

PERCORSI FORMATIVI PER IL POSIZIONAMENTO DI PICC- PORT E PORT: UN PROBLEMA ATTUALE

FULVIO PINELLI

CENTRO ACCESSI VASCOLARI

DIPARTIMENTO DI ANESTESIA E RIANIMAZIONE

AZIENDA OSPEDALIERO-UNIVERSITARIA CAREGGI

FIRENZE





**Ultrasound-Guided Internal Jugular
Access***

**A Proposed Standardized Approach and
Implications for Training and Practice**

David Feller-Kopman, MD, FCCP

**Ultrasound training recommendations for
medical and surgical specialties**

Third edition

**Evidence-based consensus on the
venous access devices: definition
for training**

9



American College of
Emergency Physicians®

ADVANCING EMERGENCY CARE 

**POLICY
STATEMENT**

Approved October 2008

Emergency Ultrasound Guidelines

N. Moureau¹, M. Lamperti^{2*}, L. J. Kelly³, R. Dawson⁴, M. Elbarbary⁵, A. J. H. van Boxtel⁶ and M. Pittiruti⁷

What to teach

How to teach

*How to supervise: from
mannequins to patients*

What to teach?

British Journal of Anaesthesia 110 (3): 347–56 (2013)
Advance Access publication 29 January 2013 · doi:10.1093/bja/aes499

BJA

Evidence-based consensus on the insertion of central venous access devices: definition of minimal requirements for training

N. Moureau¹, M. Lamperti^{2*}, L. J. Kelly³, R. Dawson⁴, M. Elbarbary⁵, A. J. H. van Boxtel⁶ and M. Pittiruti⁷

INSERTION

Anatomy and physiology

W_R1 Didactic Educational Content

Education on anatomy and physiology is relevant to ultrasound guidance, vein assessment, and selection, and complications that may occur at any possible CVAD insertion site. Specific knowledge of vessel characteristics, skin, peripheral nervous, respiratory, and cardiac systems is included. Insertion sites for central venous access include: upper arm, chest, neck, and inguinal. Anatomy and physiology include both typical and variant presentations

C

Perfect consensus, strong

What to teach?

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INSERTION

US education for vein access

W_R2 Didactic Education on
Ultrasound-guided Technique

Education for using ultrasound for vein access and assessment is a component of any CVAD insertion course. Education includes: physics of ultrasound, image optimization, image analysis, anatomical assessment of both normal and variant anatomy, and simulation skills training. Landmark techniques are also components of CVAD education programmes in case circumstances arise that do not permit the use of ultrasound. Educational programmes emphasize the indisputable benefit of ultrasound for CVAD insertion

B

Perfect consensus, strong

What to teach?

INSERTION

Education on catheters, device choice tip placement and complications

W_R3 Education on Tip Placement	Education on CVAD tip placement is based on three essential features that reduce risk: high blood flow, parallel positioning to the vessel, and pulsatility of blood flow. To achieve these three ideal factors of tip location, the tip of the CVAD is at or near the cavo-atrial junction	C	Very good, strong
W_R4 Infection	Education to prevent catheter-related primary bloodstream infections focus on pre, intra, and post-procedure insertion, care, and maintenance. Three main sources of infection contamination: the catheter–skin junction (extraluminal), the needleless connector and hub (intraluminal), and iatrogenic contamination. Topics to include: site selection, device selection, indications for use, maximal barrier precautions, hand washing, skin antisepsis, and the use of central line checklists are included in CVAD insertion course. Observers, empowered to stop a procedure if contaminated, are part of the implementation of the educational programme	A	Perfect consensus, strong
W_R5 Education on Catheters	Topics in educational programmes include catheter: material composition, size, features, and number of lumen. Focus education on various risks vs benefits of catheter features for both short- and long-term use	C	Perfect consensus, strong
W_R6 Education on Procedure	Any central venous access educational programme includes insertion procedure for respective device placement, with both	B	Perfect consensus, strong

What to teach?

