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Visiting Fellowship Report

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Country of visiting fellowship:	FRANCE
Host centre:	Centre de l'Arthrose, Clinique du Sport, Bordeaux-Mérignac
Name of the host:	Dr. Charles RIVIERE
Dates of visiting fellowship:	April 3 rd , 2023, to September 29 th 2023

Expenses:

Travel by car:

543€ x 2 ways (Highway tolls = 143€ + Gaz = 400€)

Accommodation:

Rent x 7 months = 11900€

Other expenses:

Car park subscription x 7 months = 560€, bicycle to commute to the clinic = 300€

Topic	Please tick one of the boxes <input checked="" type="checkbox"/> 1 (poor) to 5 (very good)					Your comments, thoughts, recommendations
	1	2	3	4	5	
Education						
Could you improve your knowledge and gain new experiences?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Host Department						
How was your communication with your host centre (regarding accommodation, programme, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Did they offer you a social programme?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	not applicable



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Report to EFORT:

1. Description of clinical activities during the fellowship:

The Clinique du Sport is in Merignac, 10 km away from Bordeaux, close to the airport.



Clinic:

Consultations take place at the Centre de l'Arthrose on the second floor of the building, just across the Clinique du Sport.



The Centre de l'Arthrose and the Medical Stadium in the background

The Centre de l'Arthrose lower limb surgery team consists of 5 surgeons: Charles Rivière, Loïc Villet, Stéphane Hérent, Franck Thanas and Christian Peyraud. Each one of them have different operating techniques and philosophies.

Appointments are scheduled on Doctolib.fr and booked by the patients themselves.



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Each surgeon has their own secretary and office on the second floor of the Centre de l'Arthrose.



Charles Rivière's office

Charles Rivière is in clinic 2 to 3 days per week and can see 15 patients per day. Several patients came from far (Poitiers, Limoges, Angoulême, La Rochelle...) and often from the United Kingdom where Charles Rivière had his practice in London a few years ago.

Operating room (OR):

Operations take place at the Clinique du Sport with one allocated operating room per day per surgeon.

Charles Rivière has two operating days per week and usually performs 5 joint replacements per day.



OR with a view of the Centre de l'Arthrose



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In early summer 2023, Medacta provided Charles Rivière and Loic Villet with a personal scrub technician to replace the laboratory representatives (Medacta or Zimmer) who used to fulfil the role of a scrub technician.

Implants used on a regular basis:

Hip implants:

MEDACTA: SMS (Short Medacta Stem) or AMIS (anterior mini-invasive surgery) stem + MPACT system +/- DM (dual mobility). Some patients had MyHip PSI (Medacta).

Knee implants:

MEDACTA: GMK sphere or GMK spheriKA + MOTO medial or lateral (fixed insert)

ZIMMER: Oxford (mobile insert).

Two Origin (Symbios) total knee arthroplasty were performed during my stay (Dr. Rivière and Dr. Villet).



