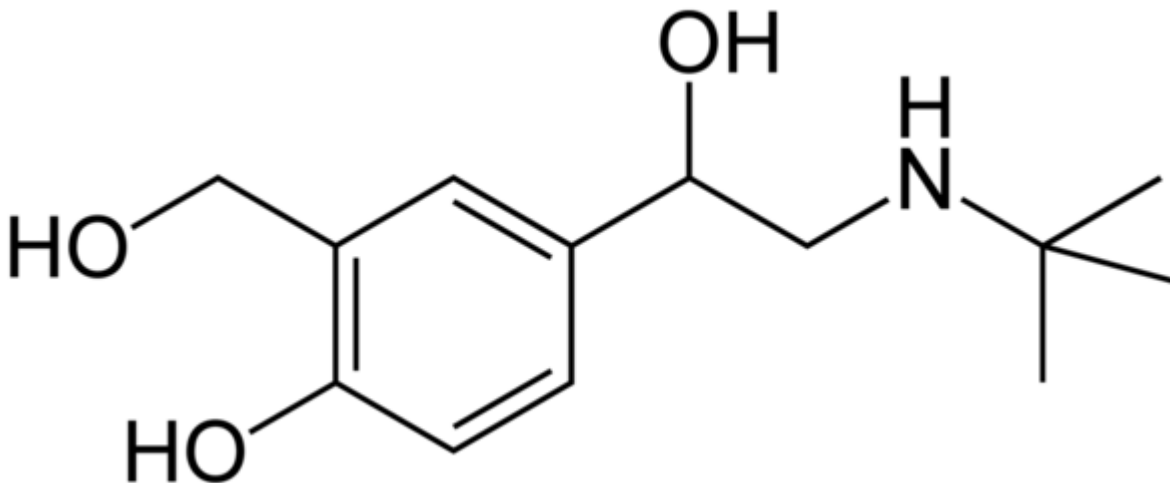
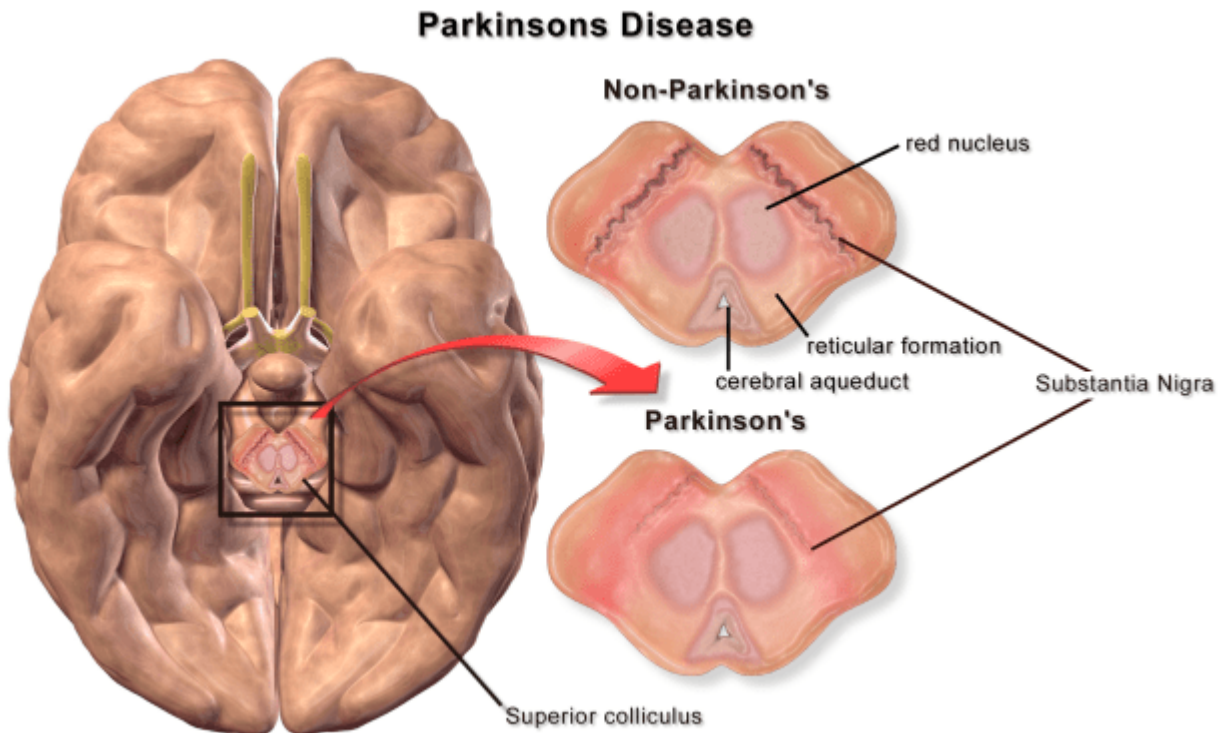


Those with asthma who reach for their inhalers constantly may not be just helping their breathing but also cutting their risk of developing Parkinson's disease—in half.

Most inhalers contain **salbutamol**, a drug that expands airways. According to a new study, salbutamol may be able to protect against Parkinson's. The study found that individuals who inhaled the highest doses of salbutamol were about half as likely to develop the neurological condition as those who didn't take the drug.



When Parkinson's disease develops, a significant amount of protein a-synuclein accumulates in certain brain cells and potentially kills them. Researchers have attempted to find a drug that can speed up the elimination of the protein or prevent it from clumping. However, the goal of this study was to find a different strategy. Neurologist and genomicist Clemens Scherzer of Harvard Medical School in Boston and colleagues said, "we wanted to find a drug that could turn down the production of a-synuclein."



Salbutamol is one of the world's most frequently used drugs, making it a prime subject for the test. The study involved researchers growing human nerve cells in a lab and testing whether more than 1,100 medications, vitamins, dietary supplements, and other molecules altered their output of α -synuclein. Salbutamol and two other drugs cut the protein's production by stimulating the β_2 -adrenoreceptor—a molecule on some cells that triggers a variety of effects including relaxing the airways. The study found that these drugs could alter how tightly the DNA containing the α -synuclein gene coils, and thus whether the gene is active.

However, to do this study correctly, Scherzer points out, "you need to have very large prescription databases with many years of follow-up to do this analysis." And that is exactly what they found in Norway; records of all drugs prescribed for each of its 4.6 million residents. Only issue was that Parkinson's disease was rare with only roughly 0.1% of

people who didn't use the drug developing Parkinson's disease. The rate among people who used salbutamol was less than 0.04%. After several studies and the addition of factors such as age and education, the researchers determined that those who had taken the drug at least once in their lives were about one-third less likely to develop Parkinson's disease.

The amount of Parkinson's prevention also depended on the dosage of salbutamol. Those who took the highest dose were about half as likely to develop the disease in relatively 7 years, compared to those who took the lowest doses and had slightly lower odds of developing Parkinson's disease.

Even though the results from the study are considered something of a breakthrough, salbutamol's "powerful" influence leads many to wonder how those with asthma still develop Parkinson's. Given that some people do have both diseases, scientists believe that other factors must attribute with **salbutamol** use that might be affecting Parkinson's disease.

With clinical trials a few years off, this study still sheds a positive light on the possibility of eradicating Parkinson's disease.

Study as reported in Science

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Summary



Article Name

Your Inhaler May Save You From Parkinson's

Description

Inhalers contain salbutamol, a drug that expands airways and may be able to protect against Parkinson's according to a new study.