

LHEA – Lifelong Health Education Association



Advanced endovascular intervention course

Date: 3-5 June 2020

Venue: NOVA Medical School, Lisbon – NOVA MedSim Simulation Centre

Language: English

Organizer: Advanced Health Education (AHED), NOVA Medical School

Coordinator: Frederico Bastos Gonçalves, MD, PhD

Faculty: António Fiarresga, MD, PhD (cardiology); Isabel Fragata, MD, PhD (neuroradiology), Tiago Bilhim, MD, PhD (Radiology), Frederico Bastos Gonçalves, MD, PhD (vascular surgery)

Institutional partnerships: NOVA MedSim; Portuguese Society of Simulation

Duration: 24 hours

Participation fee: 1.850 €

Registration deadline: May 3rd 2020 (early bird 1discount, 1st March 2020)

CME Credits: 1.5 ECTS (an application has been made to the UEMS EACCME for CME accreditation of this event).

Brief course presentation:

Endovascular treatment of vascular and non-vascular diseases has rapidly grown due to scientific and technological advancements in several fields of Medicine. Different medical specialities make use of endovascular methods for diagnosis and therapeutics. The objective of this advanced endovascular course is to improve the tools and skills of endovascular physicians, allowing them to become innovation leaders in their institutions and provide state-of-the-art care for patients.

The course is designed to provide comprehensive theoretical knowledge and hands-on simulation training of advanced endovascular techniques in a multidisciplinary format. The focus is on device selection, technical skills and troubleshooting rather than on pathologies.

Main topics covered are:

- Vascular access and access complications,
- vascular navigation in complex anatomies and ultra-distal access,

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- Intra-vascular assessment including functional status, intra-vascular ultrasonography (IVUS) and optical coherence tomography
- vascular imaging including functional imaging and intravascular ultrasound,
- vascular embolization and thrombus-aspiration techniques
- Medical devices for endovascular intervention

Participants are exposed to novel and inter-disciplinary concepts of endovascular therapies, helping them to think “outside the box”, expanding horizons. Using simulators, participants may also obtain hands-on understanding of different endovascular techniques and become familiar with novel devices and treatment strategies.

Due to the transversal characteristics of the course program, specialists in different areas may apply the acquired knowledge directly into their daily practice, regardless of the type of pathology in which they are usually involved.

Syllabus

The course is planned for three days, 8h per day, divided into theoretical lectures, case based learning and hands on workshops.

Day one

Vascular access (theoretical) – 1h

- Presentation of the following arterial vascular access routes – femoral, radial, humeral, axillar, carotid, iliac, trans-caval, retrograde punctures and exoconduits/endoconduits.
- Presentation of venous access routes – popliteal, saphenous, femoral and humeral.
- Percutaneous access techniques – palpation, eco-guided puncture and fluoro-guided puncture.
- Presentation of different vascular closure devices and their mechanisms of action.
- Solving access related complications – rupture, dissection, thrombosis and device failure.

Vascular access (case based problem solving)– 1h

- Assessing que quality of access vessels
- Choice of closure device
- Complex access

Endovascular navigation (theoretical) – 1h

- Presentation of endovascular materials for complex navigation
- Planning the access route for complex cases
- Advanced navigation techniques

Endovascular navigation (case based problem solving) – 1h

- Planning
- Choice of materials
- Navigation with no support
- Navigation in small calibre vessels.

Endovascular access simulators (Eco guided puncture) – 1h

Access vessel simulation (closure devices) – 1h

Endovascular simulators (advanced navigation) – 2h

Day two

Functional assessment and intravascular imaging (theoretical) – 1h

- Angiographic optimization
- Principles and functioning of intravascular ultrasound
- Principles and functioning of intravascular optical coherence tomography

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Functional assessment and intravascular imaging (case based problem solving) – 1h

- Angiography dynamics and tissue function
- Applicability of intravascular ultrasonography to small and great vessels
- Applicability of intravascular optical coherence tomography

Multidisciplinary revision of medical devices for endovascular (theoretical) – 2h

- Navigation (includes debulking and atherectomy devices)
- Angioplasty (includes drug-delivery devices and stents)
- Endovascular repair of aneurysms and dissections (includes endoprosthesis)
- Embolization and thrombus-aspiration

Endovascular simulators (IVUS) – 2h

Endovascular simulators (various medical devices) – 2h

Day three

Vascular embolization (theoretical) – 1h

- Presentation of different embolization techniques.
- Presentation of different concepts of arterial and venous embolization.
- Choice of different embolization devices.

Vascular embolization (case based problem solving)– 1h

- Great vessel embolization
- Embolization of bleeding vessels
- Tumoral embolization
- Aneurysm embolization

Thrombus-aspiration (theoretical) – 1h

- Presentation of the concepts of thromboembolisation.
- Mechanisms of mechanical thrombus-aspiration and thrombus-aspiration devices.
- Methods of embolic protection.

