



1st Theoretical Session BASIC PHYSICS AND PROPAEDEUTICS OF ULTRASOUND

25th January 2017

RENAL IMAGING TECHNIQUES AND B-MODE IMAGING: INTRODUCTION AND METHODS

09.00/09.45

CT, MR: renal applications
S. Ortori (Pisa)

09.45/10.30

Nuclear medicine and hybrid techniques
D. Volterrani (Pisa)

10.30/10.45

Coffee break

10.45/11.30

Ultrasound. Nature and physical characteristics of the ultrasound beam. Biological interactions and propagation of ultrasound
M. Meola (Pisa)

11.30/12.15

Ultrasound equipment: key components and image formation
M. Meola (Pisa)

12.15/13.15

Live practical lesson: B-Mode main functions and settings
M. Meola (Pisa)

13.15/14.30

Light lunch

14.30/15.15

Recent developments in B-Mode imaging: 2nd harmonic, composite and panoramic imaging, 3-D Imaging
M. Bertolotto (Trieste)

15.15/16.00

B-mode semantics and semiotics. B-Mode artifacts.
F. Calliada (Pavia)

16.00/16.45

Technological advances and future developments in ultrasound: plane wave, molecular imaging, photoacoustic imaging, laser-Doppler
M. Bertolotto (Trieste)

16.45/17.00

Coffee break

17.00/17.30

Clinical request, reporting and diagnostic conclusions
F. Calliada (Pavia)

17.30/19.00

Live lessons

1) Anatomical and scan planes
2) B-mode functions adjustment
3) Tricks
M. Meola (Pisa)

26th January 2017

DOPPLER PROPAEDEUTICS AND METHODS

09.00/09.45

Principles of hemodynamics. Velocity and flow rate. blood viscosity and shear stress
M. Meola (Pisa)

09.45/10.30

Doppler effect: ultrasound applications
F. Calliada (Pavia)

10.30/10.45

Coffee break

10.45/11.30

Vascular resistance. Wall elastic tension. Evaluation parameters
M. Meola (Pisa)

11.30/12.15

Interpretative basis of spectral and color Doppler curve
M. Bertolotto (Trieste)

12.15/13.15

Live lesson

1) Functions and adjustment of color and spectral Doppler
2) Tricks
M. Bertolotto (Trieste)

13.15/14.30

Light lunch

14.30/15.15

Semantics and semiotics, artifacts, errors and ambiguity of the Doppler signal analysis
L. Aiani (Como)

15.15/16.15

Ultrasound contrast media: Physical properties Applications in nephrology
M. Bertolotto (Trieste)

16.15/16.30

Coffee break

16.30/18.00

Live lesson

1) Semantics and semiotics
2) Artifacts, errors and ambiguity of the Doppler signal analysis
L. Aiani (Como)

18.00/18.45

Hemodynamic evaluation of the different forms of V/t curve
M. Meola (Pisa)

18.45/19.15

Final test