

Proceedings of the Nutrition Society

ISSN: 0029-6651 Volume 68 August 2009

Symposia featured in this issue:

Sir David Cuthbertson Medal Lecture

Coeliac disease: basics and controversies

Hot topics in parenteral nutrition

Feeding size 0: the science of starvation

**Feeding size 0: the challenges of
anorexia nervosa**

Pennington Lecture

Competent to care

**Nutritional models of the developmental
origins of adult health and disease**

CELLULAR AND MOLECULAR
NUTRITION

NUTRIGENOMICS

FOOD CHAIN, ANIMALS AND
PLANTS

CLINICAL NUTRITION AND
WHOLE BODY METABOLISM

NUTRITIONAL EPIDEMIOLOGY
AND PUBLIC HEALTH

PUBLIC ENGAGEMENT

INTERNATIONAL NUTRITION

REPRODUCTION AND
CHILD HEALTH

SPORTS AND EXERCISE
NUTRITION

Proceedings of the Nutrition Society

Volume 68, 2009 ISSN: 0029-6651

Aims and Scope

Proceedings of the Nutrition Society publishes papers and abstracts presented by members and invited speakers at the scientific meetings of The Nutrition Society.

Coverage includes

- Cellular and molecular nutrition (including immunology)
- Nutritional genomics
- Nutrition and the food chain
- Clinical nutrition and metabolism
- Obesity and body composition
- Infant nutrition
- Diet selection and control of intake
- Nutrition and behaviour
- Reproduction, growth and development
- Public health nutrition
- Nutrition policy
- Sports and exercise nutrition
- Animal nutrition and metabolism
- Molecular aspects of nutrition
- Functional foods
- Macronutrient metabolism
- Micronutrients and antioxidants
- Companion animal nutrition
- Epidemiology

The *Proceedings of the Nutrition Society* is published five times a year by Cambridge University Press on behalf of the Nutrition Society. Symposium papers are published in February, May, August and November and are available as hard copy or electronically; Original Communications from individual meetings are published electronically only and comprise an OCE issue.

The journal is available on the Internet at: journals.cambridge.org/pns

Honorary Editorial Board and Programmes Committee

M Symonds
Chair

C J Newbold
Proceedings Editor

C J Seal
Scientific Development Officer

H J McArdle
Treasurer

C N M Kelly
Deputy Proceedings Editor

D Bender
Publications Officer

E Gibney
Irish Section Secretary

K R Westerterp
Assistant Proceedings Editor

D Sewell
Scottish Section Secretary

M Bonham
M McKinley
Irish Section Editors

M Ritchie
Scottish Section Editor

Publications Staff

C Goodstein
Publications Manager

C Jackson
Deputy Publications Manager

C T Hughes
Sub-editor

J Norton, L Weeks and H Zdravics
Publications Officers

The Nutrition Society has as its objectives the advancement of the scientific study of nutrition and its application to the maintenance of human and animal health.

Honorary Officers of The Society

I A Macdonald
President

C Summerbell
Secretary

H J McArdle
Treasurer

M Symonds
Programmes Secretary

B Ratcliffe
External Relations

D Bender
Publications

C J Seal
Scientific Development

S A Wootton
Professional Affairs

Application for membership is open to any person who has a genuine interest in the science of human or animal nutrition and its application to human or animal health. Reduced subscriptions are available to full-time student members within 2 years of graduation and retired members, the unwaged and members who reside in very low income countries.

For more information about membership benefits and for membership application forms, contact The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, London, W6 7NJ, UK. Tel: +44 (0)20 7605 6555, Fax: +44 (0)20 7602 1756, Email: office@nutsoc.org.uk

The Nutrition Society Home Page is at <http://www.nutritionandsociety.org>

© Nutrition Society 2009

Vol. 68 No. 3 August 2009

Contents

Proceedings of the
Nutrition
Society

Harrogate International Centre, Harrogate, UK, 4–5 November 2008

Conference on ‘Malnutrition matters’

Sir David Cuthbertson Medal Lecture

Chair: I. Macdonald, *University of Nottingham, Nottingham, UK*

Bariatric surgery as a model to study appetite control
M. Bueter & C. W. le Roux 227–233

Symposium 1: Joint BAPEN and British Society of Gastroenterology Symposium on ‘Coeliac disease: basics and controversies’