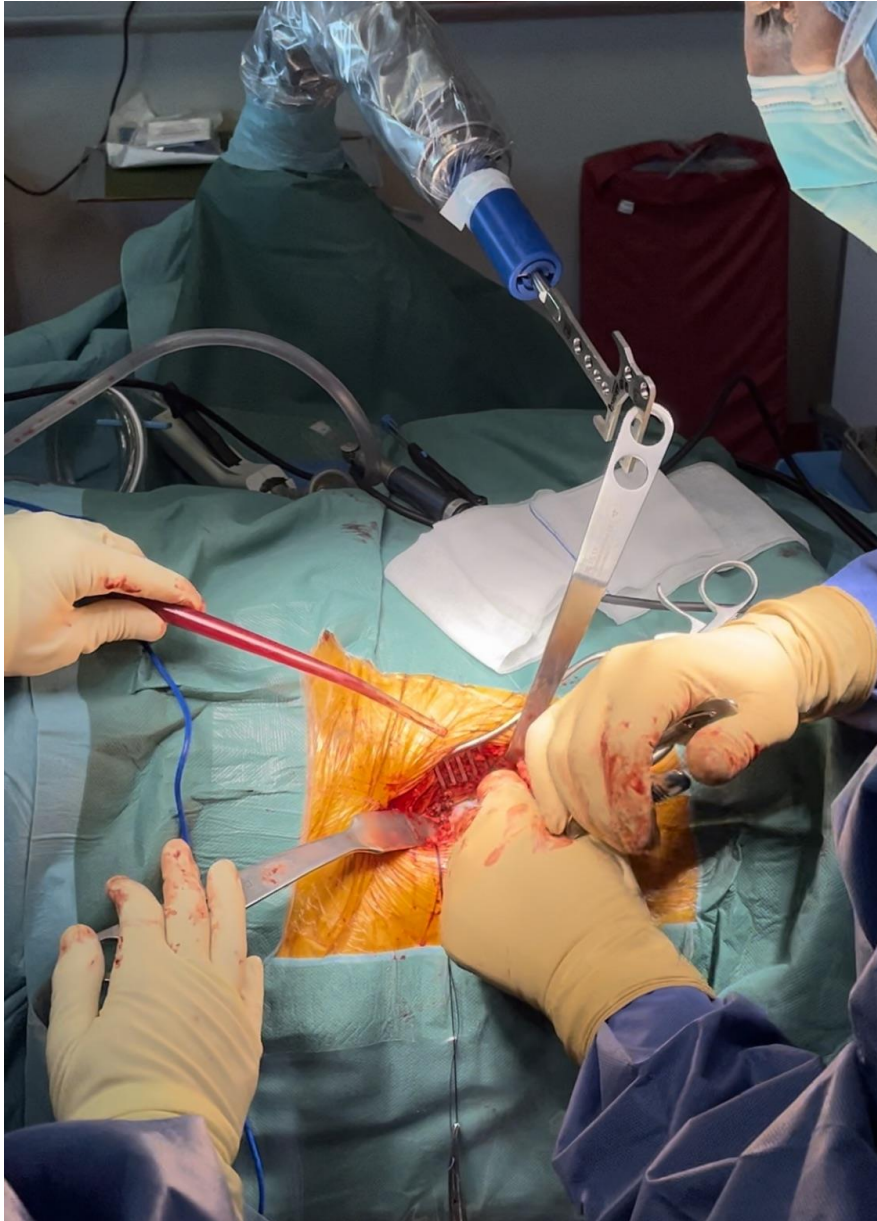
Origin unique surgical kit

For GMK, MOTO and Oxford, Charles Rivière uses his calliper technique measuring every bone cut to check that it matches the thickness of the implants. His goal is to reproduce the anatomy regarding valgus, varus, anterior and posterior offsets, and slope of the patient's knee.

For hip surgery, Charles Rivière would either use a posterior approach or an anterior approach (vertical Hueter and rarely the bikini approach) according to age of the patient and complexity of the case.



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Charles Rivière performing an anterior Hueter approach using the flexible pneumatic arm (Gaston).

The role of the fellow in the OR was at best that of a scrub nurse or closing nurse because all patients were private and unfortunately staff shortage made it almost impossible to be on the surgeon's side of the patient. Charles Rivière would most of the time allow the fellow to do wound closure.

However, explanations of every step of the surgery, from planning to post-operative care were numerous, abundant, and detailed.



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Charles Rivière explaining how to position the patient on the operating table for an Oxford Partial Knee.

We used Medcad surgical planning system to template hip surgeries and Charles Rivière always added some sophistication to implant positioning using the Bordeaux classification of spine-hip relationship that he has published.

2. Description of scientific activities during the fellowship

Due to the short duration of this fellowship and my personal interests in coming to the Clinique du Sport, the scientific aspect was not the one most developed. Also, all activities ceased in August due to expansion work in the OR area.