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MANAGEMENT

W_R7 Education on Care and Maintenance

CVAD care and maintenance is addressed in CVAD education programme. Complications from CVAD use are related to the insertion procedure or from continued care and maintenance of the device

B

Perfect consensus, strong

What to teach

How to teach

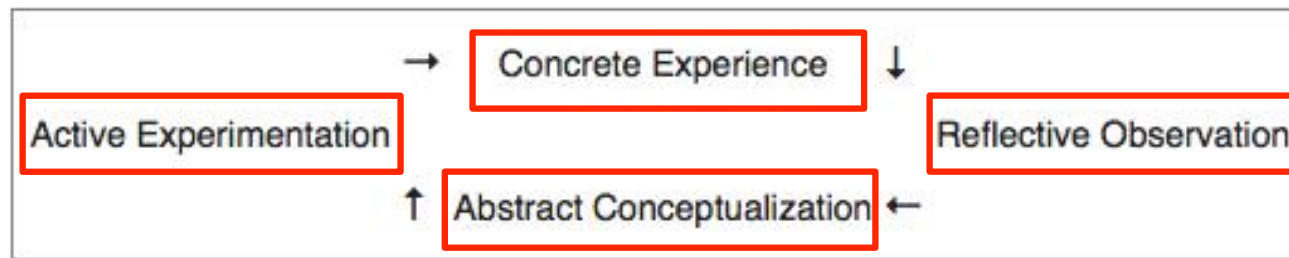
*How to supervise: from
mannequins to patients*

“ Tell me and I forget,
Teach me and I may remember,
Involve me and I learn”

Benjamin Franklin

How to teach?

Experiential learning



How to teach?

Experiential learning

Learner needs to be actively involved

Direct experience is the key component

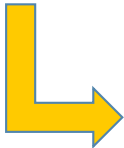
Direct experience is the basis for analytical skills, problem solving and decision making

How to teach?

Traditional Educational Approach

Psychomotor Skills

Ethical and Professional Issues



Moving from learning by doing to simulation

How to teach?

Training today

Knowledge

Psycho-motor skills

Judgement

Communication

**EXPERIENTIAL
LEARNING
AND
SIMULATION**

How to teach?

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HANDS ON: SIMULATION!

W_R9 Ultrasound Simulation

A simulation practice on ultrasound anatomy is included in the curriculum of CVAD placement training

B

Perfect consensus, strong

ULTRASOUND ANATOMY

W_R10 Anatomical Models

Inanimate models/simulators replace the human anatomy as clinicians follow minimal requirements to allow for the detection of main vessels and surrounding structures

