



Irish Society for
Clinical Nutrition
& Metabolism

TIME TO ACT...

IrSPEN CONFERENCE 2015

Nutrition in Medicine
and Healthcare

10-11th March
Clyde Court Hotel, Dublin 4



IrSPEN – Dedicated to the management of those at risk of malnutrition in Ireland

The Irish Society for Clinical Nutrition and Metabolism (IrSPEN) is a multi-disciplinary professional organisation dedicated to optimising screening for and management of those at risk of malnutrition or other nutritional problems in Ireland, whether in hospital or in the community.

Founded in 2010 with the support of the Irish Society of Gastroenterology (ISG), the Irish Nutrition and Dietetic Institute (INDI) and the Irish Section of the Nutrition Society, IrSPEN members are clinicians, dietitians, nutritionists and other health professionals from clinical practice, research and education. Together our aim is to combat malnutrition by optimising the nutritional management of patients in hospital and the community.

IrSPEN aims to advance Ireland as a model of best practice in clinical nutrition by:

- Ensuring early identification of those at risk of disease-related malnutrition.
- Ensuring safe, efficacious and high quality nutritional care for all patients both in hospital and the community
- Promoting research that advances our knowledge or practice of clinical nutrition in Ireland

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Welcome from our Chairman



Dear Colleagues

It is my pleasure to welcome you to the 2015 National IrSPEN Conference and Policy Seminar at the Clyde Court Hotel in Dublin, which will take place over two days on 11th and 12th March.

This will be our third national conference since IrSPEN's establishment in 2010 during which time we have made significant progress in creating awareness of malnutrition and the importance of early, high quality nutritional care throughout our healthcare system. Our theme this year - Integrating nutrition into medicine and healthcare: Time to Act – reflects IrSPEN's focus on the need for greater urgency in translating evidence into action that will deliver real benefits for patients and our healthcare system.

Building on the success of our programme in 2013, this year's policy seminar marks an important step towards the implementation of a national model for good nutritional care. Alongside international and local experts, the programme will feature keynote presentations from Dr Philip Crowley, National Director for Quality Improvement and his team with whom IrSPEN have been working closely over the last year to establish nutrition and hydration of patients as a quality priority. As before, our forum discussion is designed to give participants the opportunity to contribute to the discussion and inform next steps, so I would encourage you to do so.

Our education programme on day 2 of our conference features an impressive range of highly topical areas of nutrition research and internationally renowned speakers. The first major session **New Concepts in Obesity and Appetite** will look at the controversies that science has provided in the last year and the application of new findings to more effective management of both obesity and malnutrition. Other major themes include **Ageing Agenda and Malnutrition**, **Best Practice in Clinical Nutrition** and **Nutrition Research into practice**.

We are extremely honoured that Professor Ken Fearon, a world renowned expert in cancer cachexia and pioneer in ERAS, will deliver the Inaugural IrSPEN keynote closing address **Nutrition support in cancer** – an update on evidence, practice and multimodal approaches, completing what should be a highly informative and stimulating programme.

I would like to take this opportunity to thank our Industry Corporate Partners for their generous support, without which IrSPEN would not exist. Three satellite sessions are being run by our sponsors to complement the programme and I encourage you to attend these very worthwhile sessions. Thanks also to our exhibitors and I encourage you to visit the stands and the posters and to network with other delegates.

It leaves me to thank you for attending, thank the Organising Committee for their enormous work in pulling together such an impressive programme, and wish you a very enjoyable and enlightening two day programme.

A handwritten signature in black ink that reads "John V Reynolds". The signature is written in a cursive, slightly slanted style.

John V Reynolds
Chairman, IrSPEN

Policy Seminar – Tuesday 10th March

Improving Nutritional Care of Patients in Ireland – a Quality and Safety Priority

*Chairs: Professor Humphrey O'Connor, President Irish Society of Gastroenterology
Dr Declan Byrne, Chair Irish Nutrition and Dietetics Institute*

13.00 **Registration and coffee**

13.30 **Welcome and opening address**

Professor John Reynolds, (Chair of IrSPEN) Dept Surgery, TCD, St. James's Hospital

13.40 **Nutrition matters to me – a patient's story**

13.50 **Nutrition & hydration – a forgotten safety priority**

Dr Philip Crowley, National Director Quality Improvement, HSE

14.05 **Malnutrition: healthcare challenges and their economic impact**

Professor Marinos Elia, NIHR Biomedical Research Centre, Southampton

14.30 **Intestinal failure – are we failing our most challenging patient group?**

Professor Billy Bourke, School of Medicine, Our Lady's Hospital Crumlin

14.45 **Panel discussion**

15.00 **Coffee and networking**

15.20 **Implementing good nutritional care in hospitals: focus on screening**

Elaine Bradley, Clinical Nurse Manager, Beaumont Hospital

15.35 **Identifying and treating nutritional risk in primary care: case study**

Dr Sharon Kennelly, Senior Community / Research Dietitian, HSE

15.50 **Nutritional standards in nursing homes: lessons and priorities**

Hilda Griffin, Senior Dietitian, St. Mary's Hospital, Phoenix Park

16.00 **Can a national programme to improve nutritional care deliver savings? Comment**

Professor Charles Normand, Health and Management Studies, Trinity College Dublin

16.10 **The way forward: Partnership to improve nutritional care**

HSE National Quality Improvement Division

16.30 **Forum Discussion**

Chairman's opening remarks for forum discussion with questions from participants directed at panel

16.50 **Closing remarks: Key learnings, priorities and next steps**

17.00 **Meeting close**

17.00 **Fresenius Kabi symposium – Strategies to implement change in the HSE**

Professor Zena Moore, Dr Stephen Kinnear

Education Day – Wednesday 11th March, Morning

07.00 **Abbott breakfast meeting – Harnessing strengths during challenging times**
Shane Martin Reg. Psychol., Ps.S.I

08.45 **Welcome and update on IrSPEN activities**
Professor John Reynolds, Chair of IrSPEN

Session 1: New Concepts in Obesity and Appetite: Opportunities for practice?

Chairs: Professor Carel Le Roux and Professor Donal O'Shea

09.00 **Taste, palatability, and gastric bypass surgery**
Professor Alan Spector, State University of Florida

09.30 **What are the differences in hunger and fullness in underweight and overweight people?**
Professor Carel Le Roux, UCD

10.00 **What happens to the pleasure of eating after obesity surgery?**
Dr Alexander Miras, Imperial College London

10.30 **Discussion and application to obesity/malnutrition management**
Professor Carel Le Roux and Professor Donal O'Shea

11.00 **Coffee break – viewing of posters and exhibits**

Session 2: Translational Nutrition Keynote Lecture – Obesity

11.30 **From policy to practice – what's new in facing the obesity challenge in Ireland**
Professor Donal O'Shea

Session 3: Nutrition Research and Impact on Practice

Chair: Dr Aoife Ryan

12.00 **Visceral obesity and oesophageal cancer: impact on treatment response and outcomes**
Dr Suzanne Doyle, TCD

12.15 **Invited oral papers – based on abstract submissions**

13.00 **Questions and session close**

13.15 **Lunch – viewing of posters and exhibits**

Education Day – Wednesday 11th March, Afternoon

Session 4: The Ageing Agenda and Malnutrition

Chairs: Dr Declan Byrne and Professor Maria O'Sullivan

- 14.00 **Does age matter? Fitness and frailty in the context of obesity and malnutrition**
Dr Roman Ortuno, Cambridge, UK
- 14.30 **Maintaining muscle - nutrition and exercise interventions in older adults**
Dr Brendan Egan, UCD
- 15.00 **Discussion and messages for multidisciplinary interventions**
Dr Declan Byrne, TCD

Session 5: Best Practice in Clinical Nutrition

Chairs: Dr Clare Corish and Dr Declan Byrne

- 15.15 **Providing optimal nutritional support in the ICU – everyday challenges and solutions**
Peter Turner, NHS, UK
- 15.30 **Dietary management of intestinal failure – everyday challenges and solutions**
Naomi Bates, St. Vincent's University Hospital, Dublin
- 15.45 **Summary and discussion**

16.00 **Coffee break – viewing of posters and exhibits**

Session 6: Inaugural IrSPEN Keynote Closing Lecture – Nutrition & Cancer

- 16.15 **Nutrition support in cancer – an update on evidence, practice and multimodal approaches**
Professor Ken Fearon, University of Edinburgh

16.45 **Presentation of poster awards**

- 17.00 **Nutricia symposium – Can focussed nutritional care improve clinical outcomes?**
Professor Charles Normand, Niamh Rice, Richard Oakley



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Chairpersons



Professor John V Reynolds

*Chair of IrSPEN; Professor of Surgery, St. James's Hospital;
Head of Department, Trinity College Dublin*

Professor Reynolds is Professor of Clinical Surgery at St. James's Hospital and Trinity College Dublin. He is the National Lead for oesophageal and gastric cancer. He is Cancer Lead at St. James's Hospital and the Trinity School of Medicine, and a Principal Investigator in the Trinity Translational Medicine Institute. He has formerly held Fellowship positions with the University of Pennsylvania and Wistar Institute in Philadelphia and at the Memorial Sloan-Kettering Cancer Centre in New York. He was a Senior Lecturer at St. James's University Hospital in Leeds (1994-6). Professor Reynolds has obtained numerous research awards and has published widely in cancer research, with over 250 publications and approximately €5m research grant income. His clinical interest is in diseases of the oesophagus and stomach. His research interest is in four areas: (1) pathogenesis of Barrett's oesophagus and progression; (2) prediction of response and resistance to chemotherapy and radiation therapy; (3) obesity, altered metabolism, and cancer; (4) malnutrition and peri-operative nutrition.



Professor Humphrey O'Connor

*President Irish Society of Gastroenterology;
Consultant Gastroenterologist Adelaide and Meath Hospital, Tallaght*

Humphrey O'Connor graduated with honours from University College Dublin in 1977. He won the British Society of Gastroenterology Hopkins Endoscopy Prize in 1982 and was awarded MD in 1987. In 2002, he moved to his present post as Consultant Physician/Gastroenterologist in both Naas General Hospital and Adelaide & Meath Hospital Tallaght. He was awarded Clinical Professorship in Gastroenterology at Trinity College Dublin in 2009 and also in the same year he was awarded Fellowship of the American Gastroenterological Association. His research interests include Helicobacter infection, ERCP, Gastro Oesophageal Reflux and prescribing patterns.



Maria O'Sullivan

*Associate Professor in Human Nutrition;
Clinical Medicine, Trinity Centre for Health Science, St. James's Hospital*

Maria O'Sullivan is Associate Professor in Human Nutrition at Trinity College Dublin, with over 20 years' experience in nutrition and research, as a Principal Investigator, her research focuses on the role of vitamin D and nutrition in inflammation and in ageing. In 2013, she became the first Irish recipient of the Nutrition Society's Cuthbertson Medal, awarded at Royal College of Surgery, London. She is Editor-in-Chief of the journal 'Proceedings of the Nutrition Society'. Maria has several society roles including both the Science and Publications committees of the Nutrition Society (UK) and the Medicine and Life Sciences committee of the Royal Irish Academy, Dublin.

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Dr Declan Byrne

Consultant in Geriatric Medicine, St. James's Hospital, Dublin

Declan is a Consultant Physician specialising in Geriatric and General Medicine at St. James's Hospital Dublin where he is the lead for Acute Medicine. Additionally trained in clinical nutrition and pharmaceutical medicine, he is a member of the management committee of the Irish Society for Clinical Nutrition and Metabolism and a Fellow of the Royal College of Physicians of Ireland. He is the chairman of the Board of Directors of the Irish Nutrition and Dietetic Institute. He is a clinical senior lecturer in Medical Gerontology at Trinity College Dublin and he is the current chairman of the Joint Coordinating Committee for the BSc in Human Nutrition and Dietetics run by TCD and the Dublin Institute of Technology. His research and clinical interests span acute medicine, stroke medicine, malnutrition, frailty and pharmacoeconomics.