Chairs: D. Sanders, *Royal Hallamshire Hospital, Sheffield, UK;*

E. Greig, *Taunton and Somerset NHS Trust, UK*

Coeliac disease in the twenty-first century
W. Dickey 234–241

Coeliac disease: optimising the management of patients with persisting symptoms?
K. E. Evans & D. S. Sanders 242–248

Dietitians are better than clinicians in following up coeliac disease
C. Stuckey, J. Lowdon & P. Howdle 249–251

Symposium 4: Hot topics in parenteral nutrition

Chair: T. Murphy, *University College Hospital, London, UK*

Rationale for using new lipid emulsions in parenteral nutrition and a review of the trials performed in adults
P. C. Calder 252–260

Current evidence and ongoing trials on the use of glutamine in critically-ill patients and patients undergoing surgery
A. Avenell 261–268

A review of the use of glutamine supplementation in the nutritional support of patients undergoing bone-marrow transplantation and traditional cancer therapy
M. Crowther 269–273

Symposium 5: Joint BAPEN and Nutrition Society Symposium on ‘Feeding size 0: the science of starvation’

Chair: G. Frost, *Imperial College, London, UK*

Severe malnutrition: therapeutic challenges and treatment of hypovolaemia shock
K. Maitland 274–280

Symposium 8: Feeding size 0: the challenges of anorexia nervosa

Chair: T. Bowling, *Queen’s Medical Centre, Nottingham, UK*

Managing anorexia from a dietitian’s perspective
A. Cockfield & U. Philpot 281–288

Pennington Lecture

Chair: M. Elia, *Institute of Human Nutrition, University of Southampton, Southampton, UK*

Teams, strategies and networks: developments in nutritional support; a personal perspective

J. Powell-Tuck

289–295

Symposium 9: Competent to care

Chair: R. McKee, *Glasgow Royal Infirmary, Glasgow, UK*

Are all doctors competent in nutrition?

F. C. Leslie & S. Thomas

296–299

A train-the-trainer method of teaching as a way of implementing the use of the ‘Malnutrition Universal Screening Tool’ in Norfolk: is it effective?

R. Lee & F. Scott

300–305

University of Nottingham, Nottingham, UK, 4 July 2008

Workshop on ‘Nutritional models of the developmental origins of adult health and disease’

Chair: M. Symonds, *University of Nottingham, Nottingham, UK*

Animal models for the study of the developmental origins of health and disease

S. McMullen & A. Mostyn

306–320

Breakout Session on ‘Obesity’

Chairs: I. Macdonald, *University of Nottingham, Nottingham, UK;*

C McMillen, *University of South Australia, Adelaide, Australia*

Adipose tissue development, nutrition in early life and its impact on later obesity

H. Budge, S. Sebert, D. Sharkey & M. E. Symonds

321–326

Plenary Lecture

Chair: M Hanson, *University of Southampton, Southampton, UK*

Impact of growth patterns and early diet on obesity and cardiovascular risk factors in young children from developing countries

C. Corvalán, J. Kain, G. Weisstaub & R. Uauy

327–337

Proceedings of the
Nutrition
Society

Editors
Professor C. J. Newbold
Dr C. N. M. Kelly
Professor K. R. Westerterp
edoffice@nutsoc.org.uk
<http://www.nutritionociety.org>

www.journals.cambridge.org/pns

Forthcoming topics to be featured in *Proceedings of the Nutrition Society* for 2009 (vol. 68):

November issue

- Mega Event Nutrition 2008
(Above proceedings were presented in Sao Paulo, Brazil, October 2008)
- The epidemiological and nutritional transition in developing countries: accelerating progress for nutrition in Africa
(Above proceedings were presented at the ANEC III conference in Cairo, Egypt, October 2008)
- Frontiers in adipose tissue biology
(Above proceedings were presented at the NS meeting at the Royal Society Edinburgh, April 2009)

Forthcoming topics to be featured in *Proceedings of the Nutrition Society* for 2010 (vol. 69):

February/May issues

- Dietary management of disease
(Above proceedings to be presented at the NS meeting at Queen's University, Belfast, June 2009)
- Overnutrition: consequences and solutions
- Modern approaches to nutritional research challenges
- Geographical and geological influences on nutrition
- Gut function: effects of over- and undernutrition
- Plenary Lectures
- Nutrition Society Medal Lecture
- Postgraduate Symposium
(Above proceedings to be presented at the NS meeting at University of Surrey, Guildford, UK, June 2009)

August issue

- Malnutrition matters
(Above proceedings to be presented at the BAPEN meeting in Cardiff, UK, October 2009)
- Food supply and quality in a climate-changed world
(Above proceedings to be presented at the NS meeting at University of Reading, Reading, UK, December 2009)

