Course: CPC Research School and Graduiertenkolleg 2338 Year 2018-2019

Date: **Thursday 9th May 2019**

Module: Spirometry Day

Organizers: Georgios T. Stathopoulos, CPC, Lung Carcinogenesis Group
Marion Frankenberger, CPC, Outpatient Unit
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Participants: 15-20 first-year CPC RS & GRK2338 students (MD, MSc, and PhD candidates)

Title: Hands-on Spirometry for Beginners

Description: The participants will learn the fundamentals of spirometry in practice.

Setting:
- University-Affiliated not-for-profit Research Center
- Second semester of four-semester MMRC curiculum
- Compulsory hands-on course
- 100 m^2 dedicated seminar room (CPC) and 20 m^2 lung function laboratory (CPC Outpatient Unit)
- Double Split Classroom: Introductory lecture (one hour), followed by hands-on spirometry in small groups of three, followed by quiz (half hour) and concluding lecture (half hour).

Target audience:
- First-year graduate students (MD, MSc, and PhD candidates)
- Medium-sized participant groups (30-40 students).

Learning objectives:
- Understanding lung volumes and flows
- Comprehending the basic build and function of a spirometer
- Performing spirometry on a colleague
- Evaluating if a spirometry test is optimal/suboptimal
- Understanding normal spirometric values
- Understanding obstruction versus restriction using real-time models
- Evaluating exemplary spirometry values

Methods/Sequence:
- Lecture with overhead slides
- Display and analysis of a spirometer device
- Hands-on display of spirometry
- Hands-on performance of spirometry by the students
- Interactive discussion on evaluating the results of a test
- Test questions
- Free discussion

Equipment:
- A digital spirometer
- One PC with overhead projector
- Flipchart/blackboard
- Workspace for 20 students
- 100-150 single use mouthpieces

Program: Thursday 9th May 2019

Time	Place	Event	Format	Participants	Duration (min)
9.00-9.15	CPC Seminar Room 2nd Floor	Introduction to Spirometry	Lecture	All	15
9.15-9.30		Slow vital capacity and lung volumes	Case discussion	All	15
9.30-9.45		Forced vital capacity manouver and normal spirometry values	Case discussion	All	15
9.45-10.00		Obstructive and restrictive patterns	Case discussions	All	15
10.00-12.00 and 13.00-14.00	Spirometry Lab, CPC Outpatient Unit, Ground Floor	Hands-on spirometry	Group peer learning	Groups of 3-4 students	30 per participant
14.00-14.30	CPC Seminar Room 2nd Floor	Evaluating spirometry tests	MCQ Quiz	All	30
14.30-15.00		Course evaluation, creating a histogram and the normal distribution	Buzz Groups	All	30