Dr Aoife Ryan

Principle Investigator on HRB, SFI, FHI-II & Pharma industry grants

Graduated from DIT/TCD with a BSc (Human Nutrition & Dietetics) (2000), worked as a dietitian at St. James's Hospital in Dublin for 7 years during which time she completed her PhD at the Department of Surgery, TCD (2008). She was Assistant Professor of Nutrition at New York University from 2008-2010 and took up position as Lecturer in Nutritional Sciences at University College Cork in 2011. Her main research interests are: disease related malnutrition; cancer cachexia and sarcopenia; and nutrition support, and anorexia of aging. She is currently principle investigator on HRB, SFI, FHI-II and Pharma industry grants.



Dr Clare Corish

Lecturer in Human Nutrition and Dietetics, DIT, Adjunct Assistant Professor in Dietetics, TCD

Dr Clare Corish is Lecturer in Human Nutrition and Dietetics in the Dublin Institute of Technology and is Adjunct Assistant Professor in Dietetics in Trinity College Dublin. She is Director of the joint DIT/TCD BSc (Hons) Human Nutrition and Dietetics programme. Clare worked for over 15 years as a clinical dietitian in Ireland, the UK and Saudi Arabia. She is a fellow of the Irish Nutrition and Dietetics Institute, member of the INDI Education Steering Committee and the gastroenterology, nutrition support, renal, research and sports nutrition specialist groups of INDI. She was President of INDI from 1994-1996 and was voted Dietitian of the Year in 2009 by the members of INDI. Clare has published many peer-reviewed articles, is a peer reviewer for several nutrition journals and is a regular contributor to medical and dietetic publications and conferences. Her research interests are in clinical and public health nutrition and current large research projects include the evaluation of nutrition interventions in pre-schools and how shift work affects diet and lifestyle.



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Policy Seminar Speakers

Dr Philip Crowley

National Director Quality Improvement, HSE

Dr Philip Crowley is National Director of Quality Improvement with the HSE since January 2011. Philip is a doctor who trained in General Practice and then worked for five years in Nicaragua, Central America developing chronic disease care programmes and working with grassroots community organisations in health development. He then worked in the NHS in Newcastle upon Tyne and worked with marginalised communities, professional groups and the health service to tackle health inequalities. He has trained in public health medicine and has worked with the Institute of Public Health in Ireland, with the Irish College of General Practitioners on a national programme on refugee and asylum seeker health and as a general practitioner in the North inner city of Dublin. Philip has worked for 6 years as Deputy Chief Medical Officer with the Department of Health and Children until taking up his current post. Philip continues to work as a GP part-time in an inner city Dublin practice.



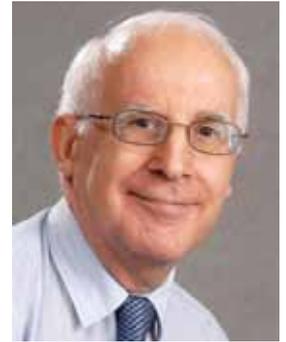
Nutrition & hydration – a forgotten safety priority

13.50

Good nutritional care is strongly linked with improved outcomes and better care experiences for patients. The improvement of nutrition and hydration has been identified as a quality and patient safety strategic priority in the National Service Plan 2015. The Quality Improvement Division (QID) is leading, in consultation with services, a quality improvement programme that will focus on the nutrition and hydration needs of our service users. Within this programme, the QID will partner with frontline service providers, service users and key national organisations (e.g. IrSPEN) in generating solutions and testing these using known methodologies and approaches to improve nutritional care.

Professor Marinos Elia

*Professor of Clinical Nutrition and Metabolism,
NIHR Biomedical Research Centre, University of Southampton*



Marinos Elia is Professor of Clinical Nutrition and Metabolism, University of Southampton. He trained and worked in Manchester, Oxford and Cambridge. He has chaired many national and international committees/groups, including BAPEN, International Society of Body Composition Research and NICE Quality Standard Group on nutritional support in adults. He led the teams that developed the Malnutrition Universal Screening Tool. He has published widely (over 700 publications) on nutritional support, nutritional biochemistry, body composition, health economics and evidence-based medicine. He has received various awards including the John Lenard-Jones medal and lifetime achievement awards from ESPEN, BAPEN and Complete Nutrition.

Malnutrition: healthcare challenges and their economic impact

14.05

Malnutrition predisposes to disease and adversely affects its outcome, producing major clinical, public health and economic problems. It costs about 3-4 times more to manage a person with disease-related malnutrition than without. Since malnutrition adversely affects every system and organ of the body, it is necessary to establish overarching strategies to combat it within and between all medical disciplines and all care settings. Furthermore, since recent economic analyses suggest that an investment to appropriately manage malnutrition in one care setting can produce clinical and economic benefits in another, a single funding stream may facilitate continuity of care, while separate funding streams may facilitate fragmented care. The integrated cost saving guidance produced by the National Institute for Health and Care Excellence (NICE) continues to indicate that nutritional support in adults produces the third highest cost-saving among all types of interventions associated with implementation of NICE clinical guidelines/quality standards. Recent economic analyses have not only confirmed that nutritional interventions produce a net cost saving, but also to an extent that is greater than that reported by NICE. It is clear from such analyses that a commitment to invest in nutritional support is necessary before the returns can be realised, and that these returns are likely to be greater when the prevalence of malnutrition is high, when hospital admission rates are high, and when the gap between current and desirable nutritional care is large.

Professor Billy Bourke

School of Medicine and Medical Science, Our Lady's Hospital Crumlin

Billy Bourke trained is a graduate of UCD and trained in paediatrics and paediatric gastroenterology in Dublin and the Hospital For Sick Children Toronto. He is lead consultant paediatric gastroenterologist at the National Referral Centre for Paediatric Gastroenterology in Crumlin Children's Hospital and coordinates the Intestinal Failure programme and Nutritional Support Team providing Home Parenteral Nutrition for Irish children. His main research interests involve intestinal infections and inflammatory conditions as well as the epidemiology of CF liver disease in children.



Intestinal failure – are we failing our most challenging patient group?

14.30

The standard of care for the management of long term intestinal failure (IF) is the provision of parenteral nutrition in patients home environment (HPN). Given the complexities and complications involved, HPN can only be delivered safely and effectively under the care of a hospital based, physician led, multidisciplinary care team. The only centralised HPN service in Ireland is based in the National Referral Centre for Paediatric Gastroenterology in Crumlin Children's Hospital where we have been providing care for infants and children on HPN for the past decade and a half. That there is no equivalent integrated service for adult patients in Ireland is probably unique among developed countries and is a cause of considerable concern both for IF arising de novo among adult patients and especially for those HPN patients who transition from paediatric to adult services. The development of the National Paediatric Hospital on the St. James's Hospital site provides an ideal opportunity to redress the deficit in healthcare provision for this uniquely vulnerable population of patients.

Elaine Bradley

Clinical Nurse Manager, Beaumont Hospital, Dublin

Elaine has worked as Clinical Nurse Manager in St. Laurence's, Beaumont Hospital, a 33 bedded ward specialising in Gastroenterology and Acute Medicine, since 2012. Previous to this Elaine has worked in Respiratory Care, and has completed a Post Graduate Diploma in Respiratory Nursing. Elaine has experience in Nursing Practice Development, working as a Clinical Practice Support Nurse in the Medical Directorate in 2010. Since commencing on St. Laurence's, the "Productive Ward Series" has been implemented, and this series has been integral to the success of the nursing team in Malnutrition Screening, utilising the meals module to place Nutrition and Meals to the forefront of quality nursing care.



Implementing good nutritional care in hospitals: focus on screening

15.20

Good nutritional care in hospital promotes improved clinical outcomes and a more favourable patient journey, particularly in those who are at risk of malnutrition. Acute care settings strive to identify nutrition risk to promote prevention, or early treatment of malnutrition-related complications. A multidisciplinary Nutrition Screening Steering Group, including a number of Nurse champions, was set up to introduce ward-based screening. This presentation outlines the successes and the challenges met at the coalface, during phase 1 implementation of MUST (*Malnutrition Universal Screening Tool*), in one Dublin Acute Teaching Hospital, from a nursing perspective.

Dr Sharon Kennelly

Senior Community Research / Dietitian, HSE



Sharon Kennelly is currently working as a Senior Community Dietitian in a primary care role. Sharon has worked in the field of community dietetics in the Midlands since completion of a BSc in Human Nutrition & Dietetics in DIT/TCD in 2003. From 2005 to 2011, while working as a community dietitian Sharon completed a research PhD entitled 'A Community Dietetic Intervention to Improve the Use of Oral Nutritional Supplements in the Community Setting' on a part-time basis in conjunction with Dublin Institute of Technology (DIT). Sharon has published a number of peer reviewed papers on the topics of management of malnutrition in the community and oral nutritional supplements. Among her achievements to date Sharon was awarded Best Paper in the area of Science Engineering and Technology by DIT in 2010. She is also previous poster winner at IrSPEN Conference 2011. Among other roles Sharon provides a community dietetic service to patients at risk of malnutrition in the community and is involved in education of healthcare professionals about the management of malnutrition. She also works to support ongoing policy development and implementation around malnutrition management in the community as part of her role.

Identifying and treating nutritional risk in primary care: the Midlands model

15.35

Background: In response to the lack of local structures for the management of malnutrition coupled with increasing oral nutritional supplements prescribing costs, funding was secured by the Community Dietitian Manager for the Midlands Area (Counties Laois, Offaly, Longford, Westmeath) for a needs assessment and pilot intervention project in 2003. Following stakeholder consultation a model for the management of malnutrition in the community was developed, implemented, and evaluated between 2005-2008.

Methods: The 'Midlands model' involves four main community dietitian-led elements:

1. Education sessions for healthcare professionals i.e. General Practitioners, Community Nurses, and Practice Nurses about the management of malnutrition, using an academic detailing model.
2. The use and promotion of a validated nutrition screening tool i.e. MUST.
3. A pathway for onward referral to a Community Dietitian service for treatment of high risk patients.
4. Dietitian led strategies to ensure appropriate prescribing of ONS.

The model is encompassed by an overarching guideline (PPG). The model was expanded in 2010 to include a peer-led malnutrition prevention programme for older persons. The typical patient type identified and treated are older persons (>65 years) with chronic disease including COPD, dementia, cancer, and psychiatric diagnoses. For this patient cohort Community Nurses are often the key healthcare professionals involved, and they contribute the majority of referrals to the community dietitian service.

Key findings: The 'Midlands model' has been extensively evaluated. It had a high satisfaction rating and has been shown to increase nutritional knowledge, and to improve nutrition care practices among healthcare professionals. It has improved identification of high risk patients and appropriate onward referral to the community dietetic service. In addition it has contributed to appropriate use of ONS. Patient outcomes measured to date include improved body weight and BMI kg/m², decreased nutritional risk, and high levels of satisfaction with the dietetic service (patient-reported). Evaluation of the pilot of a peer-led malnutrition prevention programme 'Eating Well into the Future' showed that it was highly rated by participants and led to increased nutrition knowledge.

Current challenges: From 2009-2011, some progress was made with replication of the model on a national basis led by community dietitians. Due to lack of resources there has been diminished capacity nationally to sustain the model. In the Midlands the Community Dietetic Service has focused its limited resources on sustaining key elements of the model. The emphasis is on working with the key healthcare professional groups i.e. Community Nurses through education and policy implementation and also dietetic service provision for high risk patients.

Professor Charles Normand

Chair in Health Policy and Management, Trinity College Dublin

Charles Normand is Edward Kennedy Professor of Health Policy and Management at Trinity College Dublin. He is vice-Chairman of the Board of St. James's Hospital and is Chair of the WHO European Observatory on Health Systems and Policy. He trained as an economist, and has worked for 25 years on the economics of health and health care. He has a particular interest in understanding the ways in which ageing impacts on use of health and social care, and on financing of services for older people. His research is mainly on health care finance, equity and access to services, management of chronic diseases, screening policies and end of life care. He is a co-author of a leading textbook on health economics and the WHO guidebook on social health insurance. He is co-principal investigator on the Irish Longitudinal Study on Ageing (TILDA).