OC electronic issue

- The epidemiological and nutritional transition in developing countries: accelerating progress for nutrition in Africa
(Above proceedings were presented at the ANEC III conference in Cairo, Egypt, October 2008)
- Malnutrition matters
(Above proceedings were presented at the BAPEN meeting in Harrogate, UK, November 2008)
- Frontiers in adipose tissue biology
(Above proceedings were presented at the NS meeting at the Royal Society Edinburgh, April 2009)
- Dietary management of disease
(Above proceedings to be presented at the NS meeting at Queen's University, Belfast, June 2009)
- Over- and undernutrition: challenges and approaches
(Above proceedings to be presented at the NS meeting at University of Surrey, Guildford, UK, July 2009)

For further details, see our website: <http://www.nutritionociety.org/index.php?q=node/17>

Proceedings of the Nutrition Society

Volume 68, 2009 ISSN: 0029-6651

Publishing, Production, Marketing, and Subscription Sales Office:

Cambridge University Press
The Edinburgh Building
Shaftesbury Road
Cambridge CB2 8RU
UK

For Customers in North America:

Cambridge University Press
Journals Fulfillment Dept
100 Brook Hill Drive
West Nyack
New York 10994-2133
USA

Publisher: Katy Christomanou

Editorial Assistant: Katherine Cameron

Special sales:

This journal accepts advertisements and inserts. We also provide bulk reprints of suitable papers to meet teaching or promotional requirements. Please contact Katy Christomanou at Cambridge University Press for further details.

Subscription information:

Proceedings of the Nutrition Society is an international journal published by Cambridge University Press on behalf of The Nutrition Society as five issues per year. Symposium papers are published in February, May, August and November; Original Communications are published online (OCA/OCB).

Annual subscription rates:

Volume 68, 2009 (4 issues):

Internet/print package: £431/\$840 Americas only/
€688 EU only

Internet only: £373/\$727 Americas only/€583 EU only

Japanese Agent: Maruzen Company Ltd, PO Box 5050,
Tokyo International, 100-31, Japan.

Back volumes are available. Please contact Cambridge University Press for further information.

Claims for non-receipt of journal issues will be considered on their merit and only if the claim is received within six months of publication. Replacement copies supplied after this date will be chargeable.

Despatch: deliveries outside the UK are by ASP Print-flow Airsaver unless other arrangements are made.

Customers requiring airmail delivery should indicate clearly their requirements and add an additional 10% to the relevant subscription price.

US POSTMASTERS: please send address corrections to *Proceedings of the Nutrition Society*, Cambridge University Press at the New York address.

Directions to Contributors are available from the Society at the address below or can be found on the Society's website at <http://www.nutritionociety.org> (concise Directions to Contributors can be found inside the back cover).

Offprints: The authors (or main author) of an accepted paper will receive a free PDF file of their paper. Paper offprints are available for a fee and should be ordered at proof stage. No page charges are levied by this journal.

Copyright: As of July 2000 the copyright of all articles submitted to the *Proceedings of the Nutrition Society* is retained by the authors or their institutions. For articles prior to this date permission for reproduction of any part of the journal (text, figures, tables or other matter) in any form (on paper, microfiche or electronically) should be sought directly from the Society, at: The Publications Office, The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, London W6 7NJ, UK.

Disclaimer: The information contained herein, including any expression of opinion and any projection or forecast, has been obtained from, or is based upon, sources believed by us to be reliable, but is not guaranteed as to accuracy or completeness. The information is supplied without obligation and on the understanding that any person who acts upon it or otherwise changes his/her position in reliance thereon does so entirely at his/her own risk. Neither the Society nor Cambridge University Press accepts responsibility for any trade advertisement included in this publication.

Typeset by S R Nova Pvt Ltd., Bangalore, India.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information. Printed by Bell & Bain, Glasgow, UK.

Proceedings of the Nutrition Society is covered in Current Contents[®]/Agriculture, Biology & Environmental Sciences, SciSearch[®], Research Alert[®], Current Contents[®]/Life Sciences, Index Medicus[®] (MEDLINE[®]), AGRICOLA[®], CAB ABSTRACTS[®], Global Health, BIOSIS[®] Database, EMBASE/Excerpta Medica and Elsevier BIOBASE/Current Awareness in Biological Sciences, CINAHL and Chemical Abstracts Service.