Patients with COPD who are breathless or who have exacerbations despite using a short-acting bronchodilator require a long-acting bronchodilator. For the treatment of COPD, NICE recommends a long-acting beta agonist (LABA) alone in symptomatic patients not controlled with short-acting therapy, or in patients with a forced expiratory volume in 1 second (FEV₁) <50 per cent, they are used in combination with an inhaled steroid. A long-acting antimuscarinic agent (LAMA) is also an option.

Olodaterol (Striverdi), a LABA licensed as maintenance bronchodilator therapy for patients with COPD, has a rapid onset (5 minutes) and a duration of action of 24 hours. It is formulated as a solution for use in the Respimat inhaler; each cartridge contains 30 days' supply.

The recommended dosage is two puffs (5µg) once daily. No adjustment is recommended for older people or individuals with mild or moderate renal or hepatic impairment; experience in patients with severe renal or hepatic impairment is limited. Olodaterol shares the prescribing cautions of other LABAs and no clinically significant drug interactions are known.

Clinical trials
Four 48-week randomised trials have evaluated olodaterol in the treatment of patients with moderate to very severe COPD. These included an unlicensed 10µg daily dose, the results for which are not reported here. Throughout the trials patients continued to take all other non-LABA maintenance therapy, including an inhaled steroid (35–55 per cent) or a LAMA (15–25 per cent). Response to olodaterol did not depend on the use of either a LAMA or an inhaled steroid.

Compared with placebo, olodaterol significantly improved lung function measured after 12, 24 and 48 weeks' treatment and reduced the use of rescue medication with a short-acting bronchodilator by about 0.5 puffs per day and per night. The other two studies compared olodaterol with placebo and formoterol 12µg twice daily. There were no significant differences between olodaterol and formoterol in their effects on lung function. At 24 weeks, olodaterol significantly improved breathlessness compared with placebo in one study but not the other, and improved health-related quality of life in both; formoterol was not significantly better than placebo. However, olodaterol
was not directly compared with formoterol for these end-points. Both drugs reduced the use of rescue medication.

**Adverse events**
The adverse events associated with olodaterol in clinical trials are typical of an inhaled LABA and led to treatment discontinuation in 6–7 per cent of patients with olodaterol and formoterol.

**Place in therapy**
Olodaterol appears to be a typical inhaled LABA. Other than olodaterol, there are three LABAs – formoterol, indacaterol (Onbrez), salmeterol – and three LAMAs – aclidinium (Eklira), glycopyrronium (Seebri), tiotropium – available in the UK. There are small differences in basic NHS prices between them but local costs will vary depending on agreed contracts. Like indacaterol but unlike formoterol and salmeterol, olodaterol has a full 24-hour duration of action and a once-daily dose; unlike indacaterol, it has a single dose regardless of COPD severity. Indacaterol is a dry powder inhaler whereas olodaterol is a solution; the preference of patients for one inhaler over another (Breezhaler versus Respimat) may determine which drug is prescribed.

**References**

**Declaration of interests**
None to declare.

Steve Chaplin is a pharmacist who specialises in writing on therapeutics.