Can a national programme to improve nutritional care deliver savings?: Comment

16.00

Research has shown that the cost to the health system of poor nutritional status of patients is high. Interventions that improve nutrition in patients before and during the hospital stay are potentially highly cost-effective. Recent research suggests that at least some potential interventions are good value (and may be cost saving) but it would be useful to have more detailed understanding of the different options and how they might be applicable in different circumstances.

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Hilda Griffin

Senior Dietitian, St. Mary's Hospital, Phoenix Park

Hilda Griffin graduated from Trinity College Dublin (2003) with a Degree in Human Nutrition and Dietetics. In 2011, she completed a Post Graduate Diploma in Public Management and in 2013 a Masters Degree in Healthcare Management in the Institute of Public Administration, UCD. Her broad experience encompasses a number of areas in nutrition and dietetics spanning industry, clinical dietetic practice, health promotion, and food regulatory and legislative affairs. For the past 6 years she has specialised as a Senior Dietitian in medicine for older persons in the rehabilitation and long term care settings in St. Mary's Hospital in the Phoenix Park, Dublin. In 2014 she chaired the joint INDI/IASLT working group which produced guidelines for the management of Feeding, eating, drinking and swallowing disorders in the residential care setting. She is the current dietetic representative for the HSE National Clinical Care Programme for Older Persons and also the chair of the INDI Special Interest Group for Older Persons and Dementia.



Nutritional standards in nursing homes: lessons and priorities

15.50

This lecture will give a broad overview of nutritional care provision in the residential care sector in Ireland. A focus will be on developments driven by changing social, legislative and policy frameworks in Ireland. Specifically the impact of HIQA standards on nutritional care provision and the benefits and lessons generated by these changes will be addressed as well as how this may impact on the future progression of the services.

Olivia Sinclair

Project Manager, HSE Quality Improvement Directorate

Olivia completed her nurse training in St. Vincent's University Hospital and after qualifying worked as a staff nurse on an acute medical ward. With an interest in care of older people, she joined The Royal Hospital Donnybrook in 2002 and subsequently became Director of Nursing, leading on improvement initiatives and clinical governance development across the hospital. Olivia is currently on secondment to the Quality Improvement Division of the HSE to work on a nutrition and hydration improvement programme.



The way forward: National Quality Improvement Partnership Programme to improve nutritional care

16.10

The improvement of nutrition and hydration for HSE service users has been identified as a priority quality improvement programme in the National Service Plan 2015. The programme will adopt a cross divisional approach to improvement of nutritional care. The programme will be overseen by a steering group and will be developed in consultation with key stakeholders. Various methods of improvement will be adopted and used to implement models of best practice. An overview of the programme including planned work streams will be provided by the Programme Lead.

Education Day Speakers

Professor Alan C. Spector

Professor, Department of Psychology and Program in Neuroscience, Florida State University, Tallahassee, FL, USA



Dr Spector is a leading expert in the development and application of highly specialized behavioral testing paradigms to assess the effects of genetic, anatomical, and pharmacological manipulations of the nervous system on taste function in animal models. In recent years, his laboratory has been studying the effects of gastric bypass surgery on taste responsiveness, food preference, and reward in rats.

Taste, palatability, and gastric bypass

9.00

Alan C. Spector¹, Clare M. Mathes², Carel W. le Roux³

1. Department of Psychology and Program in Neuroscience, Florida State University, Tallahassee, FL, USA

2. Department of Psychology and Neuroscience Program, Baldwin Wallace University, Berea, OH, USA

3. Diabetes Complications Research Centre, School of Medicine and Medical Science, University College Dublin, Dublin, Ireland

Roux-en-Y gastric bypass (RYGB) leads to decreased caloric intake, substantial weight loss, and improved glycemic control. RYGB patients also report changes in their food preferences after surgery, switching from high fat/high sugar type foods to those having lower fat and sugar content. These findings, however, are primarily based on measures that rely on verbal report and are subject to potential cognitive bias and inaccuracy. Nonetheless, more direct measures in rat models support that attenuation of sugar/fat preference does occur. High-fat diet preference decreases in the home cage after RYGB relative to laboratory chow. After RYGB, rats display lower preferences for sucrose and the fat emulsion Intralipid (IL) over water across a range of concentrations in two-bottle tests in comparison with sham-operated controls. These changes in food/fluid preference have been generally interpreted as an RYGB-induced change in the palatability of sugars and fats to the point of potential aversion. However, a constellation of findings challenge this view. After RYGB, rats rarely completely avoid ingesting fat and sugar stimuli. Although in some brief-access taste tests, which limit postingestive influences on responses, RYGB rats sometimes display decreased responsiveness to higher concentrations of sucrose and fat emulsions relative to controls, this is not universally observed. In operant tasks incorporating progressive ratio schedules of reinforcement, which relegate total reinforcer ingestion to negligible volumes, the amount of effort exerted to obtain sucrose and IL in rats with RYGB is not reduced relative to that seen for sham-operated controls. Thus, it appears when postoral consequences of the ingestive behavior are minimized, RYGB does not attenuate the motivational salience of the taste of fat and sugar. Interestingly, when rats are given a 60-min exposure to a sucrose or IL solution, meal size does not initially differ as a function of RYGB, but decreases over days of testing. Despite this RYGB-induced decline in intake, early-meal measures of ingestive behavior such as initial lick rate and first lick burst size remain high and do not differ between the surgical groups. Collectively, these data suggest that the motivational properties of the taste of sugars and fats remains unchanged after RYGB, but that animals learn to adjust their intake to perhaps minimize negative visceral signals arising from excessive intake. This talk will explore these issues and their implications and discuss ways in which the role of experience in modulating food selection can be further interrogated. Supported by NIH R21-DC012751.

Professor Carel Le Roux

Head of Pathology, UCD, Dublin

Professor Carel Le Roux graduated from medical school in Pretoria South Africa, completed his Senior House Officer training at Barts and The London Hospital, his SpR training in metabolic medicine at the Hammersmith Hospitals and his PhD at Imperial College London. He was appointed as Senior Lecturer in 2006, promoted to Reader in 2009 at Imperial and accepted a Chair as Head of Pathology at University College Dublin in 2011. He received a Clinician Scientist Award from the National Institute Health Research in the UK and a Wellcome Trust Clinical Research Fellowship amongst others.



What are the differences in hunger and fullness in underweight and overweight people?

9.30

Understanding why people feel hungry before a meal and why they feel full after they have eaten may be the key to help patients who become dangerously underweight such as those in hospitals and care homes who suffer with chronic diseases and cancer. It may also help us to understand how we can prevent patients becoming obese and developing complications of obesity such as diabetes and cancer. For too long patients have been told to “just eat more” if they were underweight or “just eat less” if they were tipping the scales on the heavy side. These approaches have largely failed to make the impact that has been needed.

We are now starting to understand that the approach we have taken in the past was not informed by the basic biology of our patients. The evidence now points to the inner parts of the brain being the important decision makers as to whether patients will eat more or less and not the outer parts of the brain which we can more easily treat with behaviour therapies. We are also now understanding that these inner parts of the brain are receiving signals from the rest of the body including the gut and fat cells. This presentation will address some of the controversies with the latest knowledge that Science has provided in the last year.

Dr Alexander Miras

NIHR Clinical Lecturer in Endocrinology, Imperial College London



Dr Alexander Miras graduated from medical school at Imperial College London, UK, and trained as a junior doctor and Specialist Registrar in Diabetes and Endocrinology in the London deanery rotations between 2002-2010. In 2010, he was awarded with a Medical Research Council (MRC) Clinical Research Training PhD fellowship, which enabled him to investigate the effects of bariatric surgery on food reward using functional neuroimaging and behavioural methodologies both in humans and rodents. He is currently a NIHR Clinical Lecturer in Endocrinology at Imperial College London and interested in the mechanisms through which bariatric surgery and medical devices improve weight, metabolic control and diabetes-related microvascular complications.

What happens to the pleasure of eating after obesity surgery?

10.00

Bariatric surgery leads to significant long term weight loss, particularly RYGB. The mechanisms underlying weight loss have not been fully uncovered. Changes in food preferences after surgery have been proposed as a novel mechanism. Patients after gastric bypass are less hungry and prefer healthier food options. They develop an increased acuity to sweet taste which is perceived as more intense. The appeal of sweet fatty food decreases, with fMRI studies showing a corresponding reduction in activation of the brain reward centres to high calorie food cues. Patients experiencing post-ingestive symptoms with sweet and fatty food develop conditioned aversive behaviours towards the triggers. Gut hormones have the potential to influence the gustatory pathway and food hedonics. They are elevated in RYGB and may be the mediators of alterations in food preferences. Exploiting this property might prove beneficial for designing future obesity treatment.

Professor Donal O'Shea

*Consultant Endocrinologist, Head of the Obesity Unit,
St. Columcille's Hospital, Loughlinstown, Dublin*



Donal O'Shea qualified in Medicine from University College Dublin in 1989. He moved to Hammersmith Hospital in London and was awarded a Wellcome Trust Training Fellowship to study how the brain controls appetite. In 1999, he moved to his current position in Dublin where he runs a hospital based multidisciplinary treatment unit for the management of adult obesity. He is a member of the Department of Health special action group on obesity established in 2011 chaired the health impact assessment group on the potential benefits and harms of a tax on sugar sweetened drinks. He is also a member of the Healthy Ireland Council. Research interests include immune effects of obesity, diabetes, steroid metabolism, gender identity disorder and thyroid disorders.

From policy to practice – what's new in facing the obesity challenge in Ireland

11.30

This presentation will focus on the need for policy change to address the obesity pandemic. It is now clear that obesity is 90% irreversible for 90% of people – hence prevention is the key. Obesity is determined 70% by the environment and 30% by the individual. Policy changes the environment and education shapes the individual.

Dr Suzanne Doyle

*Clinical Research Dietitian and Adjunct Assistant Professor,
Department of Surgery, St. James' Hospital*



Dr Suzanne Doyle is a Clinical Research Dietitian based in Trinity College Dublin and St. James's Hospital. Suzanne studied Human Nutrition and Dietetics in DIT/TCD and graduated in 2009, receiving a university gold medal for academic achievement. After securing a scholarship from the Irish Research Council, Suzanne commenced her PhD studies with Professor John Reynolds and the Department of Surgery at St. James's Hospital. Her PhD was awarded in 2013 and focussed on the impact of visceral obesity on the inflammatory response and recovery following surgery and also the optimisation of postoperative outcomes via immunonutrition. In 2014, together with colleagues in physiotherapy, Suzanne successfully secured Health Research Board funding to support a 3 year programme of research investigating rehabilitative needs and strategies in oesophageal cancer patients. Suzanne has published several peer reviewed articles and presented her work nationally and internationally. She also lectures in nutrition in Trinity College and DIT to undergraduate and postgraduate students. Suzanne is the Research Liaison Officer within the Irish Nutrition and Dietetic Institute and a member of the Nutrition Society Council.

Visceral obesity and oesophageal cancer: impact on treatment response and outcomes

12.00

Doyle SL, Lancaster B, Donohoe CL, O'Farrell NJ, Mongan AM, Lynam-Lennon N, O'Sullivan M, Pidgeon GP, O'Sullivan J, Lysaght J, Reynolds JV

Visceral obesity and associated metabolic syndrome are emerging as key factors that fuel the association between obesity and malignancy. In the gastrointestinal tract, both visceral obesity and the metabolic syndrome are independent risk factors for oesophageal adenocarcinoma and the premalignant lesion, Barrett's oesophagus. St. James's Hospital in Dublin established an Adipose Tissue Biobank in 2007 to investigate the association between obesity and oesophageal cancer. Patients undergoing oesophageal cancer resection are screened for metabolic syndrome and additional blood samples are collected and stored. In addition, total, visceral and subcutaneous fats levels are quantified by CT, using diagnostic scans. At time of surgery, visceral fat, subcutaneous fat and liver samples are taken for analysis and biobanking. In addition to this unique adipose tissue bio-repository, a tumour biobank also exists, together with a clinical database of all upper gastrointestinal cancer patients. This combination of adipose tissue samples, blood samples, tumour specimens, anthropometry and detailed patient information uniquely positions our research group to investigate the impact of visceral obesity on tumourigenesis, treatment response and patient outcomes.

