

# **EndoVascular resuscitation *and* Trauma Management (EVTM)**

## **Hands-on Workshop 25–26 January 2024**

### **Örebro University Hospital, Sweden**



#### **EVTM instructors**

Anna Maria Ileradi (IR, IT), Sheldon Tepperman (Trauma, US), Federicco Coccolini (Trauma, IT), Maria Antonella Ruffino (IR, IT), Pierpaulo Biondetti (IR, IR), Zoran Rancic (Vascular, CH), Yuliia Nahaliuk (Vascular, Ukr)

Lars Norgren (Vascular)

**Local team:** Tal Hörer (Vascular, Trauma), David McGreevy (Vascular),

Emanuel Dogan (ICU), Artai Pirouzram (Vascular, Trauma)

**Target:** Surgeons, Trauma, Vascular, IR, ED, Intensivists, Civilians and Military with interest in trauma/bleeding/resuscitation, emergency & pre-hospital teams

**Date:** 25–26 January 2024

**Workshop Directors:** Tal Hörer and David McGreevy

**Workshop Registration:** [https://mkon.nu/evtm\\_workshop/registration\\_form](https://mkon.nu/evtm_workshop/registration_form)

**Cost** (cover expenses only): 600Eu. 500Eu for EVTMSociety members

**Place:** Facility for experimental studies and surgical training, Örebro University Hospital.

**Partners:** Gore, Limedic, STILLE, Penumbra, Meliora/Prytime, GE, Ziehm, Getinge, BD and Örebro University Hospital

The aim of this two-day workshop is to train, stimulate discussion, **mutual learning and sharing** of experiences while practicing EndoVascular resuscitation *and* Trauma Management (EVTM) using a multidisciplinary team approach with emphasis on local resources. “No ego, just good science, care and collaboration” is the main motion of the event. We are all here to share, learn and develop, for our patients.

**The workshop is built on an individual, professional level** and we will together explore different methods for resuscitation, bleeding control, hemostasis, trauma management and bail-outs. Some methods are used clinically world-wide, while some are under development and have been used on selected patients. This workshop concentrates on basic and advanced aspects of *open and endovascular* bleeding control techniques. We will combine open hemostasis and endo aspects with vascular access, angiography, embolization, endografts, shunts and other endo/hybrid solutions for the unstable patient. Hemodynamic instability with a focus on trauma, non-trauma, bleeders and non-bleeders. From ruptures to gastrointestinal and gynecological bleeders with a wide range of hemodynamic instabilities in focus. We will explore how methods used by some disciplines can be used by others.

We will focus on clinical data and lessons learned from more than 20 years use of these methods in clinical practice.

- Vascular access:
  - Different methods (blind, doppler, ultrasound, fluoroscopy and cut down)
  - Its use in hemodynamic unstable patients
- Aortic Balloon Occlusion (REBOA) basic and advanced methods and SAAP
- Basic/advanced angiography principles and practical tips
- Damage control EVTm and bailout methods – open, endo and hybrid
- Maintaining and closing a vascular access
- Basic and advanced postoperative considerations
- Up-to-date research and clinical experience
- Cases/discussions
- Knowledge of basic/advanced material and new technologies on the market
- Endografts, embolization material on the market, and what to use and when
- Open and endo/hybrid hemostasis. From junctional bleeding to rAAA
- Intensive training on live tissue
- ICU and post-operative aspects (such as IAH and ACS and its treatment)
- Basics for building an “EVTm service”; tools needed
- Advanced experimental methods in resuscitation using REBOA and ECMO with CPR on live tissue models.
- When should we choose open surgery and stop playing with endo?

The workshop is individually tailored during the practical parts (advanced and basic as needed). Participants will get basic training and knowledge of vascular access, angiography, endografts, embolization and REBOA placement and other basic catheters and hybrid tools as part of the EVTm concept. This will be combined with open techniques and bleeding control maneuvers. The workshop has been certificated by the EACCME and acknowledged by collaboration with

societies such as the European Society for Trauma and Acute Care Surgery, the European Vascular Society and others.

## **Program at the live tissue lab training and dry lab/cadaver lab.**

### **Day 1:**

The day starts at **12:00** with **Lunch at the training facilities** at Örebro University Hospital, Sweden.