The Bordeaux Arthroplasty Research Institute (BARI), located on the second floor where the consultations take place, is an office where Guillaume Macary works as a research assistant. Two computers are available for the fellows for their scientific activities.

In this same office we had a staff meeting once a month to discuss complex cases.



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3. Description of social aspects of the fellowship

Two to three times a week, I would go running with the local group of the international Adidas Runners.



Adidas Bordeaux Runners in front of Place de la Bourse and the Miroir d'eau.

Cycling around Bordeaux allows one to admire the famous wine regions of the western part of la Garonne River (Château Margot for example) or of the eastern part of la Garonne River (Saint-Emilion for example).



Road cycling to Saint-Emilion village

4. Technical skills that I learnt during the fellowship

Hip resurfacing was a technique that I had never seen before. I saw 5 hip resurfacing surgeries (Smith&Nephew, Birmingham Hip Resurfacing) during my stay (3 performed by Stéphane Hérent, 1 by Loic Villet and 1 by Charles Rivière).

As mentioned above, few technical skills were learnt due to staff shortages.



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5. Theoretical knowledge that I learnt during the fellowship

Charles Rivière believes that no post-operative physiotherapy is necessary, especially after total knee arthroplasty. Patients are expected to do self-physiotherapy and are handed exercises to do at home on their own. Patients are instructed to go see a physiotherapist in case their range of motion is less than 90° after 4 weeks.

PSI and custom-made implants are safer for simple cases rather than for complex knees with bone loss. Charles Rivière recommends that a calliper technique should be used in complex knees.

6. New knowledge and skills that I can implement in my own practice

Inspired by Charles DeCook and Jeremy Statton's 2022 paper "12 by 12: Obtaining True OR Efficiency with Radical Time Transparency and Operational Excellence" my goal will not be to be faster, but to be more efficient by reducing instrument variability and have dedicated teams.

Short turnover times are essential to optimise time spent in the OR.

Charles Rivière's office is set in a way that no physical barrier (i.e., the desk) exists between the patient and the surgeon.

Both (patient and surgeon) can look at the x-rays on the same flat screen at the same time. Nothing is hidden from the patient's view.



Charles Rivière's desk: the surgeon is sitting on the orange chair and the patient on the brown one. Both can look at the same flat screen.



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7. Overall reflective statement over how the fellowship contributed to my professional development

This fellowship in one of the best private clinics in France was a real transition from my practice in public hospitals to my future practice in a private clinic as a lower limb surgeon. I was also able to see Charles Rivière's learning curve in OR efficiency. A dedicated scrub technician and a regular assistant can make a real difference with training and time.

8. What are your plans for the future?

In December 2023, I will visit Professor Julien Girard in Lille every Tuesday in order to be authorized by the Société Française de Chirurgie Hanche et Genou (SFHG) to perform hip resurfacing.

In January 2024, I will start my private practice at the Clinique Rhena in Strasbourg, France as a lower limb surgeon.

In April 2024, I will attend the Oxford Partial Knee instructional course with Zimmer Biomet.

For hip replacement, I will use an anterior approach (bikini or vertical Hueter) with ceramic on ceramic (CoC) large diameter heads (LDH) as often as possible, or dual mobility implants depending on the patient's age.

In complicated cases or revision surgeries I will use a posterior approach.

For total knee replacement, I will follow a restricted kinematic alignment using Patient Specific Instrumentation (PSI) and possibly custom-made implants from Symbios. The ORIGIN prosthesis is designed to reproduce the constitutional morphotype (or functional phenotype) of each patient anatomically by reproduction of lower limb alignment (HKA) and by restoration of joint space directly by adjusting the offset of the prosthetic condyles.

For partial knee replacement, Charles Rivière's alignment is inspiring however difficult to reproduce with safety. A mobile insert requires to have mastered this anatomic alignment technique and I will, at first, start with a fixed insert.