

# On the road to needle-free medicine

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Needle injections have been around since 1657 and remain a key delivery method for many drugs, including vaccines that have prevented countless illnesses. But for patients that require daily pricks or for people in remote locations, the syringe model has major drawbacks. An article in *Chemical & Engineering News* looks at potential alternatives, their successes and their roadblocks.

Alex Scott, a senior editor at C&EN, explains that many pharmaceuticals, particularly large-molecule drugs such as insulin, are not good candidates for oral delivery. If swallowed, they would simply break down in the digestive tract and become useless. So scientists are exploring a number of new drug-delivery systems: ointments, tablets that quickly dissolve under the tongue, micro-needle skin patches and robotic pills.

At least one form, an inhalable insulin powder, is already on the market. Several others have shown promising results in animal testing. But moving forward could require a shift in thinking among [vaccine](#) and other [drug](#) companies that currently have little incentive to change. Developers will have to win over regulators and [patients](#), who will ultimately decide which methods are adopted.

**More information:** [Withdrawing the Needle, cen.acs.org/articles/93/i24/3M...ork-Withdrawing.html](http://cen.acs.org/articles/93/i24/3M...ork-Withdrawing.html)

Provided by American Chemical Society

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