Nicer than needles: Insulin pills for diabetes finally in clinical trials

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After years of research and anticipation, insulin pills that could make it easier for millions of patients worldwide to manage diabetes are finally moving ahead in clinical trials and a step-closer to the medicine cabinet. That's among the topics highlighted in a two-part cover story on drug manufacturing in the current issue of *Chemical & Engineering News*.

C&EN Senior Correspondent Ann Thayer notes that drug manufacturers have tried for years to develop oral insulin without much success. Insulin is a peptide hormone that people with diabetes currently take by injection to bring their blood sugar to within normal levels. But doing so requires uncomfortable, inconvenient injections that can make patients reluctant to use the drug frequently enough to adequately control their blood sugar. An oral form of insulin could help solve this problem. However, stomach acids and enzymes easily destroy insulin and other protein-based drugs. Scientists have had difficulty finding an effective way to eliminate this problem.

They've responded to this challenge by developing special coatings for insulin pills that prevent stomach acid from destroying them. Scientists also are using additives that make it easier for the intestine to absorb large molecules like insulin. After years of setbacks, signs of success may be at hand. Several insulin pills are now in various stages of clinical trials, and proof of concept may allow them to move into late-stage and more rigorous clinical testing. Only time will tell, however, whether these much-anticipated pills will make it to the market.

More information: "Nicer Than Needles", pubs.acs.org/cen/coverstory/88/8822cover2.html

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