To date, the adipose tissue biobank has collected in excess of 800 patient samples and a number of key research findings have been made. Through an IrSPEN funded research programme, visceral obesity was found to be associated with increased tumour metabolic activity, as measured by 18F-fluoro-2-deoxy-D-glucose (FDG) uptake on diagnostic positron emission tomography (PET) scan, pre and post neoadjuvant treatment. Visceral obesity was also found to be associated with altered production of adipokines, with decreased production of adiponectin and increased production of growth factors, including VEGF and IGF-1. Furthermore, visceral adipose tissue has been shown to significantly increase the proliferation of tumour cells in vitro. In addition, in oesophageal cancer cells, visceral obesity is associated with altered mitochondrial function and energy metabolism, an emerging hallmark of cancer. Viscerally obese patients also experience altered postoperative inflammatory responses, demonstrating greater postoperative CRP levels and cortisol levels compared with non-viscerally obese patients. The findings from our research group provide evidence that visceral obesity significantly influences the pathogenesis of oesophageal cancer. Future work continues to focus on elucidating the mechanisms by which visceral obesity impacts on oesophageal tumourigenesis and treatment outcomes.

Dr Roman Romero-Ortuno

*Consultant in Care of the Elderly,
Department of Medicine for the Elderly (DME), Addenbrooke's Hospital,
Honorary Visiting Fellow to the Clinical Gerontology Unit,
Department of the Public Health and Primary Care, University of Cambridge*



Roman Romero-Ortuno is a Consultant Geriatrician in Addenbrooke's Hospital (Cambridge University Hospitals NHS Foundation Trust) and Honorary Visiting Fellow to the Clinical Gerontology Unit, Department of Public Health and Primary Care, University of Cambridge. Dr Romero-Ortuno's first medical degree is from the University of Barcelona (Spain), and he holds an MSc in European Social Policy from the London School and Economics and Political Science. He is Member of the Royal College of Physicians (MRCP) of London. Roman's PhD is from the Department of Medical Gerontology, Trinity College Dublin, and he completed his higher medical training in Geriatric and General (Internal) Medicine in the South Dublin scheme. Dr Romero-Ortuno is interested in the operationalisation of frailty in older people, and its implications for clinical care provision and organisation of health and social care services. <http://www.phpc.cam.ac.uk/people/clinical-gerontology/clinical-gerontology-visitors/dr-roman-romero-ortuno/>

Does age matter? Fitness and frailty in the context of obesity and malnutrition

14.00

This talk will introduce the concept of frailty as a statistical concept of unobserved heterogeneity. For a large segment of the older population, chronological age is not a relevant marker for understanding, measuring or experiencing ageing; instead, the concepts of biological age or fitness-frailty spectrum may be more useful.

In clinical practice, frailty is a situation of vulnerability driven by dysregulation in multiple biological systems, accumulation of deficits, decreased physiologic reserve, heightened vulnerability to stressors and higher risk of adverse outcomes. There is agreement on the usefulness of defining frailty in clinical settings as well as on its multi-dimensional nature, and various approaches to its operationalisation exist in clinical practice and research. Using data from the Survey of Health, Ageing and Retirement in Europe (SHARE), two major approaches to the operationalisation of frailty will be presented: the index approach (frailty as a state) and the phenotypic approach (frailty as a syndrome). The specific role of nutrition in each of these operationalisations will be discussed.

The concept of sarcopenia will be introduced as a core component of the frailty syndrome. Differences between sarcopenia, cachexia and anorexia will be discussed and various approaches to the measurement of sarcopenia will be outlined.

Particular attention will be paid to the problems posed by obesity in the current operationalisations of frailty and sarcopenia, and to the potential need for alternative operationalisations in this growing population subgroup. For example, sarcopenic vs. non-sarcopenic obesity, metabolically healthy vs. unhealthy obesity are important distinctions with methodological and clinical relevance.

The relevance of frailty and sarcopenia in clinical practice will be reviewed, and the potential role of nutrition in their treatment will be discussed. Evidence for various strategies will be outlined, including total energy intake, combinations of nutrition and exercise, and specific supplementation (e.g. protein, vitamin D). The evidence base for these strategies is still inconsistent, reflecting a highly heterogeneous methodological approach and patient selection. The talk will conclude with a summary of the clinical and research opportunities.

Dr Brendan Egan

UCD Institute for Sport and Health, School of Public Health, Physiotherapy and Population Science, University College Dublin



Brendan received his BSc in Sport and Exercise Science from the University of Limerick in 2003, and MSc in Sport and Exercise Nutrition from Loughborough University in 2004. His doctoral studies under the supervision of Dr Donal O’Gorman at Dublin City University focussed on skeletal muscle adaptation to exercise, and in particular the continuity between acute molecular responses to individual bouts of exercise and the adaptations in skeletal muscle induced by exercise training. He was awarded his PhD in 2008, before moving on to the prestigious Karolinska Institute, Stockholm, Sweden where he completed his post-doctoral training in Prof. Juleen Zierath’s Integrative Physiology group at the Department of Molecular Medicine and Surgery. This work utilised animal models and in vitro cell systems to investigate the transcriptional regulation of skeletal muscle insulin resistance in Type 2 diabetes. He joined the faculty at UCD in 2011, and currently holds a position as Lecturer in Sport and Exercise Science in the School of Public Health, Physiotherapy, and Population Science. His current research investigates the molecular regulation of skeletal muscle function and adaptation with special interest in nutrition and exercise interventions to limit muscle wasting in elderly.

Maintaining muscle – nutrition and exercise interventions in older adults

14.30

Apart from its essential role in locomotion, muscle is an organ critical to healthy aging and shows remarkable adaptability to use, disuse and nutrition intervention. The loss of muscle mass and function as we age, known as sarcopenia, is a major threat to the health and independence of older adults. This contributes to a decrease in muscle strength and power, which are important predictors of balance, and therefore an increase the occurrence of falls and related mortality. Moreover, muscle wasting is observed in a range of diseases including cancer cachexia, COPD, heart failure and rheumatoid and osteoarthritis, and is worsened by bed-rest and immobilisation. While physical inactivity increases the likelihood and worsens the outcomes of muscle wasting, an under-appreciated risk factor for sarcopenia is protein/energy- and disease-related malnutrition. In Ireland, there are approximately 140,000 people suffering from disease-related malnutrition at any time. As the numbers of older adults continues to rise, and life expectancy continues to increase, there are major associated healthcare costs on the horizon.

Exercise can offset the deleterious effects of aging on muscle mass and function, but the optimal prescription and its combination with nutrition intervention remains elusive. The traditional focus on aerobic exercise (e.g. walking) interventions in older adults has changed in favour of combined approaches that include resistance (strength) training. We are presently investigating models of ‘uncomplicated’ resistance training for older adults that focus on increasing whole-body strength and muscle mass. However, exercise alone is ineffective for increasing muscle mass in protein-deficient or malnourished states, so combined exercise and nutrition interventions are optimal. Our recent work focuses on multi-ingredient nutrition interventions beyond the traditional protein-only approach, as potential synergism exists between nutrients such as leucine and omega-3 polyunsaturated fatty acids in the regulation of anabolic effects of exercise and nutrition.

Peter Turner

Specialist Dietitian, Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool

Pete Turner has worked as nutritional support dietitian at the Royal Liverpool University Hospital since 1995, specialising on parenteral nutrition, intestinal failure and Critical Care. He is a member of BAPEN council and has chaired the committee responsible for organising the association's annual conference for 6 years.



Providing optimal nutritional support in the ICU – everyday challenges and solutions

15.15

Nutritional support on the ICU has the potential to reduce morbidity and improve survival. However there are many challenges to successfully delivering the right amount of nutrition, by the right route at the right time to critically patients and this presentation will aim to discuss these, highlight areas of controversy and suggest practical solutions



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Inaugural IrSPEN Keynote Closing Lecture

Professor Ken Fearon

Professor of Surgical Oncology, Edinburgh University

Kenneth Fearon received his training in surgery, oncology and clinical nutrition in Glasgow and Edinburgh, UK. Since 1999 has held the Chair in Surgical Oncology at the University of Edinburgh, UK. Past awards include the Cuthbertson Medal from the Nutrition Society and the Arvid Wretling Lectureship from the European Society for Clinical Nutrition and Metabolism.



Providing optimal nutritional support in the ICU – everyday challenges and solutions

16.15

A modern concept of cancer cachexia recognises that this is a metabolic syndrome rather than end-stage wasting and may even be present in the absence of weight loss (pre-cachexia). Cachexia is frequently compounded by pre-existing muscle loss due to age-related sarcopenia, co-morbidity and cancer therapy. Use of diagnostic imaging for body composition analysis has revealed that cachexia is also frequently compounded by obesity and that this combination leads to under-diagnosis and excess mortality. Muscle wasting is associated not only with reduced quality of life but also markedly increased toxicity from many of the common chemotherapeutic agents. As such, there is a need to revise common toxicity criteria to take account of this phenomenon.

The primary events driving cachexia include inflammation-related anorexia and hypoanabolism/hypercatabolism. Many of the effects of inflammation are likely mediated by the CNS. Treatment should be initiated early and during active cancer therapy. Beyond active management of secondary impact symptoms, therapy should target the key areas of reduced food intake (nutritional support), inflammation-related metabolic change (anti-inflammatory drugs/nutrients) and reduced physical activity (resistance exercise). Recent advances in the molecular biology of the brain, immune system and skeletal muscle has provided many novel targets for the treatment of cachexia. The combination of therapies already available into a standard multimodal package coupled with the development of novel therapeutics, promises a new era in supportive oncology when patients' quality of life and tolerance of cancer therapy may be extended significantly.

Oral Presentations

Jessie Elliott

Gut hormones as mediators of food intake among long-term survivors after oesophagectomy for cancer

JA Elliott², S Jackson², S King¹, R McHugh, NG Docherty², JV Reynolds¹, CW le Roux²

1. Department of Surgery, Trinity Centre for Health Sciences, Trinity College Dublin and St. James's Hospital, Dublin 8, Ireland

2. Conway Institute of Biomedical and Biomolecular Research, University College Dublin, Dublin 4, Ireland

3. Wellcome Trust and HRB Clinical Research Facility, St. James's Hospital, Dublin 8, Ireland

Introduction: Improved oncologic outcomes for oesophageal cancer have given rise to an increasing population of disease-free post-oesophagectomy patients, among whom malnutrition presents a significant long-term challenge with limited therapeutic options.

Aims: To investigate the role of gut hormones as mediators of food intake after oesophagectomy for cancer, and to determine the effect of satiety gut hormone blockade using octreotide on *ad libitum* food intake.

Methods: Disease-free subjects at least one year after oesophagectomy with gastric tube reconstruction (OES) and matched controls were studied on two occasions each. In this randomised, double-blind, placebo-controlled, crossover study subjects received either 1mL 0.9% saline (placebo) or 100µg octreotide acetate by subcutaneous injection followed by a standardised *ad libitum* meal on each study assessment. Fasting and post-prandial plasma total glucagon-like peptide 1 (GLP-1), peptide YY (PYY) and ghrelin immunoreactivity were measured. Gut hormone profiles and calorie intake after placebo versus octreotide were compared between OES and controls.

Results: Eighteen subjects (OES, n = 10; control, n = 8) were studied. Age, pre-operative weight and BMI were similar between OES and control groups (P = 0.47, 0.78, 0.96) but OES had significantly lower BMI at the time of study (2.4 ± 0.75 years post-operatively, P = 0.04). OES demonstrated significant weight loss at 3, 6, 12 and 24 months post-operatively (P < 0.05). There was no difference in ghrelin levels between OES and controls (P = 0.58). Post-prandial GLP-1 and PYY responses were greater in OES versus controls (P < 0.001, < 0.0001 respectively) and post-prandial GLP-1 correlated with %weight loss (P = 0.005, $r^2 = 66\%$). Following gut hormone blockade using octreotide, *ad libitum* calorie intake increased significantly among OES ($52 \pm 63\%$, P=0.023) but not controls ($11 \pm 30\%$, P = 0.308).

Conclusion: Changes in food intake after oesophagectomy are associated with an exaggerated post-prandial satiety gut hormone response, which may be abrogated by pharmacologic inhibition of gut hormone release using octreotide.