Bleeding control issues; hemostasis; the hemodynamic unstable patients. Short presentations on vascular access, how to, complications, indications for REBOA (pREBOA, iREBOA), Abdominal compartment and complications. Endografts, embolization, choosing correct products etc. Data regarding EVTm will be presented. Different hemodynamic instabilities will be discussed as GI bleeding, trauma, Gyn, rAAA and others. Basic and advanced techniques for diagnostic and treatment of hemodynamic instability. Methods to use endografts, embolization agents, balloons and other tools will be presented and discussed. When open surgery is the best option and when not to play endo. Tips and tricks, bailouts.

12:40 Welcome/information TH/DM

12:45-13:00 How did we do before and what is new - the endo era? - Lars N

13:00-13:10 EVTm - EndoVascular resuscitation and Trauma Management - David M

13:10-13:20 Principles for getting vascular access - Anna Maria I/Tal H

13:20-13:30 How to get out of trouble with vascular access/tips and tricks - Zoran R

13:30-13:40 Bleeding control by endovascular methods- what can be done? - Pierpaolo B

13:40-13:50 Endografts for peripheral bleeding - Maria Antonella R

13:50-14:00 Pelvic bleeding in trauma - what to do and when? - Federicco C

14:00-14:30 Coffee

14:30-14:40 Examples of damage control in a bleeding patient - Sheldon T

14:40-14:50 Vascular damage control/shunts/reconstructions - Cases from Ukraine - Yuliia N

- 14:50-15:00 Endografts for Aortic bleeding control; overview- Artai P
- 15:00-15:10 Complications in IR/Vascular access and how to deal with it/bail out - Tal H
- 15:10-15:20 REBOA- current indications? Guidelines? - Federico C
- 15:20-15:30 REBOA use in the USA - My view (When? Who?) - Sheldon T
- 15:30-15:40 REBOA in cardiac arrest – Should it be used and what do we know - Emanuel D
- 15:40-16:00 Coffee
- 16:00-16:10 REBOA and Interventions in Gynecological (Accreta) bleeding – Anna Maria I
- 16:10-16:20 Lessons on hemodynamic instability from ruptures - Zoran R
- 16:20-16:30 ECMO/eCPR for cardiac arrest? TBA
- 16:30-16:40 Embolization in bleeding patients; tools - Maria Antonella R
- 16:50-17:00 EVTm bleeding tools summary, Info Society, JEVTM, collaboration and more - Tal H
- Cases, group training, Tips and tricks. Models and industry partners info.
- 19:00 Dinner Sponsored by Limedic. Place TBA



## Day 2:

07:00 Gathering/changing at the Training Center

07:15–08:40 “EVTM hands-on review – what can we do?” Access, REBOA and more.  
(Cadaver)

(Preliminary – if available, to be announced the day before)

08:40–09:30 Breakfast with the industry.

09:30-15:00 Hands-on animal lab including:

1. Material usage in bleeding patients, general considerations and management scenarios
2. Open techniques for bleeding control/hemostasis and combinations with endo/hybrid.
3. Vascular access
  - Basic principles/advanced methods
  - Cut-down techniques
  - Endoshunts and shunts
  - Hybrid procedures
  - Puncture methods
  - Seldinger technique
  - The failing access – alternatives
  - Venous access and ultrasound
  - Basic and advanced methods
4. Upgrading/introducers/guide wires
5. REBOA
  - Material and REBOA kit
  - Deflation and re-positioning
  - Intermittent/partial inflation (MAP as target – pREBOA)
  - Ongoing bleeding practice
  - CPR procedures and pending arrest
6. Balloon in alternate locations (Iliac, Subclavian, Brachiocephalic trunk/Zone 1 neck)
7. Hybrid procedures for hemostasis – junctional bleedings, balloons/exchange
8. Aortography and angiography considerations (type, volume, etc.)
9. Endografts/embolization advanced as needed – what, when, how
10. Bailouts in endovascular and hybrid surgery

All training aspects will be modified to the participants’ level and interest. Every station is led by a highly experienced instructor with one-to-one training on live tissue as well as group scenario discussions (lunch and coffee will be served in the lab). Changing stations according to interest is encouraged. Dedicated stations per discipline/area according to the groups.

**15:00** End of workshop and evaluation/feedback; Diploma

**Email us for interest and follow [www.jevtm.com](http://www.jevtm.com) and social media for details**

**“No ego, just good science, clinical care and collaboration”**