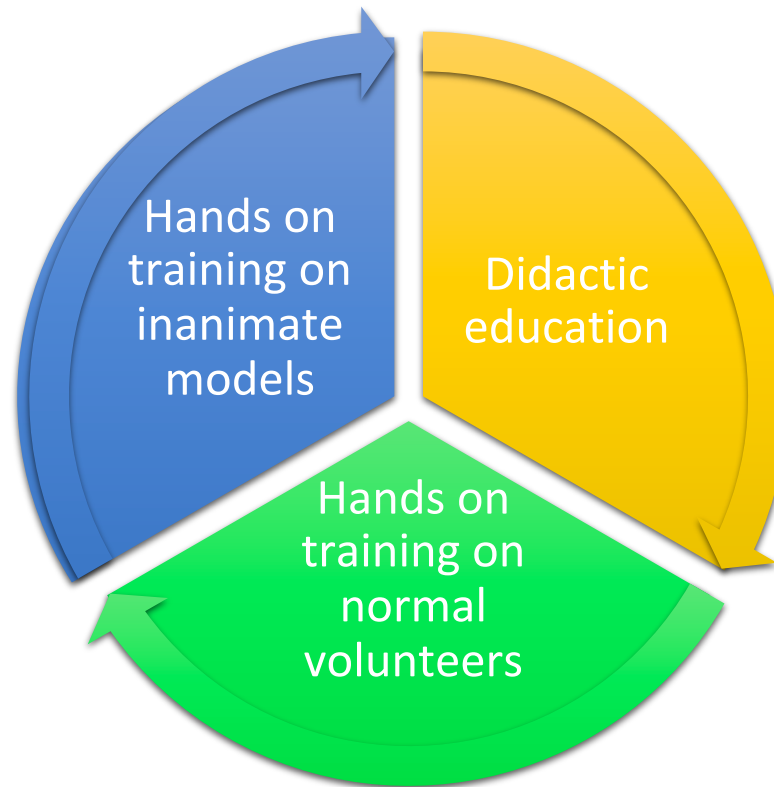
A

Perfect consensus, strong

ULTRASOUND GUIDED VENIPUNCTURE

How to teach?

The virtuous circle



What to teach

How to teach

*How to supervise: from
mannequins to patients*

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W_R13 Supervision

Supervision is performed by a practitioner who is in clinical practice, is confident with demonstrated competency and has a thorough current knowledge of best practice demonstrated through participation in performance of education, or with publication activities dealing with CVADs

C

Perfect consensus, strong

....**supervised ultrasound cannulations:**
coaching the trainee during the procedure in order to achieve the **required minimal skill competence with the lowest rate of complications.....**



How to supervise: from
mannequins to patients

Supervision: how and how much

STEP 1

Observed procedures

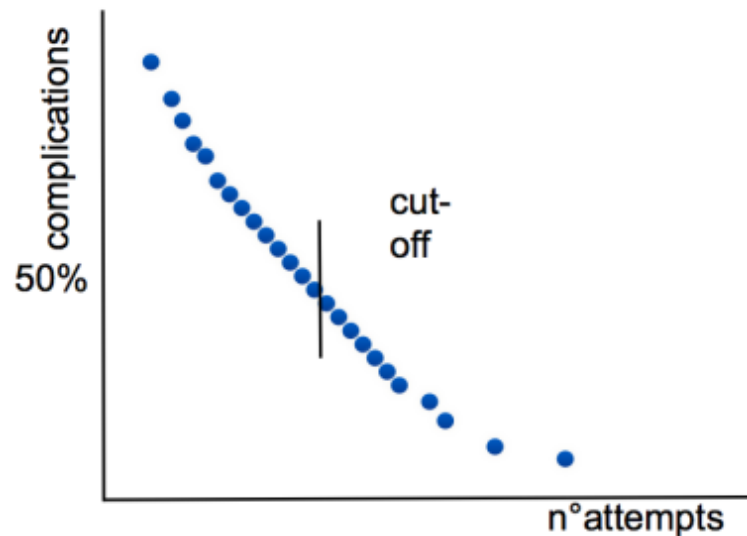
The trainees observe the routine activity
of our Vascular Access Team

How to supervise: from
mannequins to patients

Supervision: how and how much

STEP 2

Tutored procedures: start a learning curve



PROBLEMS:

1. Which complication do I have to consider
2. Inter-individual variability
 - Background
 - Previous exposure
 - Different attitude

How to supervise: from
mannequins to patients

STEP 2
Learning curve

- Learning curve must be tailored
- Learning curve should be a full immersion training period with active involvement in case discussion, device selection and technical problem solving
- Minimum n of supervised procedures not defined

How to supervise: from
mannequins to patients

Supervision: how and how much

STEP 2
Tutored procedures: start a learning curve

G.I.P.E.

PICC

Per questo motivo, il G.I.P.E. (Gruppo Italiano PICC Expert) ha ritenuto opportuno cercare di definire, attraverso lo strumento metodologico di una Consensus, quali siano i requisiti minimi per la progettazione e attuazione di un percorso formativo adeguato nell'ambito del posizionamento ecoguidato dei PICC.

