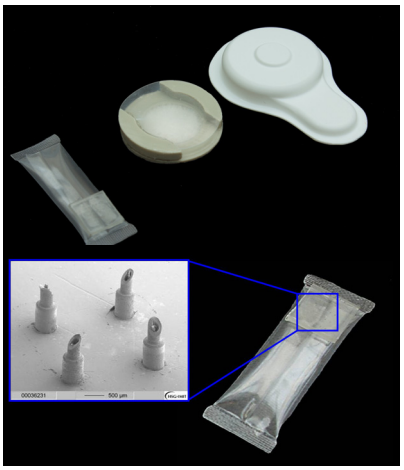
ChronopaDD – Chronopharmaceutical Transdermal Drug Delivery

HSG-IMIT, Villingen-Schwenningen

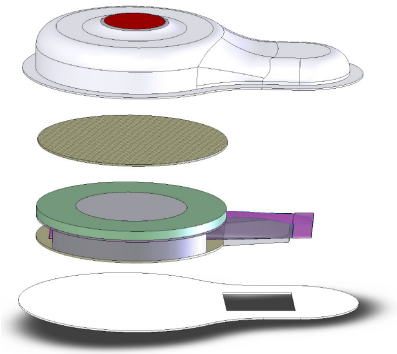
BACKGROUND and BASICS

- A reliable pathway to the vascular system in an easy to use way is a key issue for self administrable drug delivery devices. To address a high efficiency of treatment and therapy the timing of delivery, especially during night time, has to be taken into account. Furthermore production at low costs is essential for the success of such a single use device.
- These are the basic requirements on the development of the ChronopaDD, a transdermal drug delivery device for chronotherapeutic application, at HSG-IMIT.
- Using micro needles to overcome the protective top layer of the human skin, the stratum corneum, the transdermal route can be used to deliver drugs to the dermis or epidermis at a specific point in time.



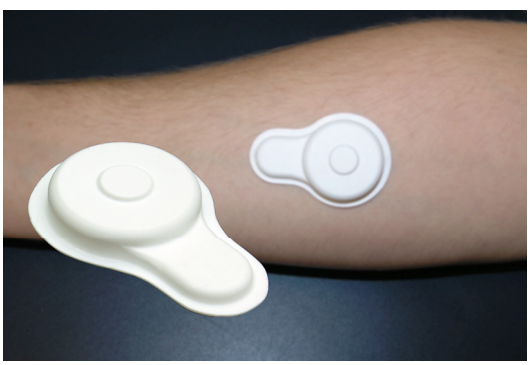
CONCEPT and SOLUTION

- The basic operation principle is based on an actuator with time delay. It enables time delayed displacement of a predefined volume energized by superabsorbent polymers. This displacement is used to squeeze out a prefilled flexible drug reservoir, which is connected to a transdermal interface, e.g. hollow micro needles. The complete ChronopaDD is a passive drug delivery device without any electrical components.
- This concept offers the application of various liquid and dissolved drugs, which can be delivered across the transdermal barrier. The primary application will be the delivery of pain relieving drugs.



STATUS and OUTLOOK

- The ChronopaDD is an ongoing development at HSG-IMIT. Various parts of the system e.g. single use pumping mechanism and time delay are already realized and ready for tests. The initial activation of the device and various fabrication mechanisms are still under investigation.
- We are looking for partners, who are interested in commercializing the ChronopaDD for various medical applications. Especially drugs, which are not able to be delivered by the gastro intestinal route (e.g. proteins or biopharmaceuticals), are welcomed to be tested using intradermal infusion devices.



Contact:
Michael Vosseler, HSG-IMIT, Wilhelm-Schickard-Str. 10, 78052 Villingen-Schwenningen, Germany
Phone: +49 (0) 7721 943 253, michael.vosseler@hsg-imit.de, www.hsg-imit.de