SYMPOSIUM: ESTRO ONLINE EDUCATIONAL PROGRAMS: WHAT THEY CAN OFFER TO YOUNG MEMBERS?

SP-0406
Online service library - DOVE
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All scientific material presented in ESTRO meetings and also in Radiotherapy and Oncology will be available using a new platform: DOVE (Dynamic Oncology Virtual ESTRO). In this platform some of the contents will be further organised by setting learning objects which will vertebrate a number of selected items (presentations, webcasts, papers). During this talk DOVE will be presented. In particular we will cover the structure of DOVE committee and also how the learning objects will be selected and built. How the young members can actively participate in this project will be discussed.

SP-0407
Update on FALCON
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1. Introduction: Main aim of ESTRO as a Educational support. Brief summary about the most recent publications in Green Journal regarding ESTRO and Educational Support. Results of the survey published in the last ESTRO 31. Focusing on the reasons as to why online courses are more available than onsite courses.
2. Creation of FALCON. Fellowship in Anatomy. History in hands on courses. Analysing results and satisfaction from the audience in on site courses. Becoming online from onsite courses from ESTRO.
3. Aim of the Online Group: Develop and increase accessibility to FALCON contouring tool for those participants who can´t assist at live events or in addition to contouring exercises proposed during live events (courses, meetings).
Secondary objectives:
- Strengthen hands of participants on contouring skills
- Promote the use of international guideline
- Discuss the intercomparison of the different delineated volumes of clinical case with experts in the field and colleagues from all over the world from home in a web-based way
- Evaluate the teaching impact using such a tool

4. Role of the FALCON tutors in online workshops:
Proposal and invitation of the teaching staff. Introduction to FALCON platform and contouring tool during the first session of each online workshop. Tutoring and answer participants' technical questions during the 3 weeks of the online workshop. Follow up of the participants (submission of their contours).
Collect and submit clinical questions to experts. Present contours from the participants and experts and show DICE scores so experts and participants can comment. Collect comments from evaluation forms after the workshop to improve future WS.
Evaluate the DICE score progression and propose evaluation methods for the teaching impact of the workshop (short/ long term benefit)
5. Methodology and Tools: Online test version for each new workshop with experts, falcon tutors, ESTRO staff and "test participants". Webex conferences for each session with the participants. Follow up of the participants through e-mail or Skype conferences by FALCON tutors during the 3 weeks of each workshop. Evaluation form sent and collected by email (or test survey) at the end of the course. Evaluation of the teaching impact after each course (Evolution of the DICE score between different sessions).
6. Template for FALCON on line WS: Total time per WS: 3 sessions for a total of 4 hours over 3 weeks.
Structure of the workshops: • Week 1 : session 1= 1h: Explanation of the webex and contouring software + Presentation of a clinical case and the delineation exercise • Week 2 : session 2= 1h30: Presentation of the delineation guidelines and discussion of the expert's and participants' delineations
• Week 3 : session 3= 1h30: Discussion of the expert's and participants' new delineations
Practical arrangements Participants should contour on their own laptops during week 1 and 2 after session 1 and 2 and submit their delineations through FALCON web-based platform. Participants will be limited to 15-20 per workshop to keep a strong interactivity in the group.
7. Satisfaction survey in online courses.
Brief summary on the first online workshops.
8. New Arrangements.
FALCON online workshops achievements in 2012 and plans for 2013:

	H&N	Breast	Gyne
2012 online Workshop		X	
2013 online Workshop	X	X X X	X

(Each WS is represented by X, meaning in 2013 we are planning to repeat breast online WS 3 times)

POSTER DISCUSSION: 11: PHYSICS: IMAGING: TECHNOLOGIES AND APPLICATIONS

PD-0408
Upgrading the MRI-linac prototype to a gantry-based system: impact on magnetic field homogeneity
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Purpose/Objective: In cooperation with Elekta AB (Stockholm, Sweden) and Philips (Best, The Netherlands) the UMC Utrecht has constructed a prototype linear accelerator integrated with an MRI scanner. This prototype was recently upgraded from a table-mounted accelerator with cast block collimators to a continuously rotating gantry-based system with a 160-leaf MLC to shape the radiation beam (fig. 1A). All hardware needed for production of radiation is now mounted on the gantry, including control and cooling systems. Ferro-magnetic parts on the gantry, which rotates around the MR scanner, may induce gantry position dependent magnetic field inhomogeneities. This potentially hampers the geometrical accuracy of acquired MR images in a gantry position dependent manner. Here the aim is to investigate the influence of the field inhomogeneity variations on geometrical accuracy of images and to present possible solutions.
Materials and Methods: For various static gantry positions the magnetic field was measured using a dual-echo GRE-based field mapping sequence (T_E/T_R = 5/15ms, flip angle 30°, ΔT_E = 1ms, in-plane resolution 2x2mm^2, slice thickness 5mm, FOV 45x45cm^2). Images were acquired of a body phantom (Ø 40cm) in the mid-coronal, sagittal and transverse planes. Each field map was acquired with and without additional compensation for linear field variations (i.e., shimming) at a gantry angle resolution of 5°. Shim settings were stored after each measurement. From the field-maps ΔB(x,y), the minimum read-out gradient strength $G_{R,min}$ needed to achieve a localisation accuracy δ at a position (x,y) is given by $G_{R,min}(x,y) = \Delta B(x,y)/\delta$.
Results: Figure 1B shows a maximum intensity projection over all gantry angles for $G_{R,min}$ in the mid-transverse plane. For all three measured planes and all gantry angles, $G_{R,min}$ is greatly reduced by shimming. In case the shims are correctly set, $G_{R,min}$ is below 10mTm^{-1} for δ = 1.0mm, which is a feasible but not ideal read-out gradient strength. Shim settings for the x and y directions display an approximately sinusoidal pattern with varying gantry position, whereas the z-shim remains unaffected. Shim settings per gantry angle were found to be highly reproducible.