Didactic: 4 h

Laboratory training 4h

4 observed

4-10 supervised procedures

Personal learning curve:

- 20 procedures in 3 months
- 50 procedures in 6 months

How to supervise: from
mannequins to patients

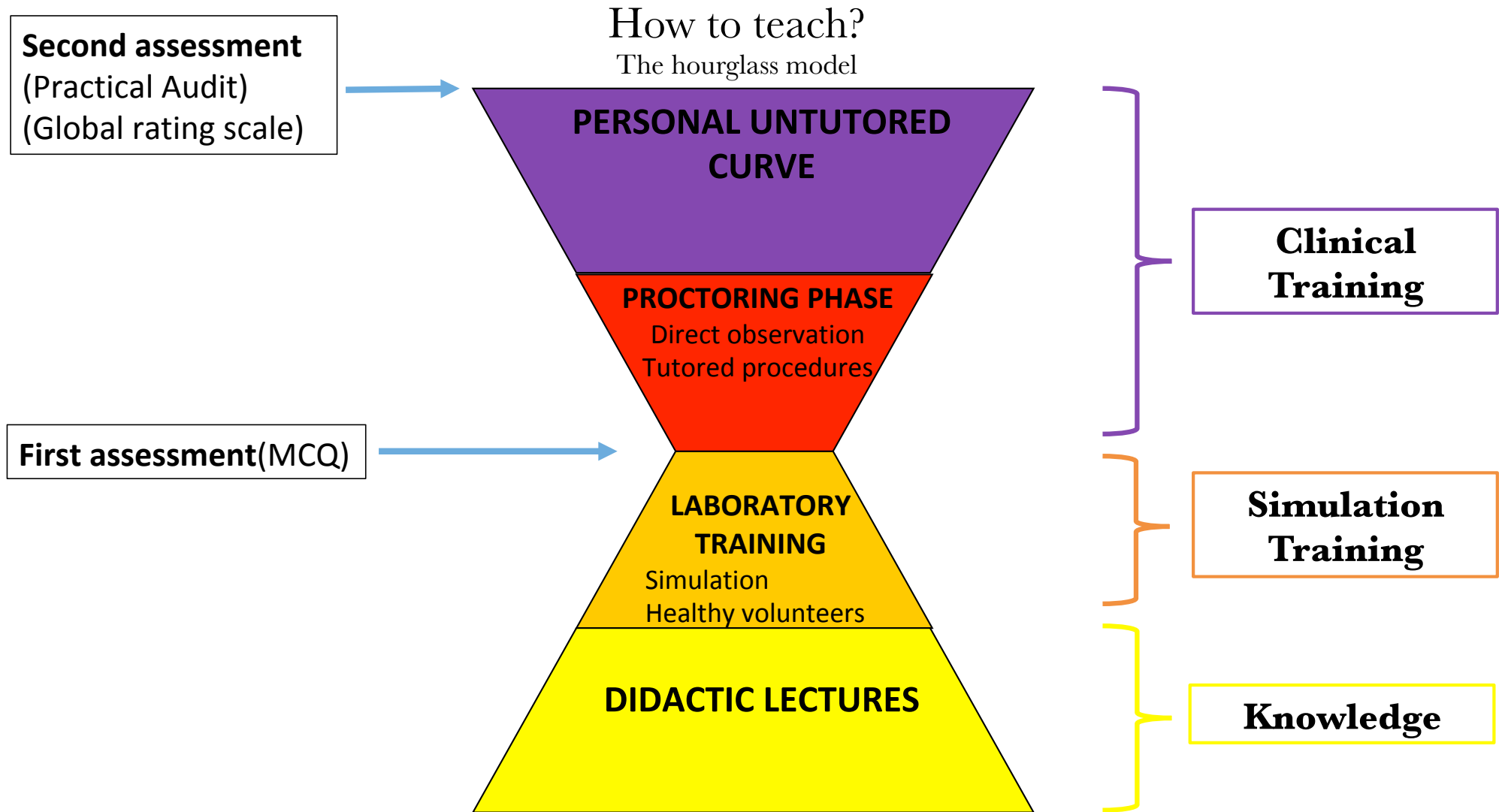
Supervision: how and how much

STEP 2

Tutored procedures: start a learning curve

interventional CVPS placement can perform these procedures independently and reliably after a short training period. A kind of routine already becomes apparent after about 20 supervised interventions, both when fully trained radiologists and advanced residents learn the method. Thus, CVPS implantation is a good teaching procedure with early gratification in an academic teaching hospital. This makes CVPS implantation a

PORT



LA NOSTRA ESPERIENZA



PORT, CICC, PICC: INDICAZIONI, IMPIANTO E GESTIONE CORSO TEORICO PRATICO

*Corso in collegamento in diretta
