Insulin Inhalers
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Researchers are currently perfecting insulin that is able to be inhaled instead of injected into the blood stream through needles. Other methods in progress include insulin patches, pills, and oral spray, but none of these have been proven to be as successful as the inhaled insulin. The insulin inhaler would operate different then the inhalers used for asthma and other respitory problems.

The inhaler would be the size of a typical flashlight, a dry powder insulin packet would be inserted into the inhaler and then a trigger would disperse the powder into a chamber where the patient can breathe it into their lungs. This would have to be done depending on lung capacity about three times per injection of insulin.

Diabetes affects 16 million Americans, costing more then $45 billion dollars a year in health care alone. In 2001 diabetes contributed to 170,000 deaths, in part from not maintaining proper blood glucose levels. Most of these patients must inject insulin two to three times a day. Currently two companies close to releasing insulin inhalers into the market. Exubra from Aventis, codeveloped by Pfizer, and AERX from Adadigm both expected to be released within three years. Test for both of the products have had high success ratings and most of the patients have continued to us the inhalers as opposed to injecting insulin.

Though test have proven these two products to be effective there are still many problems each company is working on. Inhaled insulin takes longer to enter the blood stream and be dispersed from the lungs then if injected. The inhaled insulin requires about ten times as much medicine to be inhaled as does injected insulin. The additional proteins added to the lungs over time can cause problems undetermined at the present time. So far only one out of two hundred of a series of test patients has developed a cough as a result of the inhaled insulin. Also respitory problems, colds, smokers, and people with asthma will have problems using the inhaler and being able to obtain the correct dosage to correct their blood glucose levels. The major concern with the progress of insulin inhalers is that they cannot give a precise dosage necessary to correct the blood glcose levels. Insulin pumps can get within a tenth of a unit, where inhaled insulin is made in two sizes.