

# Complex inhalers prevent patients from taking medicine

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Four commonly prescribed inhalers were tested for ease of use by arthritis patients, compared to a healthy control group. Credit: University of Bath

Respiratory disease patients with arthritis could struggle to manage their conditions because their inhalers are too fiddly for them to use,

University of Bath research has found.

Medical professionals should check that patients with [respiratory diseases](#) and rheumatoid [arthritis](#) can use their inhalers properly to reduce the risk of them being unable to take their medicines say the scientists from the University of Bath's Department of Pharmacy & Pharmacology.

Respiratory diseases, including asthma or chronic [obstructive pulmonary disease](#) (COPD), are common in people with rheumatoid arthritis. It is estimated that more than 60,000 people in the UK have both rheumatoid arthritis and a lung disease.

Arthritis often affects the hands making complex or finely controlled actions difficult and painful.

The team recruited 34 patients with [rheumatoid arthritis](#) and compared how well they could use four types of commonly prescribed inhalers to a healthy control group.

They discovered that only 15% of the arthritis patients could complete all the steps to use one type of [inhaler](#), called a HandiHaler, whereas 94% of the control group were able to. The HandiHaler requires seven steps to operate it properly, including removing a capsule of powered medicine from a foil blister pack, inserting it into the inhaler and piercing it for inhalation.

In contrast 85% of the arthritis patients and 100% of the control group could correctly use an inhaler called a Turbohaler, which has three steps; unscrewing a cap, twisting a dial and replacing the cap.

Two other commonly prescribed inhalers saw the arthritis group struggle to complete the operating steps compared to the [control group](#) (50% to

91%, and 77% to 97%).

The study is published in the journal *Respiratory Medicine*.

Dr Matthew Jones, from the department of Pharmacy & Pharmacology, said: "These results show how important it is that health professionals make sure people can use any inhaler they prescribe. If someone gets home from a pharmacy with a new inhaler and finds they can't use it, their [lung disease](#) will not be properly treated and the NHS loses money, as some inhalers cost more than £50 each.

"This simple training makes a real difference to how these patients can manage their respiratory disease. The consequences of not being able to physically operate an inhaler can be severe for patients, as badly treated asthma can be fatal.

"Pharmacists, doctors and nurses need to make these easy checks not only help patients achieve better outcomes but also reduce demand on the NHS, not to mention taking away the stress and irritation of a complex and difficult process for the patient. It's a no-brainer."

In the year to November 2017, 4.5 million HandiHalers were dispensed in the NHS in England alone to approximately 375,000 people at a cost of £135 million.

Undergraduate pharmacy student Yasmin Shirmanesh, who conducted the study with Dr Jones, said: "Some of these inhalers are prescribed by the millions around the UK, so I was shocked to see the difference in how difficult patients find some types to use. If an inhaler can't be used properly it's no good for the patient, and a waste of money for the NHS.

"No-one wants to see [patients](#) struggle needlessly to take the medicines they need to manage serious conditions, so I hope that our study will lead

to change in how inhalers are prescribed."

**More information:** Yasmin Kafei Shirmanesh et al, Physical ability of people with rheumatoid arthritis and age-sex matched controls to use four commonly prescribed inhaler devices, *Respiratory Medicine* (2018). DOI: [10.1016/j.rmed.2017.12.014](https://doi.org/10.1016/j.rmed.2017.12.014)

Provided by University of Bath

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