con la sala impianti*

14 e 15 Novembre 2017

**I giornata ore 10.00-19.00
II giornata ore 8.00-18.00**



**DAL 2015
4 EDIZIONI
160 PERSONE FORMATE**

Relatori/docenti

Balsorano Paolo, AOU Careggi – Firenze

Barbani Francesco, AOU Careggi – Firenze

Fallani Elsa, AOU Careggi - Firenze

La Greca Antonio, Università Cattolica degli Studi
Sacro Cuore - Roma

Panchetti Alessandra, Azienda USL Toscana
Centro - Pistoia

Pinelli Fulvio, AOU Careggi - Firenze

Pittiruti Mauro, Università Cattolica degli Studi
Sacro Cuore - Roma

Scoppettuolo Giancarlo, Università Cattolica
degli Studi Sacro Cuore - Roma

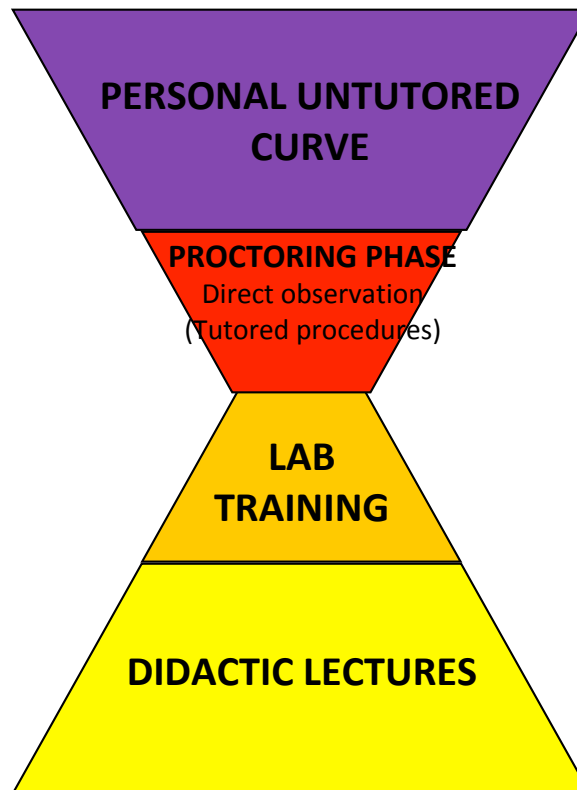
Selmi Valentina, AOU Careggi - Firenze

Zagli Giovanni, AOU Careggi - Firenze

Segreteria organizzativa

U.O. Formazione
Azienda Ospedaliero-Universitaria Careggi
Giada Morini Tel. 055.7946010
morinig@aou-careggi.toscana.it

