

Cochrane Database of Systematic Reviews - - Cochrane Review

# Hypertonic saline therapy for cystic fibrosis

**Code:** HTA-3201000771 **Year:** 2009 **Date:** 2012 - updated: 3 APR 2014

**Author:** Purins A, Hiller JE

## Study design (if review, criteria of inclusion for studies)

Published or unpublished randomised controlled trials (RCTs) or quasi-randomised controlled trials of sodium channel blockers compared to placebo or another sodium channel blocker or the same sodium channel blocker at a different dosing regimen.

## List of included studies (5)

Bowler 1995; Donaldson 2006; Graham 1993; Knowles 1991; Pons 2000

## Participants

Participants with a diagnosis of CF, based on a positive sweat test, or the presence of two disease-causing mutations on molecular genetic analysis.

## Interventions

Amiloride; HS with amiloride pre-treatment

## Outcome measures

Difference in relative change in FVC at six months; FEV1 (percent predicted); FVC (percent predicted); Mean difference in FEF25-75; Mean difference in FEV1; Mean difference in FVC; Mucus clearance (24 hour); Relative change in FEV1 from baseline; Relative change in FVC from baseline; Time to peak FVC

## Main results

Five RCTs, with a total of 226 participants, examining the topical administration of the short-acting sodium channel blocker, amiloride, compared to placebo were identified as eligible for inclusion in the review. In three studies over six months, there was a significant difference found in the difference in relative change in FVC in favour of placebo (weighted mean difference -1.51% (95% confidence interval -2.77 to -0.25), although heterogeneity was evident. A two-week study demonstrated that hypertonic saline with amiloride pre-treatment did not result in a significant improvement in respiratory function or mucus clearance, in contrast to pre-treatment with placebo. There were no significant differences identified in other clinically relevant outcomes.

## Authors' conclusions

We found no evidence that the topical administration of a short-acting sodium channel blocker improves respiratory condition in people with cystic fibrosis and some limited evidence of deterioration in lung function.

[http://www.horizonscanning.gov.au/internet/horizon/publishing.nsf/Content/68B1F63984E68993CA2575AD0080F3E2/\\$File/AHTA%20PS%20Hypertonic](http://www.horizonscanning.gov.au/internet/horizon/publishing.nsf/Content/68B1F63984E68993CA2575AD0080F3E2/$File/AHTA%20PS%20Hypertonic)

## See also

Adelaide: Adelaide Health Technology Assessment (AHTA) on behalf of National Horizon Scanning Unit (HealthPACT and MSAC) YR: 2009

## Keywords

pharmacological\_intervention; ENaC antagonists - Sodium Channel Blockers; Amiloride; Respiratory System Agents;