

# A Review of Modern Developments in Gastroretentive Drug Delivery Methods

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**Abstract:** Research and development of oral medication delivery systems have made great strides in the last several years. A problem with the physicochemical properties of medicinal molecules and their formulations prompted the idea of a new drug delivery technology. This work aims to update the pharmacological strategies applied in enhancing stomach residence time by synthesizing fresh research on gastro retentive drug delivery systems. Various devices that delay stomach emptying are now in use, including systems that enlarge and contract, systems that use polymeric bio adhesives, systems with changed forms, systems with high densities, and gastro retentive floating drug delivery systems. These technologies prove to be highly beneficial in addressing a multitude of problems that crop up when different dosage forms are being developed. Low bioavailability is a consequence of conventional dosage forms due to the brief residence time, oral absorption of medications, and restricted absorption of narcotics inside the upper intestinal wall. To get over this limitation and increase the bioavailability of these drugs, people can use controlled drug delivery systems that stay in the stomach for a long time. To prolong the time that medication stays in the esophagus and stomach, a gastric retention drug delivery device can be utilized. This article provides a concise overview of the different polymers utilized in floating drug delivery systems, focuses on the latest developments in expandable technology for these systems, and discusses the advantages of gastric retention and the main mechanism of floating

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