



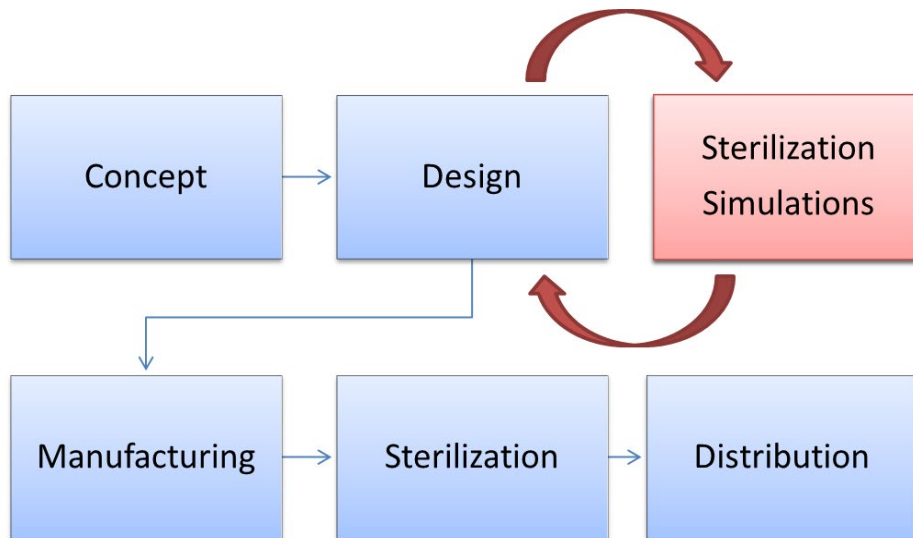
Simulation of Radiation Sterilization: Guiding Product Design

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In a typical product design process, testing to ensure that the sterilization regulations are met is only performed after the product has been fully designed, built, tested, and readied for mass production. There is an inherent risk to this approach: a great deal of effort and resources have been invested in a product that may or may not make it to production, depending on the outcome of the sterilization tests

Our solution

To hedge against this risk, computer simulations can be incorporated directly into the product development process as a means to predict the outcome of the sterilization tests. Performing such simulations regularly during product development provides rapid feedback on the influence of any design changes on the dose distribution throughout the device.



For instance, what if the material of a component in the product is changed? How is the resulting dose distribution influenced? Simulations provide direct access to this information by providing a systematic way to test such design choices. In this way, the product's ability to meet the sterilization regulations can be anticipated and actively managed.

How do we do it?

Dose Insight has developed a powerful software tool capable of realistic simulations of radiation sterilization. The physics in the simulations is powered by the Geant4 toolbox; developed at CERN, Geant4 is the most sophisticated and accurate physics library in existence. Our tool can simulate the full three-dimensional dose distribution received by any product from gamma, electron-beam, or x-ray sources

For more information visit us at www.doseinsight.com or email us (info@doseinsight.com)