

## The Failure of Exubera: Are We Beating a Dead Horse?

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### Abstract

Inhalation of insulin appears to have become an alternative for the subcutaneous injection of insulin for the time being. However, the recent withdrawal of one product that had already reached the marketplace or others that were close to approval raised severe concerns about the future of the pulmonary route for insulin administration. In view of the progress made with respect to the size of the inhaler and the many other options that would improve the pharmacodynamic properties of inhaled insulin, patient acceptance of this innovative approach, and (hopefully) a reduction in cost, we should begin with an open discussion about the future of inhaled insulin in order to avoid its premature death. This commentary discusses many of the advantages and disadvantages of inhaled insulin from the view of the patients, diabetologists, scientists, pharmaceutical industry, health care payers, and politicians. It is hoped that this unusual approach allows keeping an open mind about this interesting route of drug administration.

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**Abbreviations:** (ARIA) alternative routes of insulin administration, (EMEA) European Medicines Agency, (FDA) Food and Drug Administration, (IQWiG) Institute for Quality and Efficiency in Health Care, (RCTs) randomized controlled trials, (sc) subcutaneous

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