AbstractID: 14431 Title: IAEA Study of Cataract in Staff Working in Catheterization Laboratories

Staff working in catheterization laboratories, predominantly interventional cardiologists and nurses, are potentially exposed to relatively high levels of ionizing radiation and may be at risk of developing cataracts after several years of work if radiation protection rules are not followed. A number of studies in other radiation exposed populations, including astronauts, atomic bomb survivors, X-ray technologists and those exposed after the Chernobyl nuclear accident, have indicated an increased risk of radiation associated lenticular changes after low-dose exposures, raising concerns regarding interventional cardiology professionals. Recent studies indicate that the threshold for cataract development is lower than was previously estimated and that radiation cataractogenesis may in fact be more accurately described by a linear, no-threshold model and may thus need to be classified as stochastic effect. The higher workload that is typical now in many cath labs, a lack of training in radiation protection and non-availability or non-use of radiation protection devices can result in doses to the eye lens that are high enough to cause lens injuries.

International Atomic Energy Agency (IAEA) had launched a project to test the eyes of interventional cardiologists and support staff. The prospective testing was associated with a retrospective dose assessment for the lens of the eye. The eye testing exercises have been done in 20008-2009 at Bogota, Columbia; Montevideo, Uruguay; Kuala Lumpur, Malaysia; Varna and Sofia in Bulgaria.

The talk will review the basic information about radiation catactogenesis and results of recent studies that indicate the need for change. It will present the summary of results of yet to be published studies on interventional cardiologists and nurses that do indicate increased prevalence of dots that represent lens injuries which may lead to cataract after many years.

Learning Objectives:

1. To understand the basic information about radiation cataractogenesis
2. To understand the studies that have been conducted in the last 15 years that show that cataract is seen at doses lower than the currently believed threshold
3. To become aware about the likely changes in current recommendation that may be brought up by international bodies such as ICRP.