



Scientific Advisory Committee on Nutrition

13th MEETING

12 April 2010, Conference Room B, Aviation House

DRAFT MINUTES

Chairman:	Professor Alan Jackson
Members:	Professor Marinos Elia Professor Ian Macdonald Professor Joe Millward Professor Andrew Prentice
Secretariat:	Dr Alison Tedstone (FSA) Dr Peter Sanderson (FSA) Dr Sheela Reddy (DH) Ms Rachel Elsom (FSA) Ms Lisa Miles (DH) Mr Andrew James (FSA)

Chair's introduction and welcome

1. The Chair welcomed Members to the thirteenth meeting of the SACN Working Group on Energy Requirements.
2. Apologies were received from Dr Anita Thomas, Dr Tony Williams, Professor Chris Riddoch and Mrs Stella Walsh and it was noted that there were no changes to the declarations of interest.

Minutes from previous meeting (3 April 2009) – SACNenergy/12/min/01

4. Members were invited to comment on the minutes of the previous Working Group meeting.
5. The minutes were agreed as a reasonable record of the 12th meeting of the SACN Energy Requirements Working Group.

Agenda Item 3 – Energy Consultation Responses and Suggested Actions

6. The Chair informed members that 11 responses were received from the scientific consultation on the Energy Requirements draft report. Many of the comments are related to Risk Management and are therefore outside the risk assessment remit of SACN. These have been passed to the Food Standards Agency and Department of Health for consideration.
7. Members were further informed that responses to the consultation and the actions agreed by the Working Group to address these would be published on the SACN website.

Action: Secretariat

8. The Chair invited Members to comment on the Consultation responses and on the revised Energy Requirements report.
9. Members noted that the report remains excessively complex and suggested that further detail could be moved to the Appendices. Work is still required to enhance clarity however, the revised report represents a considerable improvement on previous drafts with regards to ease of understanding.
10. Members highlighted a number of broad issues that should be captured within the report:
 - While the Working Group recognise the increasing prevalence of overweight and obesity within the UK population, SACN has not been tasked with making recommendations for the prevention of obesity. The report needs to include a number of clear statements which should include that the report is intended to be *prescriptive* within the framework in which DRVs are identified and set (i.e. for *healthy* people).
 - The report should recognise that there is a substantial proportion of the UK population who are not considered 'healthy' (i.e. fail to achieve health) and are therefore out with the report's framework i.e. the overweight/obese; underweight; and those with low levels of energy flux. Guidance should be offered to these groups to facilitate a transition to the healthy body weight range.
 - Members considered whether the report should provide energy requirements for people who are overweight and obese. Members agreed to make a statement to endorse the direction of travel towards the healthy body weight range i.e. need to increase energy turnover to better enable energy balance. The report should include biological statements that have a prescriptive quality and can be used by risk managers to help achieve desirable health outcomes.
 - Members noted that the revised Estimated Average Requirements (EARs) have been derived from reference populations (OPEN and Beltsville) that

have a high proportion of overweight and obese individuals. The report should clearly state that this concern has been carefully examined by SACN and the use of these datasets is considered valid because no relationship between physical activity level (PAL) and body mass index (BMI) has been found.

Action: Secretariat

11. Members discussed the terminology that is used within the report. They agreed to:

- Endorse existing recommendations to increase physical activity without specifying expected changes in the PAL.
- Use energy intake, total energy expenditure (TEE) and physical activity, and not to adopt energy flux terminology (e.g. that proposed by Swinburn *et al*, 2009¹) which is not considered appropriate.

Action: Secretariat

12. Members further highlighted the important distinction between a healthy population of normal size for whom an increase in TEE confers benefit and a greater ability to achieve energy balance, and an overweight/obese population who have a bigger TEE due to increased body size which should not be equated to being beneficial.

13. Members agreed that the report should be explicit in being prescriptive. This requires careful wording and a clear framework. They agreed that BMI 22.5 kg/m² should be the prescriptive population recommendation for adults <65 years i.e. this is the population EAR value or the prescriptive value which is the midpoint of the operational healthy body weight range (20-24.9 kg/m²). The overweight and obese should move towards the population EAR to improve health. It should be stated that BMI 22.5 kg/m² does not represent the 'ideal' weight as there is a lack of data to support this, however reference should be made to evidence regarding increased disease risk with increasing or decreasing BMI².

Action: Secretariat

¹ Swinburn B, Sacks G, Lo SK, Westerterp KR, Rush E, et al. Estimating the changes in energy flux that characterize the rise in obesity prevalence. *Am J Clin Nutr* 2009; 89: 1723-8.

² Prospective Studies Collaboration Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies 2009; *Lancet* 373: 1083–96.

14. Members discussed whether it is possible to prescribe a healthy level of physical activity. It was noted that this is problematic because the levels of activity in the reference populations are not known and it is therefore difficult to characterise the components of energy balance leading to healthy body weight. Members highlighted that information comes from different sources i.e. data on the levels of physical activity concomitant with good health do not come from the reference populations (Beltsville/OPEN) and it is therefore difficult to cross-calibrate the information to reach a judgement.
15. Members agreed that the report should acknowledge that if individuals/groups follow recommendations to increase physical activity, then energy intake will need to increase to support this, in those of healthy weight. References in the report to energy values that are weight maintaining in individuals who are overweight/obese should be removed.

