarsal joint or Lapidus procedure is an effective alternative. There a different surgical methods described in the literature for the positioning of the plate. Some of them provide superior biomechanical and anatomical features. Prof. Valderrabano prefers the dorsomedial position of the plate due to biomechanical considerations. In this position the plate can better counteract the abduction (hallux valgus) and plantar-dorsal forces during walking. Further, with the dorsomedial plate one can perform the Original Lapidus Arthrodesis to the Metatarsal II with the screw on the plate (more stability).

Ankle arthroscopy in ankle fractures

Arthroscopically assisted open reduction and internal fixation (ORIF) of ankle fractures offers advantages, but still is not regularly performed in daily routine. This might be due to the technical difficulties with ankle arthroscopy. But it can be successfully performed in standard supine position without additional tools (e.g. distractor). The right scope is essential and the familiarity with the anatomy. In a case with a trans-syndesmotic distal fibular fracture (Weber B type) we evaluated the cartilage, syndesmotic stability and the medial collateral ligament. Due to a detected medial collateral ligament lesion, we performed a ligament reconstruction in addition to the ORIF of the distal fibular fracture.

– Which procedures can potentially be adopted in your future practice and how do they compare to your experiences at home?

The arthroscopically assisted open reduction and internal fixation is an operative technique which can be adopted in my future practice. Today, this is not the standard of care at my hospital, but due to the possible advantages and hopefully better patient outcome, it is worth the effort of changing the established routine.

Total ankle arthroplasty (TAA) is something I want to adopt in my future practice and thereby reducing the number of fused ankles. But this is probably the most difficult task. TAA is a challenging procedure with a flat learning curve. Additional surgeries are often mandatory to align the foot. Hopefully, due to an ongoing

collaboration and continuing education, in the future I will be able to offer this treatment to my patients.

- What was the most significant personal experience of the scholarship for you (e.g. cultural exchange etc.)?

  I had a fantastic time at the SWISS ORTHO CENTER in Basel and had the opportunity to get to know a lot of unbelievable kind people. Prof. Valderrabano is a truly wonderful person, entertaining, funny and generous. The other fellow and myself were invited to the stadium to watch the match of the local soccer team: FC Basel. Further, we had the opportunity to accompany Prof. Valderrabano to Newcastle, where he held an instructional course for his co-invented total ankle replacement.

Closing words

- Tips to future scholars (housing, traveling etc.)

  Housing is a bit pricy in Switzerland, therefore I recommend to stay right across the border in Germany or France. You can either use public transportation or take the bicycle and reach the city center of Basel in less than 20 minutes. I stayed in St. Louis and it only took me 15 minutes by bike to get to the clinic. The region offers a lot of cultural activities and during summer it is really nice to grab a drink at the river or to dive in to cool down. If you stay a little bit longer and want to discover Europe, there are a lot of affordable flights from the Euro-Airport in Basel. Otherwise, you can take the train for reasonable prices to discover more of Switzerland.

- Acknowledgement (thanking IBRA and the training center)

  I would like to thank IBRA for supporting my fantastic visit to Prof. Valderrabano and his team. My special thanks go to Victor Valderrabano who made a lasting positive impression on me both professionally and personally. Further, I really enjoyed spending time with my common fellow, Dr. Waheeb Alharbi, and discussing cases as well as non-professional topics. I really appreciated my time abroad and made a friend and mentor for the future.

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