Programma
I Giornata
Ore 09.45 Registrazione dei partecipanti
<u>PRIMA SESSIONE</u>
Indicazione, impianto e gestione del catetere venoso centrale
Ore 10.00 Un algoritmo per la scelta del catetere venoso centrale più appropriato <i>M. Pittiruti</i>
Ore 11.00 Tecnica di impianto <i>A. Panchetti</i>
Ore 12.00 Le buone pratiche nella gestione degli accessi venosi <i>E. Fallani</i>
Ore 13.00 CICC o PICC in Terapia Intensiva? <i>F. Barbani</i>
Ore 14.00-14.30 Pausa Pranzo
<u>SECONDA SESSIONE</u>
Le complicanze/ La verifica della corretta posizione della punta
Ore 14.30 Le complicanze meccaniche legate all'impianto <i>G. Zagli</i>
Ore 15.30 La trombosi venosa catetere correlata: prevenzione, diagnosi e trattamento <i>P. Balsorano</i>
Ore 16:30 L'ECG intracavitario e l'ecocardiografia: con quali modalità e per quali pazienti <i>F. Pinelli</i>
Ore 17:30 Il metodo radiologico e l'ECG nel paziente con FA <i>A. La Greca</i>



Programma
II Giornata
<u>TERZA SESSIONE</u>
Le infezioni catetere correlate/Casi Clinici/Impianti in diretta Moderatori: <i>A. Panchetti e F. Pinelli</i>
Ore 8.00 Le infezioni catetere correlate: cosa dobbiamo sapere <i>G. Scoppettuolo</i>
Ore 9.00 I discenti saranno divisi in due gruppi: Aula 7 Impianti in diretta <i>M. Pittiruti e V. Selmi</i> Aula 8 Discussione di casi clinici <i>G. Scoppettuolo e A. La Greca</i>
Ore 11.00 i due gruppi si scambiano
Ore 13.00- 14.00 Pausa Pranzo
<u>QUARTA SESSIONE</u>
Ore 14.00 Esercitazioni pratiche di eco-anatomia del braccio e del collo e di venipuntura ecoguidata su preparato anatomico <i>A. La Greca - A. Panchetti – M. Pittiruti - V. Selmi</i>
- Ore 17.30 Conclusioni
-
- Ore 17.40 Questionario di apprendimento

