D’Lima Ayesha, MESc, “Characterization of a Novel Dry Powder Inhaler”, The University of Western Ontario, December 2006.

Abstract

Introduction of any new pulmonary inhaler into the pharmaceutical industry needs to meet some requirements, which test the durability and performance of the inhaler. There are standardized protocols setup by agencies such as the Food and Drug Administration (FDA) in the United States and the Inhalanda group in Europe. These protocols include testing the emitted efficiency of the inhaler and also in-vitro deposition of drugs emitted from these new inhalers.

An inhaler, designed by our research group, was subjected to various tests using five powder samples of varying sizes and morphology. The particle depositions on the basis of particle size of these samples were compared to the particle deposition results from these in-vitro tests. The results were in accordance with particle characteristics. In addition, the inhaler showed a 20% increase in particle deposition compared to those currently available and thus indicates the excellent performance of the inhaler.