Introduction
Sodium cromoglicate is a representative antiasthma drug. The 2004 WHO Model Formulary lists sodium cromoglicate for the prophylaxis of asthma, and for the prevention of exercise-induced asthma.\textsuperscript{1} In the Formulary, sodium cromoglicate is listed as a complementary medicines. Other drugs currently listed in the Formulary with related uses include beclometasone, salbutamol, ipratropium bromide, theophylline and aminophylline (complementary list).

Product and Dosage
Sodium cromoglicate is available in a pressurised aerosol (5mg/metered inhalation).\textsuperscript{1} The adult and child dose is 10mg (2 puffs) 4 times daily, increased in severe cases or during periods of risk to 6-8 times daily; additional doses may also be taken before exercise.\textsuperscript{1,2} When a patient is stabilised it may be possible to reduce the dose to a the maintenance of 5mg (1 puff) 4 times daily.\textsuperscript{1,2}

Evidence of value
According to the British Guidelines on Asthma Management, inhaled corticosteroids are the most effective preventer drug for adults and children and so are the first choice for asthma prophylaxis.\textsuperscript{3} It states that alternative, less effective, preventer therapies in patients taking short-acting beta\textsubscript{2} agonists alone are: sodium cromoglicate (which is of some benefit in adults), nedocromil sodium (which is of some benefit), leukotriene receptor antagonists (which have some beneficial clinical effect) and theophyllines (which have some beneficial effect).\textsuperscript{3} It also states that sodium cromoglicate has an inconvenient dosing frequency and that the evidence of benefits of sodium cromoglicate in children is contentious.\textsuperscript{3} In addition, the Guideline concludes that, for most patients, exercise-induced asthma is an expression of poorly controlled asthma and regular treatment including inhaled corticosteroids should be reviewed.\textsuperscript{3} It states that the following medicines give protection against exercise-induced asthma and may be considered in patients who are taking inhaled corticosteroids who are otherwise well controlled: inhaled corticosteroids, short-acting beta\textsubscript{2} agonists, long-acting beta\textsubscript{2} agonists, theophyllines, leukotriene receptor antagonists, sodium cromoglicate, nedocromil sodium and beta\textsubscript{2} agonist tablets.

Prodigy Guidance, which is based on the British Guidelines on Asthma Management,\textsuperscript{4} recommends that, for asthma prophylaxis, sodium cromoglicate (in adults) can be used as add-on therapy after an inhaled long-acting beta\textsubscript{2} agonist has been tried or the dose of inhaled corticosteroid has been increased.\textsuperscript{4} It states that the inhaled long-acting beta\textsubscript{2} agonist should be stopped and sequential trials of one of the following be considered: a leukotriene receptor antagonist, oral modified-release theophylline, an oral modified-release/long-acting beta\textsubscript{2}-agonist, or sodium cromoglicate in adults and children aged over 12 years or nedocromil sodium in children aged between 5 and 12 years.\textsuperscript{4} Its advice regarding exercise induced asthma are similar to those in the Guidelines.\textsuperscript{3,4}
A systematic review in the Cochrane Library, which compares sodium cromoglicate and nedocromil sodium for the prevention of exercise-induced bronchoconstriction in people with asthma, found no differences between the effects of the two drugs during the immediate post-exercise period in adults and children with regards to pulmonary function, complete protection, clinical protection or side effects. Another systematic review in the Cochrane library compared the effects of inhaling a single dose of either a cromone (sodium cromoglicate or nedocromil sodium) to a single dose of short-acting beta\(_2\) agonists or anticholinergic agents (atropine or ipratropium bromide), prior to strenuous exercise challenge in participants with asthma who were at least 6 years of age. It found that cromones or anticholinergics will provide a significant protective effect against exercise-induced bronchoconstriction with few unwanted effects, but that, on average, the short-acting beta\(_2\) agonists provided more effective attenuation than cromones, which in turn were more effective than anticholinergic drugs.

The British National Formulary (BNF) states that sodium cromoglicate may be of value in asthma with an allergic basis, but, in practice, it is difficult to predict who will benefit; it could probably be given for 4-6 weeks to assess response.

**Adverse effects**

Adverse effects to sodium cromoglicate are rare, and are essentially coughing and transient broncho-spasm.

**Recommendation**

Sodium cromoglicate has an inconvenient dosing schedule. While it is effective for asthma prophylaxis and for preventing exercise-induced asthma, there are more effective alternatives available in the WHO Model List of Essential Medicines. Sodium cromoglicate should be deleted from the Model List.


**References**

Search Strategy
The electronic databases, websites, guidelines, systematic reviews and journals searched were:
Agency for Healthcare Research and Quality
British Medical Journal
British National Formulary
Centre for Reviews and Dissemination
Clinical Evidence
Cochrane Library
Drug and Therapeutics Bulletin
Guidelines International Network
Lancet
Medline (OVID)
MeReC
National Guideline Clearinghouse
National Institute of Clinical Excellence
New England Journal of Medicine
Prodigy
SIGN (Scottish Intercollegiate Guidelines Network)
Therapeutics Initiative
WHO model formulary