

Pre-filled pen injector for adults with type 2 diabetes

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Innovative Pre-filled pen injector for adults with type 2 diabetes



An innovative technology promises to improve treatment for diabetes patients. The product design and development firm Cambridge Consultants has worked with AstraZeneca to develop BYDUREON® Pen (exenatide extended-release for injectable suspension) 2 mg - which received US Food and Drug Administration (FDA) approval in February.

BYDUREON is the first once-weekly medicine as an adjunct to diet and exercise to improve glycaemic control in adults with type 2 diabetes. The BYDUREON Pen is a pre-filled, single-use pen injector - eliminating the need for the patient to transfer the medication between a vial and syringe during the self-injection process. The exenatide microspheres and diluent are housed in separate chambers within the pen device and only mixed at the time of injection.

Cambridge Consultants used their industrial design and human factors expertise in developing the usability of the BYDUREON Pen. The design guides the patient to the right place to grip the pen - and leads them to naturally hold the device at the correct angle that enables the drug to be mixed properly before injection. The design includes 'windows' which show the mixing process inside the pen injector - to focus the user's attention on this key element of the process.

"Our objective was to make the whole procedure as simple as possible, eliminating the need for the patient to transfer the medication between a vial and syringe during the self-injection process," said Mr Andy Pidgeon, head of the industrial design and human factors group at Cambridge Consultants. "We carried out extensive usability testing to ensure that both patients and healthcare professionals were able to successfully use the BYDUREON Pen."

An emerging global epidemic of diabetes is placing a huge burden on healthcare services. An estimated 347 million people worldwide suffer from the disease. The World Health Organization predicts that, by 2030, diabetes will be the seventh leading cause of death.