EPIWATCH: A NOVEL LIFE-SAVING MICRO AUTOINJECTOR IN A SMART WATCH

Here, Amber Witteman, Managing Director, Thijs Roebers, Chief Executive Officer, and Dirk-Jan Opstelten, PhD, Chief Scientific Officer, all of EpiWatch, introduce the company's patented innovation, a wearable autoinjector customised to fit the wrist.

EPIWatch (Figure 1) is a small, wearable proprietary autoinjector that can make a big difference in the daily lives of patients with a life-threatening allergy. EPIWatch offers a novel way to self-inject and tackles some of the big problems of traditional autoinjection devices. The company's goal is to serve the market with this complementary product to provide comfort, allay fears and save lives.

WHY IS EPIWATCH NOVEL?

EPIWatch is the first wearable autoinjector customised to fit the wrist. EPIWatch can inject a drug intramuscularly, subcutaneously, or intradermally, while the device is in a wearable state.

The current focus is on the development of the EPIWatch for intramuscular injection applications. It is designed to be discreetly worn on the wrist. EPIWatch is in direct contact with the patient's skin 24/7 allowing future sensor technology to collect individual data from the patient's skin through healthcare apps. AI data analytics preventative warnings signals could possibly be generated to alert patients.

The patient does not need to release the watch from the wrist to inject the medication. This makes the injection position stable and safer to use, and it involves fewer user steps than many other devices. The time saving advantage is extremely important when every second counts, in the case of an acute allergic reaction.

EPIWatch injects in just one direction, warns the patient by a flickering red led light when the drug is expiring and when the patient needs to replace EPIWatch. EPIWatch also has an "assistance button" that, once activated, helps the patient through a stressful emergency situation by a voice guide so the patient can feel more secure about how to administer the drug.

HOW IS IT USED?

The patient places the EPIWatch, still in place as worn on their wrist, onto their upper thigh to inject. This position gives the patient a very steady grip, without having

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Figure 1: EPIWatch is a wearable autoinjector customised to fit the wrist, which can inject intramuscularly, subcutaneously, or intradermally, while the device is in a wearable state.

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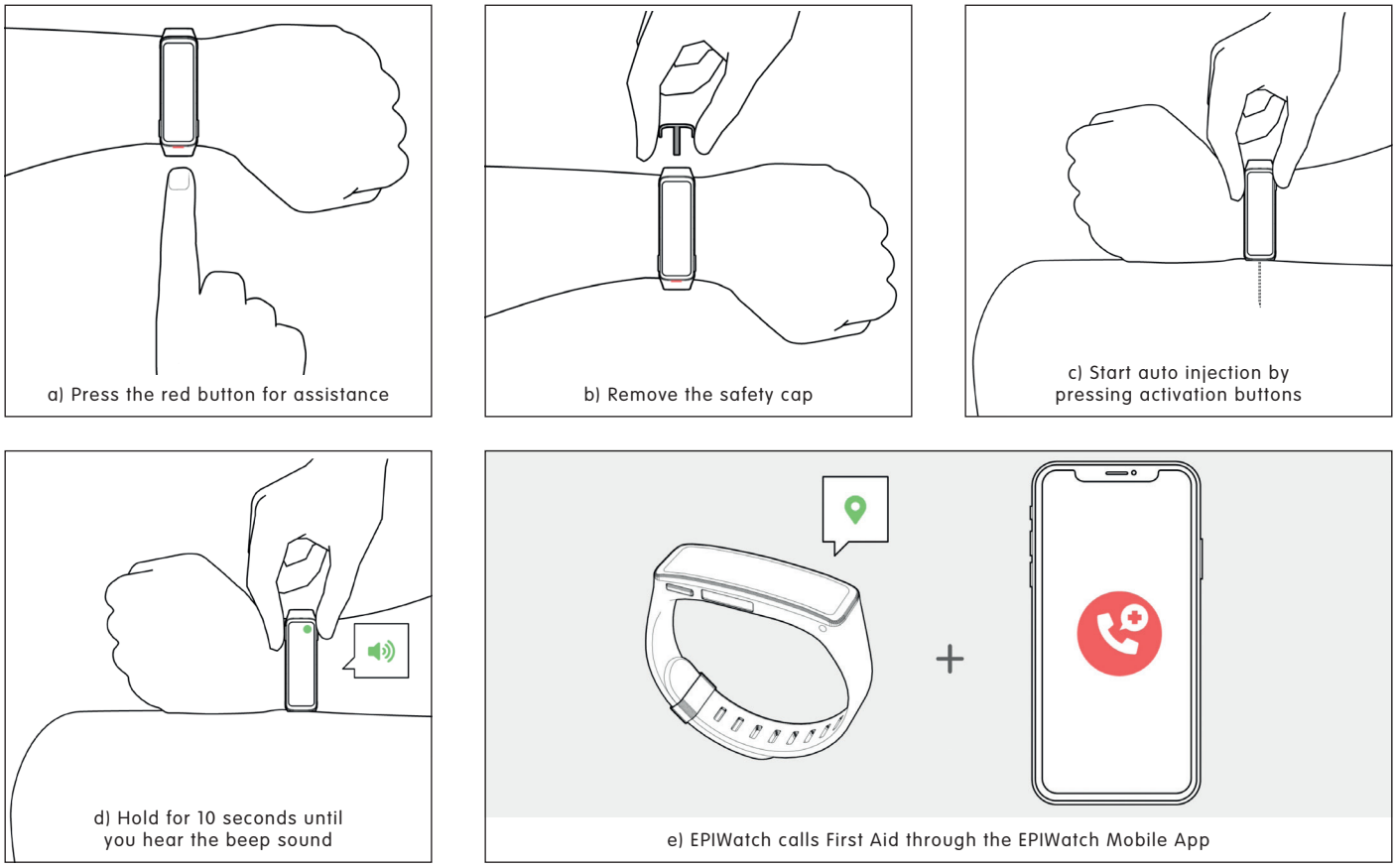

