

Pharmaceuticals and Novel Drug Delivery Systems

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Fast dissolving drug delivery systems

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Fast-dissolving formulations represent excellent opportunities for life cycle management to the pharmaceutical companies. Fast dissolving technologies have many advantages like ease of swallowing, administration without water, quick onset of action for improving both patient convenience and compliance as benefits for the patient; extended life cycle, product differentiation, patent protection as benefits for pharmaceutical companies, etc. But there are some challenges for formulation development studies like taste-masking, disintegration time, moisture sensitivity, friability, packaging and intellectual property issues, especially for the generic companies. The technologies are under patent protection like Zydis®, Flashtab®, OraSolv® and DuraSolv™, WOWTAB®, etc. One of the major issues is taste-masking problem which may be overcome with using cyclodextrins, polymer coating, flavouring & sweetening agent and microencapsulation techniques. There are some modified excipients for providing both taste-masking and productability properties in the formulation like Ludiflash®,

Pharmaburst®. From the analytical development point of view, there are a number of different methods from conventional dosage forms which are determined in the pharmacopoeias. And for the comparison and assessment of taste masking, electronic tongue may be a good opportunity which was developed by Alpha MOS. In the sense of generic companies, developing a fast dissolving tablets version of an existing immediate-release product means that the two formulations must be bioequivalent and this can be challenging for *in-vivo* studies especially if the method of taste masking retards the dissolution rate of the active ingredient after disintegration. What about the future of fast dissolving technologies? Orally disintegrating extended release (ODT-ER) dosage forms are providing all of the benefits of these two drug delivery technologies in a single pharmaceutical product. Oral rapid films also may be a good alternative, especially for the OTC market.

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