

## Tiotropium bromide (Spiriva Respimat® 2.5 microgram, inhalation solution) in asthma

This briefing reviews tiotropium (Spiriva Respimat®), a long acting acting muscarinic antagonist (LAMA) that now has an extended licence for use in asthma (in addition to chronic obstructive airways disease, COPD). This is currently the only LAMA available for asthma. The NICE evidence summary for tiotropium in asthma suggests there would be an additional annual cost across England of about £20 million (in year 5) for patients that may be eligible for tiotropium treatment.<sup>1</sup>

### Recommendations

- The evidence to support the use of tiotropium (Spiriva Respimat®) in asthma is relatively weak.<sup>2</sup> There is an additional drug acquisition cost associated with the use of tiotropium as an add on treatment.<sup>2</sup>
- Tiotropium (Spiriva Respimat®) may be considered for use only within its licensed indication in patients as add-on therapy at step 4 of the BTS guidelines in adult patients with asthma but where control is still inadequate and have experienced one or more severe exacerbations in the previous year.<sup>3,4</sup>
- Consider referral to a specialist (or practitioner with a specialist interest in asthma) for review before adding tiotropium (Spiriva Respimat®) therapy.<sup>2</sup>
- Expert opinion suggests that tiotropium (Spiriva Respimat®) may be better suited in those patients with more severe disease and fixed airways obstruction where there is a pattern of illness and physiology more similar to COPD.<sup>5</sup>
- If a patient at step 4 has not had a severe exacerbation in the previous year, alternative add on therapy should be prescribed at step 4 (i.e. addition of leukotriene receptor antagonist, theophyllines or slow release  $\beta_2$  agonist tablets).<sup>4</sup>
- Ensure that criteria for starting (as above) and stopping treatment are checked. Review treatment in patients receiving tiotropium (Spiriva Respimat®), one to two months following treatment initiation.
- Ensure regular review of cardiovascular risk factors.<sup>2,5</sup>
- In patients with moderate to severe renal impairment (creatinine clearance, CrCl  $\leq$  50ml/min), only use tiotropium (Spiriva Respimat®), if the benefits outweigh the risks.<sup>2</sup>

### Background

The evidence for tiotropium (Spiriva Respimat®) is considered to be relatively weak.<sup>2</sup> The licensed indications for tiotropium place it at step 4 of the BTS/SIGN guidelines.<sup>3,4</sup> Note that BTS step 4 does not stipulate that patient should have had an exacerbation prior to further add on therapy whereas the licence for tiotropium (Spiriva Respimat®) in asthma is clear that patients should have had a severe exacerbation in the past year.<sup>3,4</sup> The NICE evidence summary states that local decision makers will need to consider the available evidence on efficacy and safety, as well as cost and individual patient factors, when making decisions about using tiotropium (Spiriva Respimat®) for treating asthma in adults.<sup>1</sup> Expert opinion states that consideration should be given to using tiotropium (Spiriva Respimat®) in more severe disease where there is evidence of fixed airways obstruction.<sup>5</sup> Referral for specialist review before prescribing may be considered.<sup>2</sup> When considering step-down in treatment, it should be noted that tiotropium (Spiriva Respimat®) is not licensed for use in patients who are not taking high dose ICS in combination with LABA which means that tiotropium should be reviewed and stopped first before stepping down. It is important that patients are not escalated to and then remain on triple therapy when in fact stepping down in line with BTS guidance may be appropriate.<sup>3</sup>

### Costs

The cost of one month's treatment with tiotropium (Spiriva Respimat®) at a dose of 5 micrograms (2 puffs) daily is £33.50. The cost relative to other add on treatments at step 4 is shown below:

Preparation	Cost/30 days <sup>7,8</sup>
Tiotropium (Spiriva Respimat®) 2.5 microgram 2 sprays once in the morning	£33.50
Zafirlukast 20mg twice daily	£19.02
Nuelin SA® (theophylline) 250mg twice daily	£8.92
Slo-phyllin® (theophylline) 250mg twice daily	£4.66
Uniphyllin® (theophylline) continus 200 twice daily	£3.17
Montelukast 10mg one daily	£2.36

## References

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This document represents the view of PrescQIPP CIC at the time of publication, which was arrived at after careful consideration of the referenced evidence, and in accordance with PrescQIPP's quality assurance framework.

The use and application of this guidance does not override the individual responsibility of health and social care professionals to make decisions appropriate to local need and the circumstances of individual patients (in consultation with the patient and/or guardian or carer). [Terms and conditions](#)

Additional resources available:



Bulletin



Data pack



Implementation materials

<https://www.prescqipp.info/resources/viewcategory/446-tiotropium-in-asthma>