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## Invention: Insulin chewing gum

14:11 14 January 2009 by [Justin Mullins](#)  
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Finding simpler ways to deliver insulin into the blood stream is one important avenue for tackling the diabetes epidemic that is sweeping the developed world.

The preferred option for many patients would be an insulin pill taken orally. But studies have long shown that insulin is easily broken down by the digestive system and that any surviving hormone is not easily absorbed into the bloodstream from the gut.

An insulin inhaler made it as far as the US market in 2006, but was withdrawn a year later because it wasn't cost effective.

But [Robert Doyle](#), a chemist at Syracuse University in New York state, has a potential solution. He points out that the body has specific mechanisms for protecting and absorbing valuable molecules that would usually be damaged by conditions in the gut.

For example, vitamin B12 is protected by a salivary protein called haptocorrin that binds to it in the mouth and protects it in the stomach. Once haptocorrin reaches the intestines, another chemical pathway takes over to help vitamin B12 pass into the bloodstream.

Doyle suggests binding insulin molecules to vitamin B12 so that it can hitch a ride on this protected supply chain. The insulin could ride all the way into the bloodstream, where it is released to do its work. Doyle and colleagues say early tests on rats appear to work well.

The rodents got their new treatment in liquid form, but chewing gum would be a better delivery method in humans, the team says. Chewing would ensure a plentiful supply of saliva, providing the protein needed for the insulin to make its way into the bloodstream.

Read the full [insulin chewing gum](#) patent application.

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**?**  
Wed Jan 14 17:35:56 GMT 2009 by **Ash**

"The preferred option for many patients would be an insulin pill taken orally. But studies have long shown that insulin is easily broken down by the digestive system and that any surviving enzyme is not easily absorbed into the bloodstream from the gut."

Insulin is a protein hormone, not an enzyme. Sorry to be picky!

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**?**  
Thu Jan 15 12:50:41 GMT 2009 by **Michael Marshall**

You're quite right Ash, thanks for pointing that out! It's been fixed.

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**Fantastic!**  
Thu Jan 15 04:39:00 GMT 2009 by **Diane**

What an encourage premise. I hope this comes to pass sooner than later. If we can't get a cure right away, let's have treatment made easier!

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**Insulin Chewing Gum: No. Give Me Primary Prevention!**  
Thu Jan 15 13:14:05 GMT 2009 by **Sergio Stagnaro**

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