Abdominal Ultrasound Examination

**ITEMS TO PREPARE**

- **Layout**
  - Chair
  - Ultrasound Scanner
  - Ultrasound Examination Training Phantom "ECHOZY"
  - US-1 Ultrasound Examination Training Phantom "ECHOZY"
  - US-5 FAST/Acute Abdomen Phantom "FAST/ER FAN"
  - M98 Anatomical Model "ECHO-ZOU" or an anatomical chart of abdomen
  - Ultrasonic gel
  - Wet cloth (to wipe gel off the phantom)
  - Tray to put the cloth

- **Trainer**
  - Ultrasound scanner (with a convex transducer)
  - Tray to put the cloth
  - Wet cloth (to wipe gel off the phantom)
  - Ultrasound gel

**TRAINING TRICKS**

- **Do not leave trainees with questions and doubt!**
  - beware and encourage trainees to approach questions at any time.
  - The key to successful training.

- **First, play and enjoy as a game!**
  - When the training transits from the basics with ECHOZY to advanced session with FAST/ER FAN, some trainees may be overwhelmed by new challenges such as abnormal finding.
  - At the beginning, the session can be like a playful game rather than serious simulation.
  - Make the trainee work as a team to find differences from the normal findings of ECHOZY and lead them to a successful experience.

- **Now you are at ER! Create a realistic sensation.**
  - Time for examination is a scarce resource. Once the trainees have familiarized with ultrasound examination, setting a time limit of approx. 2 minutes per exam to simulate a ER setting will be effective.
  - In addition, making the room light dim, using sound effect or adding words that are typically used in ER helps trainees imagine real life situation. Create a realistic sense of tension in the training session to have true-to-life experience in ultrasound in emergency setting.

**Simulating training on ultrasound exam in ER setting using FAST/ER FAN**

- **Goals**
  - Basics of ultrasound scanning, visualization of normal organs and anatomical understanding
  - Understanding of the scenario and patient data facilitates trainees to perform examination while searching for causes of findings.

- **Training sessions**
  - Using a case scenario to conduct realistic simulation training.
  - Example: The patient met a traffic accident and was ambulanced to the ER.
  - The trainees are assessed on preparation work or previous experiences in ultrasound examination. Orientation on training contents and flow is given.

  **Hands-on training of basic abdominal ultrasound using ECHOZY**

  - **Goals**
    - Basics of ultrasound scanning, visualization of normal organs and anatomical understanding
    - Understanding of the scenario and patient data facilitates trainees to perform examination while searching for causes of findings.

  - **Training sessions**
    - Using the ECHO-ZOU model or an anatomical chart, check the organ that is visualized on the monitor as an ultrasound image.
    - Advices from experienced clinicians
      - Share the events that trainees will encounter in real life and tips that are not on text books.

  **CARRYING OUT THE TRAINING**

  The below example is for one hour training session.

  **Orientation**

  - 5 min.

  **Introduction for ultrasound examination**

  - 5 min.

  **Demonstration of abdominal ultrasound on ECHOZY**

  - Points to cover
    - usefulness of ultrasound examination
    - interpretation of ultrasound images
    - how to use an ultrasound scanner
    - basics of ultrasound scanning
    - when facing challenges during examination

  - 5 min.

  **Hands-on training of basic abdominal ultrasound using ECHOZY**

  - 25 min.

  **Practical training**

  - 25 min.

  **Simulation training on ultrasound exam in ER setting using FAST/ER FAN**

  - 30 min.

  **Practical training (Advanced/FAST/ER FAN)**

  - 30 min.

  **As a team of five, scan the patient in 2 min. per a trainee.**

**Advises from experienced clinicians**

- Share the events that trainees will encounter in real life and tips that are not on text books.