Niamh O’Sullivan

Nutrition status pre liver transplant and length of hospital stay post liver transplant

N.O’Sullivan, D. Houlihan, St. Vincent’s University Hospital, Dublin 4

Introduction: ESPEN states that under-nutrition is a major factor influencing outcomes after orthotopic liver transplant (OLT). Early detections and interventions to correct nutritional deficits may help shorten length of hospital stay (LOS) post liver transplant.

Aim: To determine if there is a relationship between nutritional parameters pre OLT and i) total LOS post OLT ii) intensive care (ICU) LOS post OLT. The primary outcome measures were total hospital LOS and ICU LOS. Secondary aims included measuring the degree of malnutrition in those with and without a cancer diagnosis.

Methods: The study design was retrospective analysis. Approval was received from the hospital audit committee. All patients who were alive at discharge after an elective first OLT between January 2009 and May 2014 were identified. Data was prospectively gathered when nutritional status was assessed pre transplant by a dietitian and retrospectively analysed on the following nutrition parameters; 1) dry BMI at OLT 2) hand grip strength (HGS) 3) Royal Free Hospital Global Assessment (RFH-GA). Statistical analysis including descriptive statistics, Pearson’s correlation coefficient and the Mann-Whitney test to compare groups were undertaken.

Results: 205 patients underwent their first elective OLT and survived to discharge. The proportion of patients transplanted for decompensated cirrhosis, cancer and acute liver failure were 77%, 23% and 0% respectively. The incidence of malnutrition pre OLT as per RFHGA was 53%. Malnutrition was more prevalent in those transplanted for decompensated cirrhosis compared to those with cancer (69% VS 5%).

Table 1: LOS and ICULOS

	LOS (days) All OLTs N=205	ICU LOS (days) All OLTs N=205	LOS (days) BMI</20	LOS (days) BMI>20
median	18	1	21.5	17
range	8-164	0-30	12-67	8-65

The median BMI and %HGS of all OLTs was 25.2Kg/m² and 78% respectively. The relationship between BMI at OLT and LOS had a weak negative association [r= -0.25, n=185, p=0.001]. Specifically patients with a BMI< 20 had a longer overall LOS compared to those with BMI >20 [21.5 days VS 17 days; p=0.007] (Table 2). No correlation was found between %HGS and LOS or ICU LOS. However there is a significant decrease in LOS but not ICU LOS when the 1st quartile of %HGS is compared to the 3rd quartile of %HGS (p=0.039).

Conclusion: The study would indicate that under-nutrition as defined by BMI<20 or HGS< 61% is associated with a longer hospital stay post liver transplant but not ICU LOS. Dietetic resources should be targeted to these patients pre liver transplant.

Samatha Cushen

A prospective investigation of nutritional status in 517 Irish cancer patients undergoing chemotherapy: prevalence of malnutrition, cachexia, sarcopenia and impact on quality of life

SJ Cushen¹, DG Power², P McEneaney³, E Ni Bhuachalla¹, L Daly¹, AM Ryan¹

1. School of Food and Nutritional Sciences, University College Cork, Cork

2. Dept Medical Oncology, The Mercy University Hospital, Cork

3. Dept of Radiology, The Mercy University Hospital, Cork, Ireland

Background: Malnutrition is a significant factor in predicting cancer patients' quality of life (QoL), tolerance to treatment, and overall survival.

Aim: This study aims to describe the prevalence of malnutrition, cancer cachexia (CC), sarcopenia and their impact on QoL for the first time in Irish cancer patients undergoing chemotherapy.

Methods: A prospective study of adult cancer patients undergoing chemotherapy was conducted. Malnutrition Universal Screening Tool scores (MUST) and QoL (EORTC QLQ-C30) were measured. CC was defined as weight loss (WL) >5% over the past 6 months or WL >2% in combination with a Body Mass Index (BMI) <20kg/m² or sarcopenia. Skeletal muscle was measured by CT scan. Sarcopenia was defined using published cut offs.

Results: In total, 517 patients receiving chemotherapy (302 male), with a mean age of 61.8 (SD 10.5) were included. The percentage of patients with colorectal cancer was highest (30%) followed by upper gastrointestinal cancer (23%) and lung cancer (12%). 42.1% were treated with curative intent. According to BMI, 4.6% were underweight (<18.5kg/m²), 42.4% were normal weight (18.5-24.9 kg/m²) and 53% were overweight or obese (BMI ≥25 kg/m²). Sarcopenia was present in 47.3% and CC was present in 44.8%. The highest rates of muscle wasting were seen in patients with tumours of the genitourinary system (61.7%), oesophagus (53%) and hepatobiliary organs (50%). Based on MUST scores, 40% were at medium to high risk of malnutrition and the remainder, (309 patients, 59.7%) were classified as 'low' nutritional risk. However, 9.4% of these 'low risk' patients had CC and 26% were sarcopenic. CC, sarcopenia and nutritional risk were significantly associated with low global QoL scores (P<0.05).

Conclusion: A significant proportion of Irish cancer patients undergoing chemotherapy experience severe involuntary WL, sarcopenia and CC, however identification of malnourished patients presents challenges in the era of obesity. The routine availability of CT scans in oncology provides a unique opportunity to incorporate body composition into nutrition screening and assessment.

Poster Presentations

Changes in appetitive behaviour after vertical sleeve gastrectomy in adolescents

G Abdeen¹, A Miras¹, A Al-Qhatani² CW le Roux^{1,3,4}

1. Investigative Science, Imperial College London, UK

2. Department of Surgery, College of Medicine, King Saud University, Riyadh, Saudi Arabia

3. Diabetes Complications Research Centre, Conway Institute, University College Dublin, Ireland

4. Gastrosurgical laboratory, University of Gothenburg, Sweden

Introduction: Childhood obesity represents a frustrating and difficult disease to treat even if good multidisciplinary approaches are commenced at an early age. Bariatric surgery, namely, Vertical Sleeve Gastrectomy (VSG) is an effective solution for long term weight loss. The mechanism by which VSG results in these effective outcomes is currently being investigated. Anecdotal evidence from clinical observation and evidence in rodents after VSG suggest a decrease in preference for sweet/fatty food.

Aims: To determine changes in the reward value of sweet/fat taste after VSG in adolescents obese patients.

Methods: In this case-control study, fourteen obese adolescents (age 15.6 ± 0.5 years) who had VSG were matched to eight control subjects (age 14.0 ± 0.7 years) not having surgery. Both groups completed a progressive ratio task by clicking a computer mouse on a progressive ratio schedule to receive a sweet/fatty candy. In the task, subjects work progressively harder to obtain a reinforcer until they reach the breakpoint (measure of the reward value of the reinforcer). Breakpoints were assessed by the number of mouse clicks in the last completed ratio. The task was performed before and twelve weeks after VSG.

Results: The VSG group's bodyweight decreased from 139.7 ± 6.1 kg to 111.8 ± 5.6 kg. The median breakpoint for candies, reduced after VSG from 320 (160-640) to 80 (70-320) ($p = 0.02$). Breakpoints for the control subjects did not change (640 (200-640) vs 640 (320-640); $p = 0.46$).

Conclusion: VSG surgery resulted in a reduction of the reward value of a sweet/fat tastant, twelve weeks after VSG in adolescents.

Behavioral effects of postoral nutrient-related stimulation on taste-guided responses in a rat model

Lindsey A. Schier and Alan C. Spector, Department of Psychology and Program in Neuroscience, Florida State University, Tallahassee, Florida, USA

Introduction: With abundant evidence that postingestive stimuli provide critical feedback on various taste-guided behaviors like meal termination and taste preference conditioning, it is surprising that little is known about how taste and visceral signals are functionally integrated.

Method: To begin to elucidate this, *conditioned* and *unconditioned* chemospecific effects of brief intraduodenal (ID) infusions of various chemical stimuli (sucrose, Intralipid, and NaCl) on appetitive and consummatory licking responses and oromotor reflexive responses to matching and non-matching taste stimuli were assessed in brief-access taste tests (BA) and serial taste reactivity tests (TR), respectively. Then, licking responses to novel flavors paired with ID infusions of either a previously *conditioned* or *unconditioned* stimulus were assessed across 30-min one-bottle sessions and subsequent two-bottle tests. In all experiments, *conditioned* effects were assessed by examining responses to a stimulus (sucrose or glucose) that was rendered aversive via conditioned taste aversion (CTA) training prior to the respective tests described above.

Results: In BA tests, ID sucrose enhanced *unconditioned* preferential licking for sucrose in a concentration-dependent manner more so than did ID NaCl. Tests that expanded the types of oral and ID stimuli included revealed yet a higher degree of chemospecificity to these interactions, whereby ID sucrose enhanced unconditioned preferential licking to an array of sucrose concentrations more so than did ID Intralipid. In conditioned rats, ID sucrose significantly suppressed appetitive responding for the sucrose stimuli relative to that following ID NaCl. In TR tests, conditioned rats exhibited more aversive responses to the oral sucrose infusions following ID caloric infusion compared with ID NaCl. Finally, we found that conditioned rats more rapidly suppressed licking of a novel flavor paired with ID infusions of the conditioned stimulus (glucose) compared to unconditioned rats. These groups did not differ in their response to a second novel flavor paired with ID Intralipid. Conditioned rats later showed decreased preference for the flavor that had been paired with ID glucose. This suggests that for rats with a CTA to glucose, subsequent postingestive detection of this sugar alone was sufficient to elicit a memory of the CTA, curb intake, and condition a second-order aversion.

Conclusions: The experiments revealed novel and converging lines of evidence that suggest (a) postingestive, likely GI signals, rapidly modify concurrent taste responses with varying levels of both macronutrient and chemosensory specificity and (b) oral and postingestive signals elicit a common central hedonic representation.

Personalised nutrition perspectives: anti-inflammatory nutritional intervention selectively improves insulin sensitivity in overweight and obese adolescents

AM Mc Morrow¹, RM Connaughton¹, FC McGillicuddy¹, ML Healy², EF Roche³,
FE Lithander⁴, HM Roche¹

1. Nutrigenomics Research Group, UCD Conway Institute of Biomolecular and Biomedical Research, School of Public Health and Population Science, University College Dublin, Belfield, Dublin, Ireland

2. Department of Endocrinology and Diabetes, St. James's Hospital, Dublin, Ireland

3. Department of Paediatrics, University of Dublin, Trinity College, National Children's Hospital, Tallaght, Dublin, Ireland

4. School of Public Health and Nutrition, University of Canberra, ACT 2601, Australia

Introduction: Anti-inflammatory nutritional approaches may attenuate obesity-induced insulin resistance. However, results from clinical studies are not entirely consistent, warranting increased focus on determinants of inter-subject variability, particularly within young cohorts at high-risk. Baseline metabolic phenotype may partially discriminate responders from non-responders.

Methods: Metabolic effects of an anti-inflammatory nutritional supplement containing LC n-3 PUFA, vitamin C, vitamin E, and polyphenols, were determined in overweight and obese adolescents (n=58; mean±SD age 15.9±1.6y; BMI 32.1±6.5kg/m²) by an 8-wk randomised, crossover, placebo-controlled intervention. Subjects who demonstrated >12.5% improvement in HOMA-IR were categorised as responders.

Results: Anti-inflammatory nutritional supplementation selectively reduced HOMA-IR in 38% of subjects (responders; supplement -33.01±17.84% v placebo 14.57±54.91%, p<0.001). In comparison with non-responders, responding subjects demonstrated an adverse pre-treatment metabolic phenotype characterised by increased HOMA-IR, total cholesterol, LDL cholesterol and soluble CD163, despite similar BMI (p=0.002, p=0.037, p=0.045, p=0.047, p=0.159, respectively). Multiple regression analysis confirmed baseline HOMA-IR, LDL:HDL ratio and soluble CD163 as significant independent predictors of HOMA-IR response to anti-inflammatory supplementation (R²=0.673, p<0.001).

Conclusion: These results demonstrate heterogeneity with respect to the insulin sensitising effects of anti-inflammatory nutritional supplementation. Despite similar BMI to non-responders, the insulin resistant and dyslipidaemic phenotype of responders enhanced the impact of anti-inflammatory nutritional approaches. This illustrates potential efficacy optimisation within the context of personalised nutrition.

