

## **Formulation Considerations for Nasal Spray Products**

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### **Abstract**

Nasal drug delivery has been successfully applied in administering medicines for local and systemic therapy. Numerous nasal spray products have been launched over last decades including those for systemic disease treatment, e.g. migraine or other severe pain relief. Nasal delivery has advantages of delivering the medications directly to the action site when applied locally or offering a rapid onset and avoiding the “first pass” effect when applied systemically. Nasal delivery is also able to bypass the “blood brain barrier” through olfactory pass way therefore administrate medicines to the CNS system. Nasal delivery is non-invasive and can be self administered. It benefits the patient having difficulty in taking medicines orally. Recent advancement in the field includes development of new delivery systems, formulations, in vitro methodologies in particular the spray characterization, understanding of in vitro-in vivo correlation and comprehensive regulatory directions. This presentation provides an overview of critical aspects of the nasal drug delivery and key consideration when develop nasal spray formulations.