# ECIM 2024 Ultrasound Workshop

## Program

<table>
<thead>
<tr>
<th>Recorded Powerpoint Sessions</th>
<th>Basic principles of ultrasound and knobology</th>
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<tbody>
<tr>
<td></td>
<td>Lung assessment</td>
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<td>Heart assessment</td>
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<td>Vascular assessment for Deep Venous Thrombosis</td>
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## Hands on practice

*March 6th*

<table>
<thead>
<tr>
<th>Time</th>
<th>Station 1 Approach to the Breathless patient 1</th>
<th>Station 2 Approach to the Chest Pain patient 1</th>
<th>Station 3 Approach to the Breathless patient 2</th>
<th>Station 4 Approach to the Chest Pain patient 2</th>
<th>Station 5 Approach to the Breathless patient 3</th>
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<tbody>
<tr>
<td>13:00</td>
<td>Group A</td>
<td>Group B</td>
<td>Group C</td>
<td>Group D</td>
<td>Group E</td>
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<td>15:00</td>
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<td>17:00</td>
<td>Group E</td>
<td>Group A</td>
<td>Group B</td>
<td>Group C</td>
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<thead>
<tr>
<th>Time</th>
<th>Welcoming Session</th>
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Clinical Case design

- Case duration: 60 min
- Clinical vignette with physical examination
- Instructor shows assessment in real time without comments, and explains what is doing and seeing
- Trainee performs and comments (at least 10 min per trainee).
- Clinical case and images/films are shown with pathologic findings
- Trainee checklist to assure all goals are achieved

Clinical Cases Goals

Station 1 - Approach to the Breathless patient 1

*Pneumonia with pleural effusion*
- Acquire adequate lung images at every thoracic point
- Acquire adequate cardiac images
  - Parasternal long axis
  - Parasternal short axis
  - Apical
  - Subcostal
- Identify anatomical structures
  - Atria and ventricular walls
  - Cardiac valves
  - Pericardium
  - Soft tissue
  - Ribs (bony and cartilaginous)
  - Pleural sliding
  - Diaphragm
- Identify patterns
  - A pattern
  - Focal B lines
  - C pattern
  - Atelectasis
  - Pleural effusion
  - Collapsing ventricula (septic shock)
  - Collapsing Inferior Vena Cava

Station 2 - Approach to the Chest Pain patient 1

*Pericardic effusion*
- Acquire adequate cardiac images
  - Parasternal long axis
  - Parasternal short axis
  - Apical
  - Subcostal
- Identify anatomic structures in each cardiac window
  - Atria and ventricular walls
  - Cardiac valves
  - Pericardium
Identify patterns
  o Pericardial effusion
  o Tamponade signs

Station 3 - Approach to the Breathless patient

Heart failure
  □ Acquire adequate cardiac images
    o Parasternal long axis
    o Parasternal short axis
    o Apical
    o Subcostal
  □ Acquire adequate lung images at every thoracic point
  □ Identify anatomic structures in each window
    o Atria and ventricular walls
    o Cardiac valves
    o Pericardium
    o Soft tissue
    o Ribs (bony and cartilaginous)
    o Pleural sliding
    o Diaphragm
  □ Identify patterns
    o Diffuse B lines
    o Bilateral pleural effusion
    o Compromised myocardial function
    o Ingurgitated Inferior Vena Cava

Station 4 - Approach to the Chest Pain patient

Pneumothorax
  □ Acquire adequate lung images at every thoracic point
  □ Acquire adequate cardiac images
    o Parasternal long axis
    o Parasternal short axis
    o Apical
    o Subcostal
  □ Identify anatomical structures
    o Atria and ventricular walls
    o Cardiac valves
    o Pericardium
    o Soft tissue
    o Ribs (bony and cartilaginous)
    o Pleural sliding
    o Diaphragm
  □ Identify patterns
    o A’ pattern
    o Lung point
    o Right ventricular dilatation
    o Ingurgitated Inferior Vena Cava
Station 5 - Approach to the Breathless patient

Pulmonary Embolism

- Acquire adequate lung images at every thoracic point
- Acquire adequate cardiac images
  - Parasternal long axis
  - Parasternal short axis
  - Apical
  - Subcostal
- Perform lower limbs venous assessment by two points compression (popliteal and femoral)
- Identify anatomical structures
  - Atria and ventricular walls
  - Cardiac valves
  - Pericardium
  - Soft tissue
  - Ribs (bony and cartilaginous)
  - Pleural sliding
  - Diaphragm
  - Popliteal vein and artery
  - Femoral vein and artery
  - Safena vein
- Identify patterns
  - A pattern
  - C pattern
  - Right ventricular dilatation
  - Ingurgitated Inferior Vena Cava
  - Non-compressible venous structures