

Scientific Advisory Committee on Nutrition

1st MEETING OF SALT SUBGROUP

25 January 02, Food Standards Agency, Aviation House, 125 Kingsway, LONDON

Chairman	Professor Alan Jackson
Members	Professor Peter Aggett Professor Sheila Bingham Miss Gill Fine
Secretariat	Dr Lisa Jackson (FSA) Dr Alison Tedstone (FSA) Dr Sheela Reddy (DH) Ms Orla Yeates (FSA) Mr Fayaz Aziz (DH) Miss Rachel Elsom (FSA)

Chair's Introduction

1. The Chair welcomed Members to the first meeting of the Salt Subgroup. The Chair reminded members to declare, when appropriate, any interests directly related to discussions at Subgroup meetings. Gill Fine, Company Nutritionist for Sainsbury's Supermarkets Ltd declared an interest.

AGENDA ITEM 1

2. The Chair began the discussion by reminding Members of the purpose of the group: to review COMA's recommendation (for a 'reduction in the average intake of sodium by reducing salt intake by a third, from 9g to 6g per day') in the light of any new evidence, taking into account the submissions that had been received from interested parties; and to consider making recommendations for children.
3. The Chair asked if members had any general points to make.

4. The Chair emphasised the importance of identifying and considering relevant research papers which had been published since the last review. Submissions would be used as a source of these papers to help the group form its opinion.
5. Members noted that in order to obtain reliable estimates of salt intake, food composition analysis is not sufficient because salt added in cooking or at the table is not taken into account. Therefore, it is preferable to consider studies using measurements of sodium excretion, such as from 24 hour urine collections.
6. Members agreed that it is also important to remember the continuity of the association between blood pressure and health outcomes. Therefore, defining a single cut off point has a pragmatic relevance for health interventions but does not reflect the continuous nature of the relationship.
7. There are adaptive responses to changes in diet which are not reflected in short term interventions, and so it is less easy to use these to reflect habitual intake. An analogy is that in pharmacological studies, short term interventions of a few days would not give the full picture.

AGENDA ITEMS 2 & 5

8. The Secretariat provided the Members with an oral summary of the submissions received from interested parties via the call placed on the Website on 17 October 2001. The submissions were considered in the following order.

Salt Manufactures Association (SMA) Submission:

9. The Secretariat reminded Members that the SMA are requesting a full review of evidence. The Subgroup explored the points raised in Dr Macnair's paper on 'Dietary Salt Intake and Cardiovascular Disease'. Members wished to differentiate studies in which very low levels of sodium were consumed which are in fact looking at sodium restriction, as opposed to variations in sodium intakes across levels that are physiologically adequate.

10. There is a need to consider physiological response to changes in sodium consumption; part of this is reflected in renin levels which may change acutely, followed by longer term changes. It is important when considering studies of varying length, which part of the response profile is represented. It may not be clear whether in some studies we are seeing the transition from one state to another, or an established new steady state.
11. Members noted that no consideration was given to publications by the American Heart Association in its Critical Review of Current Scientific Evidence and the National Heart, Lung and Blood Institute Workshop on Sodium and Blood Pressure.
12. It is important to distinguish between what is 'habitual', or 'normal' intake from what is physiologically desirable. An habitual intake is not necessarily desirable.
13. It is also important to be clear about physiological responses to low sodium intakes and the influence of extreme environments or changes in the environment. There are physiological responses which minimise sodium loss under heat stress conditions.
14. The Subgroup Members requested further (original & older) papers on the following topics: salt deprivation, acute adaptation and responses and salt conservation.
15. Subgroup Members also requested copies of the following papers:
 - **Alderman** MH, Madhavan S, Cohen H. Low urinary sodium associated with greater risk of myocardial infarction among treated hypertensive men. *Hypertension* 1995; 25:1144-1152.
 - **He** J, Odgen LG, Vupputuri S, Bazzano LA, Loria C, Whelton PK. Dietary sodium intake and subsequent risk of cardiovascular disease in overweight adults. *JAMA* 1999; 282:2027-2034.
 - **Chiolero** A, Maillard M, Nussberger J, Brunner H-R & Burnier M. proximal sodium reabsorption: an independent determinant of blood pressure response to salt. *Hypertension* 2000; 36: 631-7.
 - **Conlin** PR, Chow D, Miler ER III, et al. The effect of dietary patterns on blood pressure control in hypertensive patients: results from the Dietary Approaches to Stop Hypertension (DASH) trial. *Am J Hypertension* 2000; 13:949-955.

