# Henri Jammet Memorial Lecture: The Role of Dosimetry In Radiation Accident Response

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I am extremely honored to have been invited to present the first lecture in memory of Dr. Henri Jammet. I first had the opportunity to work with Dr. Jammet during a radiation accident management training course held in Brazil in 1981. I realized immediately the breadth and depth of knowledge he possessed about the topic of radiation accident management and the enthusiasm he brought to any discussion. Henri rarely took personal credit for his many accomplishments, rather giving credit to colleagues and national/international programs he represented and defended with vigor and enthusiasm.

One cannot reflect on the role of dosimetry in radiation accident management without briefly revisiting the pioneering work of Jammet and colleagues following the Vinca accident, affecting six (6) physicists, that occurred on October 15, 1958. Initial dosimetry utilized measurements of neutron induced radioactivity in body sodium as well as personal objects carried by respective individuals Gamma doses were estimated by physical dosimeters in place prior to the accident as well as with time-motion studies and personal interviews of the affected individuals. These dosimetric data collected over the first 10 days post-exposure were later confirmed (by October 30) by observed hematological disorders. As you recall, the sophisticated techniques using induced lymphocyte dicentrics and other biomarkers were not yet available Individual patient care was therefore based on the clinical course, including early prodromal signs and symptoms, hematological findings, skin reactions, visceral/genital changes, and biochemical findings. Dr. Jammet wrote in a review of patient treatment, "In view of the lack of precise information concerning the doses of radiation received, we had to fall back on classical symptomatic treatment as dictated by the clinical developments avoiding, as far as possible, any action likely to interfere with subsequent measures. Faced with a desperate situation, tending toward a fatal outcome, we decided to attempt hitherto untried methods of treatment based on the most recent experimental findings," (Jammet, 1960). Unfortunately, many additional serious radiation accidents have occurred since Vinca. What have we learned from these experiences and has the evolution of modern dosimetric techniques improved medical management? In this regard, we need to explore the techniques of internal dosimetry, as well as radiation cytogenetics