Hands-On Workshop · 4.5 Hours

Critical & Emergency Vascular Access Course

CEVAC

Hadassah CARE-EM · Excellence in Emergency Medicine

HADASSAH CARE-EM Excellence in Emergency Medicine

המרכז הרפואי האוניברסיטאי הדסה
מיסודו של ארגון נשות הדסה

Workshop Date

July 28, 2026

Curriculum Scope

Central lines · High-flow & RIC
Intraosseous · Arterial lines

Designed For

Emergency & critical care
healthcare professionals

01 · Course Overview

A focused, hands-on program in life-saving vascular access

CEVAC is a comprehensive **4.5-hour training program** for healthcare professionals, building proficiency in the vascular access techniques most often demanded in critical and emergency care.

4.5h	4	45 min	4
Total Duration	Training Stations	Per Station	Rotation Groups

Curriculum Pillars

01

Central Line Insertion

Ultrasound-guided IJ & femoral, sterile technique, Seldinger.

02

High Flow & RIC Lines

Large-bore peripheral access for rapid resuscitation.

03

Arterial Lines

Radial & femoral cannulation for monitoring and ABG.

04

Intraosseous Access

EZ-IO / FAST1 for adult and pediatric emergencies.

02 · Course Timeline

A single day, four hours, seven tightly-paced blocks

Detailed schedule — July 21, 2026 · 08:15 to 13:00

08:15 — 15 MIN
Entrance & Registration
Welcome, materials, group assignment

08:30 — 30 MIN
Fundamentals of Vascular Access
Didactic foundation — indications, anatomy, device selection

09:00 — 30 MIN
Ultrasound-Guided Needle Insertion Techniques
Probe handling, vessel ID, in-plane vs. out-of-plane

09:30 — 90 MIN
Station Rotations 1 & 2
45 minutes per station · groups rotate through two of four stations

11:00 — 15 MIN
Coffee Break

11:15 — 90 MIN
Station Rotations 3 & 4
45 minutes per station · all groups complete every station

12:45 — 15 MIN
Course Summary & Q&A
Debrief, key takeaways, faculty discussion

13:00 — END
Course concludes

03 · Station Rotations

Four groups, four stations, equitable hands-on access

Each group rotates through every station — 45 minutes each

Time	Group A	Group B	Group C	Group D
09:30 – 10:15	Central Line Insertion	High Flow / RIC Lines	Central Line Prep	Arterial Line / IO Access
10:15 – 11:00	High Flow / RIC Lines	Central Line Prep	Arterial Line / IO Access	Central Line Insertion
11:00 – 11:15	— Coffee Break —			
11:15 – 12:00	Central Line Prep	Arterial Line / IO Access	Central Line Insertion	High Flow / RIC Lines
12:00 – 12:45	Arterial Line / IO Access	Central Line Insertion	High Flow / RIC Lines	Central Line Prep

All participants complete every station by end of the rotation cycle.

Station 1 & 2 · Ultrasound-Guided

Central Line Preparation & Insertion

Ultrasound-guided central venous catheter insertion — anatomical landmark identification, meticulous sterile technique, and the Seldinger method on high-fidelity simulators.

Learning Objectives

- Identify anatomical landmarks for central venous access using ultrasound imaging.
- Demonstrate meticulous sterile technique throughout the insertion procedure.
- Perform ultrasound-guided **IJ and femoral** CVC insertion on a high-fidelity simulator.
- Recognize, prevent, and manage potential complications.
- Confirm correct catheter placement via ultrasound and chest X-ray interpretation.

Session Content

01 **Indications & contraindications** for central venous access.

02 **Ultrasound physics & knobology** for vascular access.

03 **Probe manipulation** for vessel identification and cannulation.

04 **Seldinger technique** — step-by-step for IJ and femoral lines.

05 **Troubleshooting & post-procedure care** to avoid complications.

Station 3 · Rapid Resuscitation

High Flow & RIC Lines

Management and insertion of high-flow vascular access devices — including Rapid Infusion Catheters (RICs) — crucial for rapid fluid resuscitation in trauma and emergency settings.

Learning Objectives

Differentiate between high-flow vascular access devices — including **Rapid Infusion Catheters (RICs)** — and their applications.

Select the most appropriate high-flow access device for specific clinical scenarios and patient needs.

Demonstrate correct insertion techniques for **large-bore peripheral IV catheters and RICs** on a simulator.

Hands-On Content

DEVICE LANDSCAPE

Standard	Large-bore	High-flow
IV Lines	**Peripheral IVs**	**RIC**

PRACTICAL SESSIONS

- Inserting large-bore peripheral catheters
- RIC insertion and securing techniques
- Pressure bags, fluid warmers & rapid infusers

Station 4 · Part 1 — Monitoring & Sampling

Arterial Lines

Arterial line placement and management — essential for continuous blood pressure monitoring and arterial blood gas sampling in critically ill patients.

Learning Objectives

Identify indications for arterial line placement — continuous BP monitoring and arterial blood gas sampling.

Select optimal anatomical sites: **radial and femoral arteries**.

Perform arterial line insertion using the **Seldinger technique** on a simulator with precision and safety.

Session Content

ANATOMICAL SITES & PHYSIOLOGY

Radial
First-line site

Femoral
Alternative site

PRACTICAL FOCUS

- Hands-on insertion via palpation and ultrasound guidance
- Waveform analysis — damping & resonance
- Complication prevention: hematoma, thrombosis, infection

Intraosseous Access

A life-saving alternative when conventional IV access is challenging or impossible — covering device technique, site selection for adults and pediatrics, and complication management.

Learning Objectives

- Identify indications and contraindications for IO access in emergency scenarios.
- Select appropriate anatomical sites in **adult and pediatric** patients — proximal humerus, proximal tibia.
- Demonstrate proficient use of an IO device (**EZ-IO, FAST1**) on a simulator.
- Confirm correct needle placement and assess for complications post-insertion.
- Administer fluids and medications efficiently via the IO route.

Site Selection & Devices

Devices

EZ-IO
FAST1

Sites

Prox. Humerus
Prox. Tibia

SESSION HIGHLIGHTS

- IO as a life-saving alternative when IV access fails
- Adult vs. pediatric anatomical considerations
- Pain management during IO infusion
- Potential complications and mitigation

Conclusion

Confidence in life-saving vascular access

Through didactic instruction and intensive hands-on station training, CEVAC equips medical professionals with the critical skills required for effective vascular access in urgent and critical situations.

- Central Lines
- High Flow & RIC
- Arterial Lines
- Intraosseous Access
- Ultrasound Guidance

Thank you.

See you on July 28, 2026.

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