This trial was registered at clinicaltrials.gov as NCT01665742.

Funding: This research was funded by The National Children's Research Centre, Ireland. HMR & FCM are supported by Science Foundation Ireland Principal Investigator Programme (11/PI/1119) and Wellcome Trust Career Development Fellowship (097311/Z/11/1).

Effects of a community-based cardiovascular disease prevention programme on long term weight loss and lifestyle goals in an obese population

C Kerins^{1,2,4}, I Gibson^{1,2,4}, K Cunningham^{1,2,4}, J Jones^{1,2,4}, J Windle^{1,2,4}, C Costello^{1,2,4}, AM Walsh^{1,2,4}, S Connolly³, J Crowley^{2,5}, G Flaherty^{1,2,4}

1. National Institute for Preventive Cardiology

2. Croí, the West of Ireland Cardiac Foundation

3. Imperial College Healthcare NHS Trust, London

4. School of Medicine, National University of Ireland, Galway

5. University Hospital Galway

Introduction: Obesity is one of the primary risk factors for cardiovascular disease and type 2 diabetes.

Aim: We sought to measure the long term changes in anthropometric measures and lifestyle habits in an obese cohort after participation in a preventive cardiology programme.

Methods: High risk patients (Heart SCORE \geq 5%) and their family members were enrolled on a 16-week intensive lifestyle programme delivered by a multidisciplinary team. Body mass index (BMI), waist circumference, physical activity levels and dietary habits were assessed at initial assessment (IA) and at 1 year (1-yr).

Results: Data on those who attended both IA and 1-yr were analysed (Table 1). The mean age of patients was 58 years and the retention rate on the programme was 85.3%. Results demonstrated that there was a significant mean improvement in BMI, waist circumference, Mediterranean diet score and functional capacity at 1-yr.

Conclusion: Obesity is a growing epidemic in Ireland and these results demonstrate that long-term weight loss and lifestyle goals can be achieved and sustained as part of a comprehensive community-based cardiovascular disease prevention programme.

Table 1. Summary of outcomes for patients and partners

	Patients IA (n=390)	Patients I-yr (n=390)	p-values	Partners IA (n=185)	Partners I-yr (n=185)	p-values
Mean (SD) BMI (kg/m ²)	33.3 (6.9)	32.1 (6.1)	<0.001	29.8 (5.6)	29.0 (5.5)	<0.001
Mean (SD) Waist Circumference (cm)						
- Men	115.5 (14.5)	110.6 (13.9)	<0.001	112.6 (12.6)	108.8 (13.4)	<0.001
- Women	108.7 (14.5)	104.9 (14.3)	<0.001	97.6 (15.2)	94.3 (15.4)	<0.001
Mean Mediterranean Diet Score	4.0 (2.2)	8.5 (2.7)	<0.001	4.3 (2.1)	8.9 (2.5)	<0.001
% Achieving physical activity target	13.3	51.9	<0.001	24.4	52.9	<0.001
Mean Estimated METs Maximum	7.5 (1.7)	9.0 (2.0)	<0.001	7.9 (1.6)	<0.001	

Addressing the obesity epidemic through a novel user-friendly approach to menu labelling in the west of Ireland

C Kerins^{1,2}, I Gibson^{1,2}, K Cunningham^{1,2}, J Jones^{1,2,3}, C Kelly³

1. National Institute for Preventive Cardiology

2. Croí, the West of Ireland Cardiac Foundation

3. Health Promotion Research Centre, National University of Ireland, Galway

Introduction: With eating out-of-home becoming more common, menu labelling has garnered growing public and legislative support as a potential strategy for addressing the obesity epidemic.

Aim: The aims of this research were to examine the impact of novel and user-friendly heart healthy awards on consumers buying behaviour and to explore perceptions of this initiative from food establishment's perspectives.

Methods: This quasi-experimental study recruited a convenience sample of eight food establishments; all with at least one menu item meeting the heart healthy award criteria. Sales of all menu items sold over an eight week period were tracked; 4 weeks prior to and 4 weeks during display of the awards on their menus. In addition, structured interviews were conducted with staff from each food establishment.

Results: The absolute change in menu item sales showed a trend towards an increase in heart-healthy menu item selections (i.e. an increase of 556 menu items sold over a 4 week period), although this change was not statistically significant. The interviews revealed that consumer demand was the main reason for engaging in the menu award programme. Furthermore, positive feedback and perceived change in consumer food choice was reported. Half of the food establishments made changes to their food practices to improve nutritional profile since engaging in the programme.

Conclusion: The provision of heart-healthy awards on menus may potentially be an important element of a comprehensive obesity prevention strategy. Menu labelling may provide consumers with the information they need to make healthier choices when eating out of home and may also encourage food establishments to improve the nutritional profile of the foods and beverages they offer. As the current study used a small convenience sample of food establishments, larger studies are necessary to confirm these results.

Figure 1. Croí menu award symbols



Knowledge of nutrition and dietary supplements amongst athletes

U Ali, A Murphy, O Crosbie, Department of Hepatology, Cork University Hospital

Introduction: Nutrition and dietary supplements are two key components in an athlete's daily life.

Aim: To investigate the knowledge of nutrition and dietary supplements and their use amongst athletes from a Cork-based athletic club.

Methods: Validated questionnaires were handed out to 50 randomly selected athletes. 32 responded.

Results: Athletes got an average score of 53.4% when assessed on nutritional knowledge. There was no significant difference in scores between men and women.

43.8% of participating athletes use dietary supplements with the use being more prevalent among male athletes (64.3%) although this was not statistically significant ($p=0.618$). Multivitamins are the most popular product (57.1%). 50% of athletes use supplements for "health benefits".

78.8% of athletes obtain information regarding dietary supplements from the internet while only 40.6% have direct access to a dietician or health professional for this information. The majority of athletes spend less than €30 per month on supplements. Among those who do not use supplements, the most common reason given was "Already have a balanced diet" (83.3%).

Conclusion: The level of nutritional knowledge amongst the participants was unsatisfactory. The use of dietary supplements was prevalent amongst participants. However, it is a concern that the majority of the athletes surveyed use the internet as their main source of information on dietary supplements. Education with regard to nutrition and supplements should be included as part of any sports training plan; with access to professional advice for individual cases where required.

Vitamin D and associations with disease activity and inflammation in Crohn's disease

*T. Raftery¹, M. Merrick¹, M. Healy², N. Mahmud¹, C. O'Morain³, S. Smith³,
D. McNamara³, M. O'Sullivan¹*

1. Dept. of Medicine, Trinity Centre for Health Science, St. James's Hospital, Dublin, Ireland

2. Dept. of Biochemistry, St. James's Hospital, Dublin 8, Ireland

3. Dept. of Medicine, Trinity Centre for Health Science, Tallaght Hospital, Dublin, Ireland

Background: Vitamin D, as potential immune-modulator, has been implicated as an environmental risk factor in Crohn's disease (CD). Vitamin D status may be associated with disease risk, severity, activity and progression. While associations between circulating 25OHD and markers of disease activity and inflammation in CD have been reported, the results are inconsistent.

Aim: To determine the association between vitamin D status and markers of disease activity and inflammation in CD.

Methods: One hundred and nineteen CD patients were enrolled in to the cross sectional study. Subject demographics and clinical data were collected. A serum sample was collected for 25OHD and CRP analysis, and a stool sample was collected for faecal calprotectin (FC) measurement.

Results: The mean serum 25(OH)D concentration of the group was 59.8 (24.9)nmol/L. Serum 25OHD inversely correlated with FC ($\rho = -0.302$, $P < 0.001$). This finding remained significant after controlling for confounding variables and was further confirmed by linear regression ($r = 31.3\%$, $P < 0.001$). FC was lower in patients with 25OHD levels ≥ 75 nmol/L compared with < 25 nmol/L [FC: 32.2 (16.3–98.2) vs 100.0 (34.4–213.5) $\mu\text{g/g}$, $P = 0.004$]. In the current study, however, 25OHD was not significantly associated with either CRP or CDAI.

Conclusion: Circulating 25OHD was significantly inversely associated with intestinal inflammation as determined by FC but not with either disease activity score (CDAI) or systemic inflammation (CRP). Vitamin D intervention studies are warranted to determine if raising serum 25OHD levels in patients with CD may reduce intestinal inflammation as measured by FC.

Adherence to dietary and lifestyle guidelines for cancer prevention and use of dietary supplements among women attending a breast clinic

L Owens^{1,2}, C Corish¹, R Salman³

1. School of Biological Sciences, Dublin Institute of Technology

2. Department of Clinical Medicine, Trinity College Dublin

3. Breast Unit, Beaumont Hospital

Introduction: The World Cancer Research Fund (WCRF) issued ten recommendations on diet, physical activity and weight management for cancer prevention in 2007. Maximising the proportion of the population achieving nutritional adequacy without dietary supplements and specifying that dietary supplements are not recommended for cancer prevention were among the recommendations made. Despite this, use of dietary supplements appears to be common among patients diagnosed with cancer.

Aim: The aim of this study was to assess adherence to the WCRF Cancer Prevention Recommendations, and to investigate the use of dietary supplements among women attending a breast clinic in a large Dublin hospital.

Methods: The study was conducted using a self-administered questionnaire, incorporating a food frequency questionnaire (FFQ) adapted from the European Investigation into Cancer (EPIC)-Norfolk FFQ, in first time attendees of an outpatient breast clinic and for comparative purposes, among healthy, community-dwelling women.

Results: The questionnaire was completed by 250 women attending the breast clinic whilst waiting for their medical consultation and by 100 healthy women in the community setting. Adherence to WCRF recommendations among the clinic attendees was as follows: 41% of women who recorded their weight and height ($n = 200$) had a BMI within the healthy range; 34% achieved the physical activity recommendation; 10% and 51% met minimal daily goals for dietary fibre and fruit and vegetables respectively; 53% failed to adhere to the recommendation for dietary sodium; among self-reported alcohol consumers ($n = 190$), 10% exceeded the upper limit for alcohol.

Over half (54%) the women attending the breast clinic reported taking dietary supplements. The most frequently used supplements were multivitamins (21%), single vitamins (18%), marine oils (16%), minerals (12%), primrose oil (8%) and flaxseed (6%). Among those taking supplements, 52% reported taking more than one supplement.

Apart from better compliance with the fruit and vegetable recommendation in the community-dwelling women (68 vs. 51%; $P < 0.05$), compliance with the WCRF recommendations and dietary supplement use was similar between clinic attendees and community participants ($P > 0.05$ for all other variables).

Conclusion: Non-adherence to cancer prevention recommendations and use of dietary supplements was common among all women surveyed. All patients who receive a breast cancer diagnosis should be screened for the use of dietary supplements and counselled appropriately given the clinical implications of their use. The first appointment may provide a unique opportunity to offer dietary and lifestyle advice.

Low serum concentrations of 25-Hydroxyvitamin D is associated with impaired cognitive function in community dwelling older Irish adults

N. Aspell, Prof. M. O' Sullivan, Prof. B. Lawlor, The University of Dublin, Trinity College

Introduction: Vitamin D status has implications far beyond its well-known effects on bone mineralisation. Research suggests vitamin D status may play a role in the pathogenesis of a wide range of non-skeletal, age related diseases.

Aim: The aim of this research is to investigate the associations between vitamin D status and cognitive function in community dwelling older Irish adults.

Methods: Three hundred and seventy six subjects (mean age 72.13 ± 7.00 , 67.4% female) were assessed in an outpatient clinical setting. Cognitive function was assessed using the validated Mini-Mental State Examination (MMSE), Serum 25(OH) D (nmol/l) was analysed using the DiaSorin LIAISON® 25-OH Vitamin D TOTAL. Multivariate linear regression was conducted to explore the effects of vitamin D status on cognitive function, while controlling for smoking, alcohol status, depression, season of assessment, and frailty. 25-OH D levels were defined within quartiles giving the following categories: severe deficiency, insufficient, sufficient and suboptimal status.