Figure 2: EPIWatch main use steps.

to see a needle. The patient is assisted throughout the process by the voice guide.

The uniqueness lies in the fact that EPIWatch is an injectable in a wearable state and thereby we reduced the user steps to the minimum, which is time saving when seconds and minutes count. The device cannot easily be forgotten, and the drug cannot expire unnoticed. User steps are summarised in Figure 2.

ABOUT THE AUTHORS

Amber Wittman, Managing Director, EPIWatch, is an entrepreneur and inventor of the EPIWatch autoinjector. Ms Wittman is also responsible for the intellectual property landscape, device component developments and is continuously working on project prosperity.

Thijs Roebers, Chief Executive Officer, EPIWatch, is an experienced entrepreneur supporting start-ups that translate innovative technology into viable commercial products. He has gained extensive knowhow in setting up two medical device startups, as Chief Executive Officer and Chief Operating Officer. At EPIWatch he is responsible for writing the business plan, financials, technical development and leading the subsequent market introduction.

Dirk-Jan Opstelten, PhD, Chief Scientific Officer, EPIWatch, is an independent life science consultant whose goal is to support the development and medical application of EPIWatch. With >20 years of experience in the pharmaceutical/biotech industry, he has developed leadership skills to manage complex R&D projects. His professional background, experience and achievements include: R&D management at HAL Allergy (Leiden, the Netherlands) as Chief Scientific Officer, and project management at J&J subsidiary Crucell (Leiden, the Netherlands) as Project Director, Biologicals. Under his leadership two new pharmaceutical allergy products were granted regulatory approval in 2018, and a new immunotherapeutic drug for peanut allergy was brought from research into clinical development under a US FDA-approved IND application. Dr Opstelten holds a PhD from Utrecht University (the Netherlands).

WHO IS EPIWATCH FOR?

EPIWatch is designed to be safely used by patients who might need an emergency or daily dose of a drug potentially to save their lives, or to alleviate symptoms, such as those associated with a severe allergic reaction.

These patients need to have their drugs at hand when an emergency situation arises. By definition, an emergency is not expected, and that is the key – to have a life-saving drug always at hand. The one accessory always at hand, even while sleep, is a bracelet or watch.

EPIWatch is thrilled to be turning this concept into a valid, working, intuitive device to meet the requirements to get it to market and meet patients' needs. The company is investigating CDMO opportunities and is excited that it will shortly announce its CDMO.

Watch a video introducing the EPIWatch here: https://youtu.be/0nwMqMB4rkE

ABOUT THE COMPANY

EPIWatch is a start-up company based in the Netherlands dedicated to creating viable solutions for patients who need immediate access to self-injected emergency medications.