Action: Secretariat.

16. The subgroup also requested the following reference on sodium balance in heat exposure:
Allsopp AJ, Sutherland R, Wood P, Wootton SA, The effect of sodium balance on sweat sodium secretion and plasma aldosterone concentration, *Eur J Physiol Occup Physiol* 1998, Nov;78(6): 516-21. Institute of Naval Medicine, Gosport, Hampshire, UK.
17. Members will consider the DASH trials in more detail. These trials also give some consideration to potassium intake.
18. The SMA's statement that 'salt sensitivity was due to poor quality diet' was noted. The SMA submission suggests that salt sensitivity is due to the inability of the kidney to handle increased sodium load in some individuals, which may increase with age. **Members agreed that the nature of salt sensitivity was one which needed to be clarified.**

Consensus Action on Salt and Health (CASH) Submission

19. The Subgroup began by focusing on the recommendation by CASH of a re-endorsement of COMA's 6g/day figure. It was noted that CASH argues against adopting a level of 5g/day for women and 7g/day for men. COMA's 6g/day recommendation was derived from INTERSALT. The Dietary Reference Nutrient Intake for salt is 4g/day (COMA, 1991). The basis for this was that at this level the majority of a population's needs would be met without exposing any to undue risk.
20. Members noted that the figure of 6g/day has been used for labelling. It was noted also that many retailers and manufactures display a figure of salt content per serving followed by recommended salt intake figures of 5g/d for women and 7g/d for men, as recommended by COMA in its 1994 Report *The Nutrition Aspects of Cardiovascular Disease*. This differentiation is based on the fact that men consume more food than women. It is also in line with guidelines produced for fat and calorie consumption, where separate figures are quoted for men and women. **Members requested the minutes of an Institute of**

Grocery Distribution (IGD) meeting of the nutrition labelling group. Gill Fine indicated she would liaise with the Secretariat in providing these.

21. Members noted that manufacturers labelled for sodium and salt. The sodium value is necessary due to labelling regulations, but a figure for salt is sometimes quoted as this is seen as easier for consumers to understand.

22. It was noted that CASH's submission suggests reinforcement of COMA's recommendations for a reduction in salt consumption. Members asked whether there are any new data to support this. **Members requested details of new studies. The following papers were requested by members for further consideration.**

- Geleijnse JM, Hofman A, Witteman JCM, Hazebroek AAJM, Valkenburg HA, Grobbee DE. Long-term effects of neonatal sodium restriction on blood pressure. *Hypertension*. 1996;29:913-7
- The Trials of Hypertension Prevention Collaborative Research Group. Effect of weight loss and sodium reduction intervention on blood pressure and hypertension incidence in overweight people with high-normal blood pressure. *The Trials of Hypertension Prevention, Phase II. Arch Intern Med* 1997;157:657-67.
- Whelton PK, Appel LJ, Eepeland MA, Appelgate WB, Ettinger WH, Kostis JB, Kumanyika S, Lacy CR, Johnson KC, Folmar S, Culter JA, for the Tone Collaborative Research Group. *JAMA* 1998;279:839-46.
- Cappuccio FP, Markandu ND, Carney C, Sagnella GA, MacGregor GA. Double-blind randomised trial of modest salt restriction in older people. *Lancet* 1997;350:850-4.
- He FJ, Markandu ND, Sagnella GA, MacGregor GA. Effect of salt intake on renal excretion of water in humans. *Hypertension* 2001;38:317-20.
- Vartianinen E, Puska P, Pekkanen J, Tuomilehto J, Jousilahti P. Changes in Risk Factors explain changes in mortality from ischaemic heart disease in Finland. *BMJ* 1994;309:23-7
- Vartianinen E, Sarti C, Tuomilehto J, Kuulasmaa K. Does changes in cardiovascular risk factors explain changes in mortality from stroke in Finland. *BMJ* 1994;310:901-4.