Results: Mean serum 25 (OH) D was 49.9 ± 25.31 nmol/l, and MMSE score was 27.65 ± 1.98 . No associations were found between total MMSE scores and serum 25(OH)D status. However, on analysis of MMSE sub scores and 25 (OH) D status quartiles, severe deficiency (≤ 25 nmol/l) was significantly associated with lower outcomes in two core subtests evaluating orientation ($p < 0.014$) and language ($p < 0.031$), compared to participants who were vitamin D sufficient (50-75nmol/l).

Conclusion: This explorative study showed that poor vitamin D status was significantly associated with lower scores for two cognitive domains compared with adults who had sufficient vitamin D status, even after controlling for relevant health-related factors.

Pancreaticogastrostomy versus Pancreaticojejunostomy post Pancreaticoduodenectomy: a retrospective analysis

OM Griffin^{1,2}, A Hughes², N Linnane², D Maguire² and E Hoti²

1. Department of Nutrition and Dietetics, St. Vincent's University Hospital, Dublin 4, Ireland

2. National Surgical Centre for Pancreatic Cancer, St. Vincent's University Hospital, Dublin 4, Ireland

Introduction: Pancreaticoduodenectomy remains the only curative option for patients with pancreatic head cancers. Reconstruction using pancreaticogastrostomy instead of pancreaticojejunostomy has re-emerged as potentially reducing post-operative pancreatic fistula risk.

Aim: To compare rate of post-operative complications and impact on nutritional status post Pancreaticoduodenectomy (PD).

Methods: Retrospective analysis of patients who underwent PD over an 18 month period. Data was collected regarding pre-operative symptom burden, baseline nutritional status, post-operative complications (defined, where appropriate, according to International Study Group classifications), and extent of post-operative weight loss at patient's first OPD clinic review.

Results: Of 25 included patients, 13 (52%) had a pancreaticogastrostomy (PG) while 12 (48%) underwent pancreaticojejunostomy (PJ). Baseline characteristics were similar for both groups; 13 (52%) patients presented with obstructive jaundice, and 6 (24%) experienced pre-operative pancreatitis. The incidence of clinically relevant Post-Operative Pancreatic Fistula was 8% and incidence of Delayed Gastric Emptying was 40%. There was no significant difference in complication rate or length of stay (LOS) between groups. There was no correlation found between baseline nutritional status and complication rate and LOS, however patients with pre-operative jaundice had a significantly longer LOS (22 versus 13, $p=0.02$), irrespective of reconstruction type. There was no significant difference in post-operative weight loss measured at first outpatient review. All PG patients were routinely commenced on Pancreatic Enzyme Replacement Therapy (PERT). A positive correlation was seen between baseline Body Mass Index and post-operative weight loss ($r=0.588$ $p=0.001$), suggesting potential need to initiate PERT for all patients, irrespective of baseline nutritional status.

Conclusion: PG does not increase the risk of complications post PD, and with routine initiation and use of PERT, it does not increase the extent of post-operative weight loss.

Hospital to Home Paediatric Home Enteral Nutrition – Parents Need Support

C Shortall¹, M Aherne¹, S Boland¹, R Sheane¹, F Ward¹, O Hensy²

1. Dietetic Department, Children's University Hospital, Temple Street

2. Consultant Paediatrician, Children's University Hospital, Temple Street

Introduction: 288 children were discharged on home enteral nutrition (HEN) from Children's University Hospital Temple St, Dublin from January 2005 - 2010¹. HEN provides cost savings for hospitals; however it places greater demands on carers in the community². Therefore, it is important to understand the perceptions of those directly involved in the provision of care for children receiving HEN³. This study aims to assess the provision of education, dietetic and multidisciplinary support to parents of children on long term HEN and to understand the challenges facing parents and carers, highlighting improvements required.

Methods: A mixed method cross sectional study design was used. 301 parents (or persons with parental responsibility) of patients who had long term enteral tubes (LTET) were identified as eligible to participate in the study. Invitations to take part via interview or written questionnaire were posted to parents. Qualitative responses were analysed using thematic analysis and common themes were identified.

Results: 39 responses were analysed; 16 written questionnaires and 23 interviews. All parents reported that LTET feeding did or is benefitting their child. 29 (83%, n=35) parents suggested services for HEN need improvement. 29 (74%, n=39) parents wanted more structured follow up and 22 (56%) would like one person to co-ordinate HEN education and discharge. 7 parents (18%) reported a need for further education of health care professionals (HCP). Hospital based dietetic reviews were the most common form of dietetic follow up received (35/39, 90%). 14 (36%) parents had issues with travelling to a hospital appointment. 33 (85%) parents spoke to a hospital dietitian > 3 times in the year after discharge home. 18% of parents suggested that HCPs may benefit from education on stoma care and types of LTET, particularly care post discharge.

Conclusions: HEN was deemed successful by all parents. However, the discharge process and follow up care planning need improvement. A specialist paediatric dietitian as part of a multidisciplinary HEN team is required to comply with best practice nutritional monitoring guidelines and government Primary Care policy⁴⁻⁶. This would facilitate transfer to community care, reduce hospital admissions, outpatient department attendances and costs.

References: 1. Boland, S. Ward, F. Hensy, O. Home enteral feeding review. IrSPEN Scientific Conference (Integrating Nutrition into Medicine and Healthcare), 2013; 2. Stratton RJ, Green CJ, Elia M. Disease-related malnutrition: an evidence based approach to treatment. UK: CABI publishing; 2003; 3. Brotherton A, Abbott J, Hurley M, Aggett PJ. Home enteral tube feeding in children following percutaneous endoscopic gastrostomy: perceptions of parents, paediatric dietitians and paediatric nurses. *J Hum Nutr Diet.* 2007; 20:431-439; 4. Irish Department of Health & Children. Primary Care – A New Direction. Dublin: Stationary Office, 2001. Available at: www.dohc.ie accessed 13th March 2014; 5. Caring for children and young people in the community receiving enteral tube feeding. A working report for the National Health Service Quality Improvement Scotland. 2007 Available at www.nhshealthquality.org accessed 20th March 2013; 6. Irish Department of Health & Children. Statement of Strategy 2011-2014 Dublin 2: Stationary Office, 2012. Available at : www.dohc.ie accessed 19th March 2014.

Home jejunostomy feeding post oesophagectomy – a patient’s perspective

LA Healy, M Fanning, SL Doyle, N Ravi, JV Reynolds

Introduction: Maintaining nutritional status in the months following oesophagectomy is very challenging, 60% of patients have inadequate intake at time of discharge, and unsurprisingly the majority of patients lose weight, with 44% experiencing clinically severe weight loss at their first outpatient visit¹. In recent years, all patients are routinely discharged from St. James’s Hospital on supplementary home enteral tube feeding (HETF), which was associated with better weight maintenance and longer time to follow up in a recent institutional review of practice². The aim of this study was to assess and explore the patient’s perspective of HETF, as this is rarely described in the literature.

Methods: A 24 item questionnaire was developed that addressed the practical training and management of HETF, its effect on activities of daily living, role in recovery, psychological tolerance, specific symptoms and its effect on family/carers. Questions were formatted as statements, and assessed on a five-point likert scale graded from “not at all” to “yes very much”. Questions that addressed similar issues were grouped together for analysis, the higher the score the better the QOL. Additional open questions asked what HETF meant to the patient as well as any suggestions for improving the HETF process. The responses were subjected to thematic analysis. The reliability of the questionnaire was tested using Cronbach alpha which is 0.863 and indicates good internal consistency so all items were retained. Questionnaires were posted to eligible patients retrospectively and a stamped address envelope was also included (n=113).

Results: The response rate was 81% (n=92), although 14 patients were excluded due to incomplete data (n=78). The median time from operation date to completing questionnaire was 14 months (6-28 months). Overall supplementary HETF was viewed very positively by patients with a high overall total score. Reduced appetite is a significant problem post oesophagectomy, and dietary intake and weight loss are important determinants of functional QOL scores and global QOL³.

Table 1: Average Score (± Standard Deviation)

Practical Training and Management	89 ± 11	Sleep disturbance	63 ± 30
Effect on ADLs	88 ± 26	Pain at JEJ site	88 ± 30
Increased Anxiety	81 ± 24	Poor appetite	33 ± 24
Role in recovery	87 ± 16	Impact on carers	88 ± 28
Overall Total Score	74 ± 11		

The main themes that emerged were HETF enhanced recovery as well as increasing confidence and providing reassurance about the adequacy of nutritional intake. HETF also reduced worry about further weight loss with sub optimal dietary intakes post discharge. All patients were advised to use HETF at night to encourage a return to eating, as such sleep disturbance was an issue for some. Increased community support, more secure attachment of JEJ tube and more information on unblocking JEJ tube, were some suggestions made by patients.

Conclusion: Continuing supplementary HETF post discharge was very beneficial from the patient’s perspective. Post oesophagectomy, patients struggle to establish an adequate nutritional intake for a variety of reasons, and likely a combination of reduced appetite, gastrointestinal symptoms, early satiety, fear of eating and abnormal gut transit. HETF is a simple short term strategy, that’s well tolerated and provides additional nutrition support as well as reassurance to patients while they attempt to establish a normal eating pattern. Adjustment of feeding schedule is possible for patients who find overnight feeding problematic. Further studies that report long term outcomes are lacking and would be valuable in assessing the benefits of adjunctive HETF in this patient group.

References: 1. Ryan et al, *Clinical Nutrition* 2006;25:386-93; 2. Fanning et al, *Gut* 2012;61:2(A267); 3. Ravasco et al, *Supp Care Cancer* 2004;12:246-52.

Overview of Home Enteral Nutrition Service in North Dublin

N Maher¹, H Gerlitz², T O'Riordan²

1. HSE Dublin North

2. HSE Dublin North City

Background: Enteral tube feeding in the primary care setting can be a challenging task for the patient, their carers and the multidisciplinary team. Community dietitians (CD) trained in Home Enteral Nutrition (HEN) can provide home visits to monitor and support patients, troubleshoot feeding tube problems and act as a liaison between community and hospital services.¹ A HEN Service was established in the Dublin North Area in 2008.

Aim: To outline the profile of clients referred to the Community HEN Service in the North Dublin Area.

Method: Case notes for all clients referred between June 1st 2008 and Dec 31st 2014 were reviewed for basic demographic data. The indication for tube insertion, feeding route and tube type were noted. In addition the discharging hospital, duration of intervention and outcome were recorded.

Results: A total of 266 clients were referred. Fifty-six percent were resident in their own homes, with the remainder in nursing homes. Two-thirds of clients referred were aged over 65 years (mean age 65.7, range 18-93, median 69) and the male to female ratio was 1:1.1. The majority of clients (53%) were discharged from Beaumont Hospital, a further 22% from Mater Misericordiae and 6% from Connolly Hospital, with the remainder referred from 9 other hospitals. The most common underlying medical conditions leading to gastrostomy insertion were cancer (33%), neurology (24%) and CVA (22%). Gastrostomy was the predominant feeding route (94%) with 41% of clients having a Percutaneous Endoscopic Gastrostomy tube on discharge. The average intervention time was 16 months (range < 1 month to 79 months, median 9 months). Only 13% of clients were discharged, either because the feeding tube was removed or they moved to another geographical area. Fifty percent of clients had died and 37% cases remain open.

Conclusion: CD co-ordinate and optimise the management of adults, with a variety of underlying medical conditions, discharged on HEN from 12 different hospitals into the North Dublin Area. The effectiveness of this service in reducing the need for hospital readmissions needs further evaluation.

References: 1. Kurien M, White S, Simpson G, Grant J, Sanders DS, McAlindon ME (2012). *Managing patients with gastrostomy tubes in the community: Can a dedicated enteral feed dietetic service reduce hospital admissions?* *European Journal of Clinical Nutrition* 66, 757-760.

Enteral or parenteral feeding in intestinal graft dysfunction: Any clues from serum citrulline?

M. O'Connor, A. Vaidya, L. Smith, P. Friend, Oxford Intestinal Transplant Unit, Oxford Transplant Centre, Oxford University Hospitals NHS Trust, UK

Introduction: Citrulline, is a non-protein amino acid produced principally by intestinal enterocytes. It is not taken up by the liver but about 80% of circulating citrulline is taken up by the kidneys. Citrulline has been successfully used as a biomarker for intestinal graft dysfunction after intestinal transplantation¹.

