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EpicPen: A Reusable and Re-settable Autoinjector

Affordable, refillable auto-injector that lowers cost and waste for emergency drugs like epinephrine.

For decades, auto-injectors have been widely employed to deliver pre-measured doses of medications, such as epinephrine, subcutaneously or intramuscularly during emergency situations like anaphylactic reactions. However, the high cost and single-use nature have constrained their accessibility for many who need them, prompting a demand for more affordable and eco-friendly alternatives in the form of reusable injection devices and methods.

Purdue University researchers have developed a reusable injection apparatus and method that enables users to self-administer pre-measured doses of medicament compositions subcutaneously or intramuscularly. Designed to be both refillable and resettable, this apparatus facilitates multiple treatments, thereby reducing the overall lifetime cost. It incorporates a spring-loaded injection mechanism that can be recompressed for subsequent uses, as well as a removable cap for easy replacement of the drug vial and needle. This innovative solution caters to the need for a cost-effective and environmentally conscious means of administering medication during emergencies, especially for individuals prone to anaphylactic allergies.

Advantages:

- Refillable and resettable

- Cost effective

- User friendly

- Reduce waste

- Can be used to administer a wide range of medicament compositions, not just epinephrine

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Applications:

- Treatment of anaphylactic reactions

- Delivery of medications

TRL: 3

Intellectual Property:

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