Programma

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F. Pinelli

Ore 17:30 **Il metodo radiologico e l'ECG nel paziente con FA**

A. La Greca

DIDACTIC LECTURES

INSERTION

MANAGEMENT

Programma

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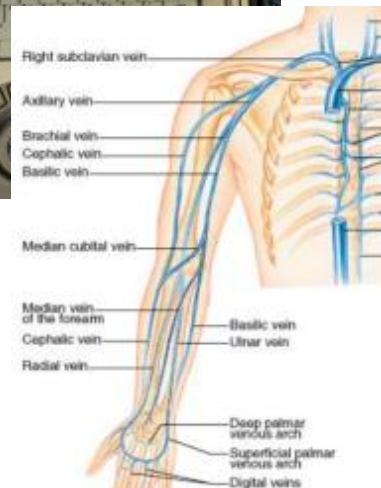
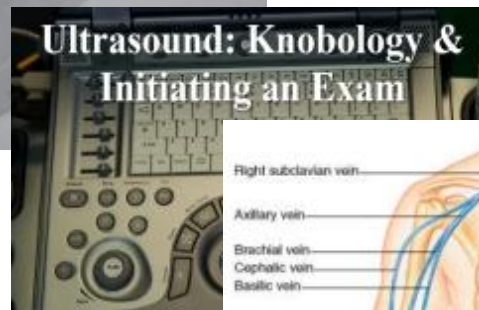
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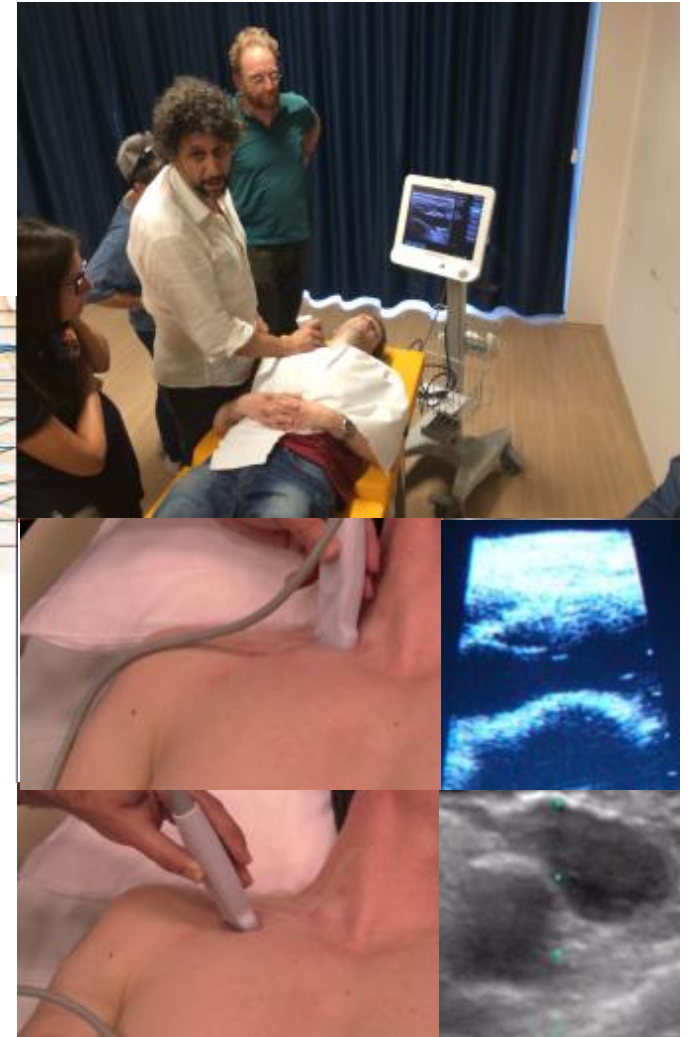
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Ore 17.40 **Questionario di apprendimento**

TRAINING LAB



4 SKILLS STATIONS



Programma

II Giornata

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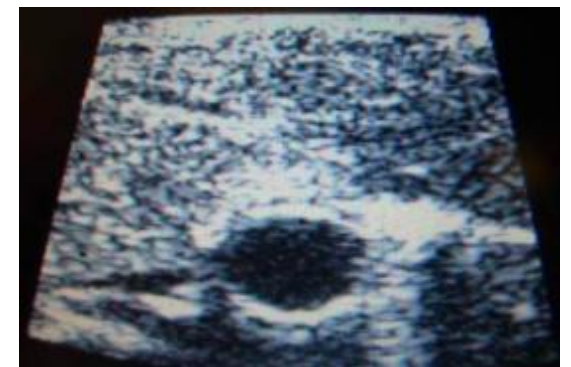
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TRAINING LAB



4 SKILLS STATIONS



Programma

Il Giornata

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*A. La Greca - A. Panchetti – M. Pittiruti - V.
Selmi*

-
- Ore 17.30 **Conclusioni**
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apprendimento**



PROCTORING PHASE: LIVE STREAMING



IN CONCLUSIONE

TRAINING :

- DIDATTICA TEORICA
- LAB TRAINING (SIMULAZIONE)
 - ECO ANATOMIA IN VOLONTARI
 - VENIPUNTURA ECOGUIDATA
- TUTORAGGIO
 - OSSERVAZIONE
 - TUTORED PROCEDURES
 - APPRENDIMENTO PERSONALE
- COINVOLGIMENTO ATTIVO: TEAM di FORMATORI

IL NOSTRO TEAM (UNA PARTE..)



PROSSIMO APPUNTAMENTO: SAVE THE DATE!



PORT, CICC, PICC: INDICAZIONI, IMPIANTO E GESTIONE CORSO TEORICO PRATICO

*Corso in collegamento in diretta
con la sala impianti*

~~14 e 15 Novembre 2017~~

29 e 30 MAGGIO 2018

AOU CAREGGI





GRAZIE