Salt
Worldwide Action

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Salt Reduction

WHY?

• Salt is the major cause of raised BP (Biggest cause of death)

• Very cost-effective to implement
BP - Major Cause of Death Worldwide

Raised Blood Pressure

Tobacco
High cholesterol
Underweight
Unsafe sex

0 1 2 3 4 5 6 7

Millions of Deaths

7 million

Developed region
Developing region

Raised BP

62% of all strokes
49% of all heart disease

Systolic BP and Risk of Death

The risk starts in the normal range; at systolic 115 mmHg (83% adults)

MacMahon et al. Lancet 1990;335:765-74
Brain (cross section)

Mid line shift due to raised pressure

Cerebral haemorrhage
Atheroma in Carotid Artery

- Plaque
- Ulcerated Plaque
- Fissured Plaque with Thrombosis
Evidence for Salt $\rightarrow$ ↑ BP

- **Epidemiology**
  Over 50 population studies and Intersalt

- **Migration**
  e.g. Kenya

- **Intervention**
  Portuguese villages. New born babies

- **Genetic**
  All defects impair ability of the kidney to excrete Na

- **Mechanisms**
  Plasma Na, corrected volume expansion

- **Animal**
  BP caused or aggravated by salt (e.g. chimpanzees)

- **Treatment**
  Trials, Meta-analysis. Dose response

- **Mortality studies**
  Finland (24h UNa)

- **Outcome trials**
  TOHP, Taiwan (mineral salt: high K, low Na)

He & MacGregor. Prog Cardiovasc Dis. 2010;52:363-382
Salt Intake 5-6 g/day

↓ Stroke 24%  ↓ CHD 18%

UK  ≈35,000 deaths prevented per year

Worldwide  ≈ 2.5 million deaths prevented per year

How to ↓ Salt Intake

Measure amount and sources of salt

Plan

Added
Cooking/Table Sauces
→ Public health campaign

Food industry
Processed food
Eating out
→ Set targets for each food group

Campbell, et al. JHH. 2011
## CASH Strategy for Reducing Salt in UK

<table>
<thead>
<tr>
<th>Source</th>
<th>Salt intake (g/day)</th>
<th>Reduction needed</th>
<th>Target intake (g/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table/Cooking (15%)</td>
<td>1.4 g</td>
<td>40% reduction</td>
<td>0.9 g</td>
</tr>
<tr>
<td>Natural (5%)</td>
<td>0.5 g</td>
<td>No reduction</td>
<td>0.5 g</td>
</tr>
<tr>
<td>Food industry (80%)</td>
<td>7.6 g</td>
<td>40% reduction</td>
<td>4.6 g</td>
</tr>
<tr>
<td>Total</td>
<td>9.5 g</td>
<td></td>
<td>Target 6.0 g</td>
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</tbody>
</table>

The food industry needs to slowly reduce salt content of all foods by 40% over the next 5 years.

Source: www.actiononsalt.org.uk
The voluntary ‘carrot and stick’ approach
The hidden salt that could ruin your child's life

Salt gives 4-year-olds high blood pressure

 Scientists prove that salty diet costs lives

15-year study shows link to heart disease

Calls grow louder for nationwide campaign

By Sean Poulter
Consumer Affairs Editor

Salty bread 'risking 7,000 lives'

By Sean Poulter
Consumer Affairs Correspondent

Salt levels above the Government's target, but all the evidence suggests 'high' blood pressure is not caused by too much salt in your diet - it's caused by a lack of exercise and obesity. The study looked at the salt intake of more than 1,000 children and teenagers over a seven-day period and then measured their blood pressure.

The authors, writing in The Journal of Human Hypertension today, found that for each extra gram of salt eaten there was a related 0.4mmHg increase in systolic blood pressure. This is a small but significant increase, according to health campaigners.

Government experts recommend that children aged four to six should not be eating more than 3g of salt a day, while the figure for youngsters aged seven to ten is 5g. However, many children are thought to be regularly consuming 9-10g of salt a day, which is up to three times the recommended maximum.

Nutritionist Jo Butter said: 'It may be difficult for parents to control their children's salt intake as they have a variety of food offerings at their disposal. However, it is important to be aware of the potential harms associated with high salt consumption and to encourage children to adopt healthier eating habits.'
Half your daily salt allowance... before lunch

By Daniel Martin

OST so-called 'healthy' breakfasts are laden with salt, a study is found.

Burger King breakfasts at home are often eaten.

About a quarter of adults eat breakfast at home, according to a survey.

Committee for a Salt-free Diet recommends cutting back on salt.

How much is in your breakfast?

Burger King breakfasts, with 6.7 g of salt, are the worst.

Costa Muffin at Costa, Bill 1.8 g of salt.

KFC at KFC, Bill 1.9 g of salt.

Starbucks at Starbucks, Bill 2.0 g of salt.

SOURCE: British Heart Foundation

GUIDELINE DAILY ALLOWANCE: 6 g

Soup with more salt than three Big Macs

By Fred Attewell

Soup of the 575 g the analysis was Bay's Very Big Soup Bold Thai Green Chicken Curry with 8 g in a 907 g serving — more than three Big Macs with fries.

Although there has been a 17% cut in salt levels overall since Car-

ried out a similar survey three years ago, 99% of all the 17% cut in salt levels overall since Car-
UK Success by 2008

Salt intake has fallen within 3 yrs
from 9.5 to 8.6 g/d salt (10% ↓)

i.e. 26,000 tons/yr salt removed

≈ 6000 deaths/yr strokes, heart attacks prevented

www.actiononsalt.org.uk
UK Success 2011

- Processed food products ↓20-50%
  1. No taste problems
  2. No technical problems
- Food outside home now being tackled
- Table and cooking salt sales ↓40-50%

Salt intake should reach less than 6 g/d target around 2014 (i.e. within 7 yrs)
Cost-effective Analysis
UK (NICE)

Cost of salt campaign ≈ £5 million per year
Healthcare savings ≈ £1.5 billion per year

http://guidance.nice.org.uk/PH25
Salt Reduction vs. Tobacco Control
(low & middle income countries)

<table>
<thead>
<tr>
<th>Number of CVD deaths averted in 10 yrs (millions)</th>
<th>15% ↓ salt</th>
<th>20% ↓ smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual cost per person (US$)</td>
<td>0.10</td>
<td>0.20</td>
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Worldwide Action

1. USA, Canada, Australia following UK model
2. Europe (ESAN) 16% reduction over 4 yrs
3. PAHO: Brazil sets targets, Chile, Argentina, Mexico following
4. Asian-Pacific: Salt intake is very high, e.g. China, Japan, Korea.
   Urgent need to reduce salt

Global Food Industry could play a much more prominent role

- Unilever & Pepsico worldwide salt reduction across their products
- Kellogg’s, Nestle about to reduce salt globally to UK levels

www.worldactiononsalt.com
Hidden Salt in Food

e.g. processed, fast, takeaway, restaurant food

Food industry slowly reduce
- No rejection by public

Fantastic for Public Health

↓

BP

Very little cost

No need to change diet

www.worldactiononsalt.com
Salt - Summary

Every country in the world must now

1. Set up salt reduction plan
2. Implement the plan

This is the single most cost-effective public health measure

*It would be negligent for any government not to take action now*