

COLLEGE OF MEDICINE TUCSON Medical Imaging

Grand Rounds

Radiation Hormesis – Are There Beneficial Effects to Low Doses of Radiation?



presented by

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11/16/22, 12:00 – 1:00 pm COM-T Room 2117

Attendance Code: 133099 Live streaming via Zoom

BIO

Dr. Robert Wagner has been the Director of Nuclear Medicine at Loyola University Health System (Loyola Medicine) for 16 years and has practiced Nuclear Medicine for 35 years. He is ABNM and CBNC board certified and is interested in all aspects of Nuclear Medicine, Molecular Imaging and Therapy.

Dr. Wagner has been involved in the preparation of hospitals in the Midwest and in New York State for receiving radiation accident victims associated with the nuclear power industry since the early 1990's. Academic interests include teaching and the investigation of phase 1, 2 and 3 diagnostic and therapeutic radiopharmaceuticals.

OBJECTIVES

1.) Introduce the concept of hormesis as applied to a variety of harmful agents.

2.) Understand how the dose response curves apply to subharmful situations.

3.) Review possible mechanisms of hormesis.

ABSTRACT

Hormesis is a controversial concept that postulates positive simulation by subharmful quantities of any agent to any system. While large doses of radiation clearly cause damage, early studies occasionally found confusing results when exploring lower doses of exposure. Furthermore, these confusing effects can also be seen using a variety of chemical and physical stimuli. By exploring dose response curves and a variety of situations, the question of beneficial effects of radiation will be introduced. We will explore possible mechanisms of hormesis and why this is so difficult to prove and accept as an idea. If hormesis does exist and if it applies to radiation, it may have wide ranging implications for regulations and public health.

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