Action: Secretariat

16. Members discussed the use of 25% (sedentary), 50% (light) and 75% (moderate) centiles equating with different categories of activity e.g. as discussed in paragraph 174, and the terminology used in Tables 14 and 15. They agreed that the column headings 'less active', 'population', and 'more active' should remain. Members stressed that the legends and titles for the tables should be clear and complete as it should not be assumed that people using the tables will read the accompanying text.

Action: Secretariat

17. Members discussed the use of residuals and regression modelling in place of the derivation of PAL values using the factorial approach. Members agreed that residuals cannot be used when using predicted BMR because other variables that might be contributing to BMR cannot be adequately accounted for. It was felt that there was no basis for using residuals in place of the factorial method (i.e. the 2 are equivalent), unless BMR had been measured. Members noted that that using residuals would lead to a similar interpretation.

Agenda Item 4 – Pregnancy and lactation

18. Members discussed the Pregnancy and Lactation section of the report. Members referred to Paragraph 15 in the minutes from the Working Group's 12th meeting (03/04/09) and agreed that text should be added regarding the need to protect vulnerable groups. For example, caution is required when making recommendations for constraining weight gain in teenage pregnancy.

Action: Secretariat

19. Members highlighted that with regards to teenage pregnancy, the report needs to recognise the complexity of the issue. For example the extra energy needed to cover the costs of pregnancy does not in itself guarantee a better outcome. It should be stressed that pregnancies up to 18 years are qualitatively different and must be considered differently.

Action: Secretariat

20. Members agreed the existing recommendation of an increment of 0.8MJ/d in the last trimester of pregnancy, as previously recommended by COMA. There is insufficient evidence to justify revision of this recommendation and it is therefore prudent to retain the current value. They stressed that arguments leading up to this recommendation need to be carefully crafted and should include reference to the Japanese experience, where the recommendation to limit weight gain in pregnancy has resulted in smaller offspring³.

21. Members noted that the report should refer to the healthy body weight range and state that the recommendations for preferred weight gain during pregnancy differ according to the body weight at the start of pregnancy. Members highlighted the recent report by the US Institute of Medicine which re-examined the guidelines for weight gain during pregnancy⁴.

Action: Secretariat

22. Members noted that in Paragraph 153 there should be clarity regarding which trimester of pregnancy is being referred to when recommending 0.8MJ/d increase.

Action: Secretariat

23. Members clarified that in Paragraph 166 lactation assumes 6 months exclusive breastfeeding.

Action: Secretariat

³ Ohmi H, Hirooka K, Hata A, Mochizuki Y (2001) Recent trend of increase in proportion of low birth weight infants in Japan. *Int J Epidemiol* **30**: 1269-1271.

⁴ <http://www.iom.edu/~media/Files/Report%20Files/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines/Report%20Brief%20-%20Weight%20Gain%20During%20Pregnancy.ashx>

Agenda Item 5 – SACN Energy Requirements Working Group revised report

24. The Chair led Members through the report and Members were invited to make specific editing points. The following key editorial points were made:

- The section on ‘Components of energy expenditure’ should be shortened.
- The section on ‘Spontaneous physical activity and non-exercise activity thermogenesis’ should be moved to the Appendices.
- Paragraph 50 regarding ‘Carbohydrate’ should be expanded to better explain the difference between the UK and USA calculation of carbohydrate intakes.
- Paragraph 71 should be edited to specify which previous reports are being referred to.
- Amend ages regarding the WHO growth standards in paragraph 115.
- New NDNS DLW data should be added to paragraph 120.
- Ensure clear use of the terms ‘representative’ and ‘randomly recruited populations’ in paragraph 123.
- Add ‘plus adjustment for presumed changes in TEE’ to end of 1st sentence of paragraph 123.

Action: Secretariat

Report recommendations

25. Members noted that the recommendations should refer to each of the Terms of Reference in turn. They highlighted that the impact of the revised energy requirement values on recommendations for other macro- and micronutrients should be considered as should the balance of the diet.

26. Members discussed the preferred energy expenditure for adults and children. It was agreed that it was not the primary purpose of the report to make any recommendation related to a change in physical activity, but reference to this could be included in the tables.

27. Members discussed the potential implications associated with publication of the revised report. They stressed that there should be clarity regarding the differentiation between healthy and unhealthy populations and population groups, and a strong statement included on the dangers of inappropriate use of the information. Clear guidance should be provided on how to interpret the figures provided.

Action: Secretariat

28. Members advised that the report should state that in considering body weight, a median PAL of 1.63 is appropriate for the UK population, however, it applies only to BMIs around 22.5 kg/m². Populations or subgroups that are more active will need more energy while those who are less active will need less.

Action: Secretariat

29. Members agreed the report should be titled 'Dietary Energy Reference Values for the UK'.

Research recommendations

30. Members discussed potential research recommendations arising from the energy requirements report. The need for an improved understanding of the relationship between the different components of TEE, and in particular, the contribution of physical activity to TEE, was highlighted. Members also noted the lack of a UK archive of DLW data and stressed the importance and value of a national effort to coordinate both existing and emerging DLW data. The potential benefit in achieving better coherence and where possible organisation amongst research activities related to energy expenditure and energy requirements supported by a range of different bodies was highlighted.

Next steps

31. Members were informed that the draft energy requirements report would be revised in line with the discussions and would be circulated to Working Group members for further comment before being sent to all SACN members ahead of the main Committee meeting on 7 June 2010.
32. The Chair thanked the Members for attending and closed the meeting.