Thrombus-aspiration (case based problem solving) – 1h

- Thrombus-aspiration in the context of acute limb ischaemia.
- Thrombus-aspiration during vascular procedures.
- Thrombus-aspiration of intra-cranial vessels.

Endovascular simulators (embolization) – 2h

Endovascular simulators (Thrombus-aspiration) – 1h

Debriefing meeting and evaluation – 1h

Learning objectives

- Planning different vascular access for endovascular procedures, anticipating access-related difficulties and complications
- Understanding the different concepts of percutaneous closure devices, their correct applications and failure mechanisms
- Trouble-shooting in vascular access complications
- Planning vascular navigation
- Becoming familiar with special endovascular tools for navigation and overcoming challenging anatomies
- Obtaining a skill set for advanced endovascular navigation
- Understanding the mechanisms of different embolization techniques
- Obtaining a skill set for embolization of arteries and veins of multiple dimensions.
- Understanding the concepts and applications of thrombus-aspiration
- Obtaining practical knowledge on different thrombus-aspiration devices and techniques
- Obtaining practical knowledge on intravascular physiological evaluation and imaging

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Teaching methodologies

The course will be delivered in four formats:

1. Pre-learning materials (preparatory phase)
2. Theoretical lectures
3. Case-based discussion and problem solving
4. Hands-on practical workshops on high fidelity endovascular simulators and models

Demonstration of coherence between syllabus and learning objectives

The contents of the course program address pivotal areas of all endovascular intervention and are directed at students with prior endovascular experience. The selected themes are transversal and allow students to expand their theoretical and practical knowledge with easy direct applicability in their daily clinical practice, regardless of their usual fields of therapy.

Demonstration of coherence between teaching methodologies and learning objectives

Through the theoretical program, subsequently discussed in the format of real-life cases and lastly applied in high-definition simulators, students will be handed useful practical tools that may improve the safety and efficacy of their patient's treatment, and simultaneously promote innovation in their institutions.

Assessment methods

Theoretical assessment by multiple choice and problem-based essay questions.

Practical assessment by evaluation of performance in simulators.

Attendance requirements

Participants are required to attend a minimum of 20 hours of the 24 hour programme.

Minimum and maximum number of attendants

The course is designed for a minimum of 10 and maximum of 20 participants

Target audience and entry requirements

Intermediate to advanced level residents and specialists with prior endovascular experience in the fields of interventional neuroradiology, interventional cardiology, interventional radiology, angiology and vascular surgery and cardiac surgery.

Participants must provide proof of specialization in the fields of interventional neuroradiology, interventional cardiology, interventional radiology, angiology and vascular surgery and cardiac surgery or be enrolled in a recognized training program for these medical specialities with confirmation letter from their training institution.

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Short biography

Frederico Bastos Gonçalves was born in Lisbon, Portugal. He concluded his training in Angiology and Vascular Surgery and became Fellow of the European Board of Vascular Surgery in 2010. Since 2014 he is Auxiliary Professor at NOVA Medical School – Universidade Nova de Lisboa, in Lisbon. He obtained his Doctoral degree *cum laude* from the Erasmus University (Rotterdam, The Netherlands) in 2015, with the thesis entitled: “Endovascular aortic repair: clarifying risk factors, complications and follow-up strategies”. He has authored several original publications on vascular disease (h-index 19), book chapters and guidelines and is actively involved in clinical research with focus on aortic pathology. He set up endovascular-related research projects in Portugal and The Netherlands. He has been a leader in clinical innovation in the area of endovascular aortic repair and presented over one hundred communications in national and international congresses and meetings.

He has organized or supervised several training and education events using simulation as a learning tool:

- European Society of Vascular Surgery Academia
 - o chEVAR in AAA with challenging aortic necks Workshop (Co-Convenor) at the ESVS Annual Meeting, Lyon 2017;
 - o Adjuncts in Treatment of Challenging Neck during EVAR: Endoanchors and ChEVAR (Convenor) at ESVS Annual Meeting, Valencia, 2018;
 - o Sizing and Planning for Emergency (T)EVAR Workshop (Co-Convenor) at ESVS Annual meeting, Valencia, 2018;
 - o Hostile neck off-the shelf solutions: ChEVAR and ESAR Workshop (Convenor) at ESVS Annual Meeting, Hamburg, 2019
 - o Surveillance post-EVAR Workshop (Convenor) at ESVS Annual Meeting, Hamburg, 2019
- Portuguese Society of Angiology and Vascular Surgery
 - o Annual welcome course to new residents in Angiology and Vascular surgery (Coimbra, 2018 and 2019) – 3 simulation workshops.
 - o 1st and 2nd International Update Course in Angiology and Vascular Surgery (Madrid, 2018 and 2019) – 4 simulation workshops.
- XIII International Symposium of Angiology and Vascular Surgery (Lisbon, 2016) – 3 simulation workshops.
- European Society of Vascular Biology Endovascular Simulation Bootcamp – Supervisor (Strasbourg, 2017 and 2019).