23. Members requested a search be made for papers on the effect of chloride on blood pressure in response to a query regarding the body's handling of non-chloride sodium salts vs chloride salts. **Action: Secretariat**

Food & Drink Federation (FDF) Submission

24. In considering the submission from the Food and Drink Federation, Members requested papers from the Canadian Hypertension Society, to further their deliberations of the FDF's scientific evidence base. **Action: Secretariat.**

25. It was noted that details on Canadian estimated intakes, and Government recommendations were not included on the table in Annex 1 of SACN/Saltsub/02/01. Members requested that these details be included. **Action: Secretariat.**

26. Members were interested in the results of the joint survey published by the FDF showing details regarding the need for and amount of salt necessary for different methods of processing and preservation. The committee expressed the need for clarification of the legislative requirements. The Chair requested a brief overview of this area. **Action: Secretariat.**

Other Submissions

27. All other submissions were considered and points noted. Sources of all submissions have been listed on the website.

AGENDA ITEM 4

28. In considering the basis for a review of the evidence in relation to children, Members requested papers on aspects of renal handling of sodium in children. **Action: Secretariat**

29. As the maternal nutritional state during pregnancy may affect blood pressure in childhood and hence the prevalence of adult hypertension, members requested the following papers on fetal and infant development for consideration at the next meeting. **Action: Secretariat.**

- Lucas A, Morley R, Cole TJ, Gore SM. A randomised multicentre study of human milk versus formula and later development in preterm infants. Arch Dis Child Fetal Neonatal Ed 70[2], F141-6. 1994.
- Lucas A, Morley R, Hudson GJ, Bamford MF, Boon A, Crowle P, Dossetor JF, Pearse R. Early sodium intake and later blood pressure in preterm infants. Arch Dis Child 63[6], 656-7. 1988.
- Singhal A, Cole TJ, Lucas A. Early nutrition in preterm infants and later blood pressure: two cohorts after randomised trials. Lancet 357[9254], 413-9. 2001.

30. The committee requested meta-analyses of papers in the area of blood pressure, birth weight and size which have been published recently. The following papers were requested. **Action Secretariat**

- Law CM, Shiell AW. Is blood pressure inversely related to birth weight? The strength of evidence from a systematic review of the literature. J Hypertens 1996 Aug;14(8): 935-41
- Huxley RR, Law CM, Shiell AW. The role of size at birth and postnatal catch-up growth in determining systolic blood pressure: a systematic review of the literature. J Hypertens 2000 Jul; 18(7): 815-31

AGENDA ITEM 3

31. The Subgroup considered the draft framework for risk assessment (dated 24/01/02) provided as a result of the deliberations of the Risk Assessment Subgroup of SACN. Members commented that this was a useful checklist when considering and evaluating the evidence presented to them. It could be used as a basis for initial drafting of a report of the Subgroup, and it was noted that the framework will be considered by SACN at its next meeting on 27th March.

AGENDA ITEM 6

32. As a result of their deliberations, Subgroup Members concluded that further meetings were necessary to fully address the issues raised. Subject to Member's diaries, dates for

the next two meetings are as follows: the morning of 18 April or the afternoon of 19 April and 24 May. These dates will be confirmed by email and posted on the website.