He was coordinator of the Vascular Biology Working Group of the Portuguese Society of Angiology and Vascular Surgery (2010-2016). He is Secretary-General of the Portuguese Society of Angiology and Vascular Surgery since 2017, EJVES Editorial Board member of the European Journal of Vascular and Endovascular Surgery since 2016, member of the VASCUNET sub-committee since 2016, Editorial Board member of International Angiology since 2018 and member of the European Society for Vascular Surgery Guideline Steering Committee since 2019.

Lisbon, 14th of June 2019,

A handwritten signature in black ink, appearing to read 'F. Bastos Gonçalves'.

(Frederico Bastos Gonçalves)

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ISABEL MARIA RIBEIRO FRAGATA

CURRICULUM VITAE
2019

BIOGRAPHICAL DATA

Date of birth: 19.04.1978
isabelfragata@gmail.com

MEDICAL EDUCATION AND CLINICAL ACTIVITY

2001	MD degree NOVA Medical School, Portugal.
2004	United States Medical Licensing Examination
2009	Neuroradiology Residency at Hospital São José, Lisbon, Portugal
2008	Fellowship in Interventional Neuroradiology, Mount Sinai Hospital, New York, USA.
Since 2009	Consultant Neuroradiologist at Centro Hospitalar de Lisboa Central, Lisbon, Portugal. Interventional Neuroradiologist
Since 2014	Neuroradiologist at Hospital da Luz, Lisbon
2014	Full Registration General Medical Council, UK

ACADEMIC ACTIVITIES

2004	Master Degree in Neurosciences, Faculty of Medicine, Lisbon
2018	PhD Degree in Neurosciences, Faculty of Medicine, Lisbon
2019	Invited Professor, NOVA Medical School, Lisbon

SCIENTIFIC PRESENTATIONS / PUBLICATIONS

More than 50 oral communications and 70 poster presentations; 20 invited oral presentations; 22 peer-reviewed publications (h5, i10: 4); 5 chapters in books

OTHER

2016	Founding member of the Portuguese Society of Interventional Neuroradiology (SPNI); SPNI Secretary General since 2016
2017-2019	Co-chairman of the Organizing Committee of the Lisbon Stroke Summit

Lisbon, June 14th 2019

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Curriculum Vitae

Tiago Campos Andrada de Faria Bilhim

Birth date: 12/01/1979; E-mail: tiagobilhim@hotmail.com.

2004 – medical degree NOVA Medical School, Portuguese Medical Association nº 44243.

2011 – Radiologist; certified Interventional Radiologist – EBIR – European Board of Interventional Radiology; PhD in the NOVA Medical School.

Since 2011: Interventional Radiologist, Centro Hospitalar Universitário de Lisboa Central and Hospital Saint Louis.

Since 2015: Professor Anatomy and Radiology, NOVA Medical School, Faculdade de Ciências Médicas, Universidade Nova de Lisboa.

Since 2017: Associate Editor Journal of Vascular and Interventional Radiology (JVIR); Editorial Board Member Cardiovascular and Interventional Radiology (CVIR); Associate Editor Acta Radiológica Portuguesa.

2018 – Corresponding Fellow Society of Interventional Radiology (SIR); Fellow Cardiovascular and Interventional Radiological Society of Europe (CIRSE).

Scientific awards: 11

More than 100 scientific presentations; 52 publications in peer-reviewed scientific journals indexed in Medline (h-index 21; i10 33); invited speaker in over 60 scientific meetings; 6 book chapters.

Curriculum vitæ, Lisbon, June 2019

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Curriculum Vitae

António José Fiarresga

Birth date: 15/01/1974;

E-mail: a.fiarresga@gmail.com

1998 – Medical degree by Faculdade de Medicina de Lisboa, Portuguese Medical Association n^o 38362.

2007 – Cardiology specialist – Hospital de Santa Marta, CHLC

2008 – Young Investigator Award - Clinical Research Portuguese Society of Cardiology

2011 – Subspecialty in Interventional Cardiology

2015- Consultant Cardiologist

2016 – PhD in Clinical Research, Faculdade de Ciências Médicas, Universidade Nova de Lisboa

2017- 2019 – General Secretary of the Portuguese Cardiovascular Intervention Association

2017 – Member of the Cardiology Board of the Portuguese Physicians Medical Association

2017 – Member of the National Jury of the Specialty of Cardiology

2018 – Researcher collaborator do Instituto de Biotecnologia e Bioengenharia do Instituto Superior Técnico

More than 100 scientific presentations; 49 publications in peer-reviewed scientific journals indexed in Medline invited speaker in over 50 scientific meetings; 2 book chapters.

Curriculum vitae, Lisbon, Junho de 2019