Aim: To extend its use as a biomarker to direct enteral versus parenteral feeding in the early post operative period as well as during graft dysfunction.

Methods: Weekly serum citrulline concentrations were obtained using a Guthrie card. A cut off of 13 μ mol/l was used. Patients with citrulline levels less than 13 μ mol/l in the post operative period were kept on low volume enteral feed and maintained on TPN. Once the levels were above 13 μ mol/l, enteral feeds were advanced to meet target rate and TPN discontinued accordingly. A similar pattern was followed with patients presenting with high stomal effluent output where post-transplant rejection was suspected. These citrulline levels were then matched with histopathological diagnosis and subjective Zoom Endoscopy scores

Results: From October 2008, 9 patients underwent a small bowel transplant at the Oxford transplant centre. Mean citrulline levels week one after transplantation were 11.5 mmol/l (range 4.5 -17). Endoscopic biopsies in the first week showed signs of ischemia reperfusion with significant oedema in the submucosa of the transplanted ileum. All these patients were maintained on TPN and had a semi-elemental enteral feed at 30 mls/h. As mean citrulline levels increased patients progressed to full feed and TPN was discontinued. Four patients presented with intestinal dysfunction after discharge from the hospital. These were all commenced on TPN if the citrulline level fell below 13mmol/l. Mean time to graft dysfunction from transplantation was 240 days (range 46-450).

Conclusion: Serum citrulline is a good marker in the absence of dehydration and renal impairment to direct nutritional therapy in the early post transplant period as well as during graft dysfunction. It helped to direct nutrition support in an area where it can often be difficult to determine how much nutrients are actually being absorbed.

References: 1. Crenn P, et al: Postabsorptive plasma citrulline concentration is a marker of absorptive enterocytemass and intestinal failure in humans. *Gastroenterology*119:1496, 2000.

Patients as innovators – the development of a device to measure stoma output and reduce the risk of unexpected leakage

M O'Connor, M Seres, G Vrakas, R Macedo, A Vaidya, Oxford Intestinal Transplant Unit, Oxford Transplant Centre, Oxford University Hospitals NHS Trust, Oxford, UK

Introduction: Stoma leakage is a common problem for stoma patients. In the UK alone, there are 100,000 people living with a stoma, 85% of whom will experience appliance leakage a problem that has serious repercussions for a patient's quality of life¹. Even though stoma leakage is multifactorial, the key reason seems to be unpredictable output that may cause a bag to overflow at short notice. This is especially true in patients with a high output stoma due to a dysfunctional bowel or intestinal failure that can result in severe dehydration, electrolyte disturbances and malnutrition. Thus the ability to detect a stoma bag reaching critical volumes that may predispose to leaks as well as the ability to accurately document a patient's output is an attractive proposition.

In 2013, a patient (MS), developed a 'clip on' blue tooth sensory device called an **Ostom-i Alert** which could be set to alarm prior to reaching a critical level. In addition, it could also give an estimate of the daily volume based on the curvature of the bag. The Ostom-i™ Alert data was sent directly to the patient's smartphone and also simultaneously forwarded to the health professional involved in the patient's care.

Methods: A group of stoma patients (n=48) were asked to comment on living with a stoma. Eighteen patients tried the ostom-i device and completed a questionnaire.

Results:

- 87% identified a leaking stoma bag as the biggest issue they faced as a stoma patient
- 98% currently determine how full their stoma bag is by feeling it
- 100% reported that they were helped by a device which alerted them when the bag was full
- 100% reported that they found the device easy to pair to their smartphone or iPad
- 100% reported that they would use it to assist with their daily stoma care

Conclusion: The Ostom-i™ device provided a simple and effective solution to the prevention of stoma bag leakage as a result of over-filling. In addition, it can also measure the approximate volume within the bag. This information can be forwarded remotely to the clinician or health care professional to help direct the clinical management of patients with dysfunctional stomas. It eliminated the need for nursing staff to empty effluent into a container to measure it for fluid balance purposes.

Outcomes for patients at risk of malnutrition receiving a domiciliary community dietetic service

Kennelly S¹, Browne S², Flanagan-Rughaboos G¹, Glennon C¹

1. Community Nutrition & Dietetic Service, HSE Dublin Mid-Leinster, Primary Care Unit, St Loman's Hospital, Mullingar, Co. Westmeath
2. SB Nutrition, Antogher Rd, Roscommon

Introduction: The Community Dietetic Service (CNDS) in Counties Laois, Offaly, Longford and Westmeath provides a domiciliary service for homebound patients at risk of malnutrition. Education about the Malnutrition Universal Screening Tool (MUST)¹ is provided for all community nurses in these four counties, as well as a number of General Practitioners (GPs) and Practice Nurses.

Aim: To measure outcomes for patients up to one year post referral to the CNDS.

Methods: This study involved a retrospective review of CNDS record cards. All patients (n=82) referred to CNDS requiring a domiciliary visit within the period (April-October 2011) were included. Outcome data from the initial dietetic intervention and up to 4 dietetic reviews in a 12 month follow-up period were included. Types of dietetic interventions used have been described elsewhere².

Results: At the initial dietitian assessment patients' mean weight and body mass index (BMI) kg m⁻² were 55.5kg (±14.7kg) (n=65) and 21.3 kg m⁻² (±4.9 kg m⁻²) (n=62) respectively.

Table 1: Weight (kg) and Body Mass Index (BMI kg/m²) changes up to one year post referral to community dietetic service for patients at risk of malnutrition receiving a domiciliary service.

	N	3 Month Review	p Value*	N	6 Month Review	p Value*	N	9 Month Review	p Value*	N	12 Month Review	p Value*
Mean weight change	25	+1.4	0.02	29	+1.8	0.07	18	+0.5	0.56	13	+1.1	0.33
Mean BMI Change	23	+0.6	0.05	24	+0.7	0.11	16	+0.2	0.59	13	+0.6	0.26

*Paired t-test results of first assessment compare to individual review time points.

N=number of patients for which data was available, missing data at each time point due to dietitian unable to measure weight or height, or patient discharged or patient deceased.

Mean age of patients was 77.3 years (±13.2) (62% female, 38% male). Most common primary diagnoses were respiratory disease (17%), cancer (16%), and dementia (12%). Twelve months post referral 46% (38/82) patients were discharged, 21% (17/82) were deceased and 33% (27/82) remained under care of CNDS. Reasons for discharge included patient deemed no longer at nutritional risk (n=33), patient or family refused follow up (n=5).

Conclusion: Half of patients no longer at nutritional risk were successfully discharged from the CNDS at 12 months. The results demonstrate that the community dietetic intervention had the greatest impact in the first 3 months, with significant improvements in weight and BMI kg m⁻², these parameters appeared to plateau in subsequent follow up appointments for patients.

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It made a big difference' – Investigation of the patient experience of a community dietetic domiciliary service for patients at risk of malnutrition

Browne S¹, Flanagan-Rughaboer G², Glennon C²

1. SB Nutrition, Antogher Rd, Roscommon

2. Community Nutrition & Dietetic Service, HSE Dublin Mid-Leinster, Primary Care Unit, St. Loman's Hospital, Mullingar, Co. Westmeath.

Introduction: Early identification of patients at risk of malnutrition and onward referral to dietetic service is advocated in best practice guidelines¹. Patients who are housebound are not able to attend dietitian clinic appointments and require a domiciliary community dietetic service (CNDS). Data is lacking in relation to the patients experience of this type of service in the Irish setting.

Aim: To investigate patient experience and satisfaction with CNDS domiciliary service for patients at risk of malnutrition in Counties Laois, Offaly, Longford and Westmeath.

Methods: Ethical approval was granted by the research ethics committee of the HSE Dublin Mid-Leinster Area. A random sample of patients who were actively receiving a domiciliary service from the CNDS were contacted and invited to be interviewed by an independent dietitian researcher at their home. A semi-structured interview-assisted questionnaire was used. The interview was audio-recorded and later transcribed for content analysis.

Results: Out of 20 patients contacted by the researcher, 12 participants (4 male, 8 female) were available to take part in the study. In 2/10 cases carers were interviewed as a proxy for patients who had advanced dementia. Average age of patients was 79 years (Range 62-94 years).

All participants (n=12) could recall the last visit they had received from the community dietitian (CD). All were satisfied with the overall service provided and many commented that a domiciliary visit made them feel supported. In particular, participants felt listened to and commented on the CD's communication skills. *"The dietitian is very co-operative and very informative and concerned when she's here"*. The majority of patients (10/12) felt they needed the CNDS domiciliary service. Most participants could recall advice given by the CD however only half of those surveyed reported coping better with their diet (including supplement usage) after receiving the advice. *"I've become more aware what I should and should not do"*.

Seven out of 12 participants reported that they felt the CNDS service had improved their overall quality of life such as improved health, energy, and appetite.

Conclusion: The finding that all patients receiving a domiciliary service from the CNDS are satisfied with the service and assessment carried out by the dietitian is encouraging. However the results suggest that many patients requiring a domiciliary CNDS service still struggle with dietary changes to improve nutritional intake despite receiving dietary advice and oral nutritional supplements.

References: 1. Nutrition support in adults: oral nutritional support, enteral tube feeding, and parenteral nutrition (2006). London, National Institute for Health and Clinical Excellence (NICE).

Phase 1 implementation of nutrition screening in a Dublin acute teaching hospital

C. O'Hanlon On Behalf Of The Nutrition Screening Steering Group Beaumont Hospital, Beaumont Hospital, Dublin

Introduction: Nutrition Screening Week results from 2010 and 2011 highlighted that one in 3-4 patients admitted to Irish hospitals are at risk of disease-related malnutrition. Disease-related malnutrition is associated with poorer outcomes. Healthcare costs associated with malnutrition in Ireland have been estimated to be 1.42 billion euro per annum. National nutrition screening in hospitals is recommended by IrSPEN (Irish Society for Clinical Nutrition and Metabolism) and the INDI (Irish Nutrition and Dietetic Institute). The Department of Health and Children recommend the use of the Malnutrition Universal Screening Tool (MUST) in Irish Hospitals since 2009.

Aim:

1. To introduce MUST on one medical and one surgical ward.
2. To determine impact on average length of hospital stay (ALOS) as the primary outcome.
3. Secondary outcomes: dietetic activity levels, use of nutritional products, nursing feedback.

Methods: A multidisciplinary Nutrition Screening Steering Group was set up to oversee the project, and organised:

- Approval and support from Hospital Committees and Executives.
- MUST training, development of screening and audit tools, equipment, extra snacks for patients at risk.
- Setting up an audit subgroup and involving a medical student.

Intervention period: July to December 2013.

Results:

- The medical ward (87% MUST compliant) showed 3 day reduction in ALOS comparing the intervention period to the first 6 months of 2013.
- The surgical ward (29% MUST compliant) showed a 1.55 day reduction in ALOS.
- Hospital-wide reduction in ALOS was 0.79 days over the same period.
- Financial Implications: Reduced ALOS translates to a potential saving of up to 1550 to 3000 euro per patient (using 1000 euro per bed day). Reducing the need for opening extra capacity in the Emergency Department could save 71,000 euro per week.
- Secondary outcomes: Extra referrals were received by the Department of Nutrition and Dietetics, but activity remained similar (secondary to workload prioritization). Nutritional product costs increased on the surgical ward, but remained similar on the medical ward. Nurses found training and information provided useful. Nurses perceived MUST to be relatively time-consuming.

Conclusion: Introduction of MUST was associated with reduced ALOS on both intervention wards. This was more significant on the ward with better compliance. The nutrition screening wards both had ALOS reductions in excess of the hospital average. Several Patient Flow initiatives, in co-operation with hospital clinicians, took place in 2013 that impacted on ALOS. Initiatives were cross-hospital, rather than ward-specific. MUST appears to be feasible for implementation in this hospital. Phase 2 involves rolling out nutrition screening hospital-wide.

An Irish perspective on a weighty issue: obesity post liver transplantation

Regina McCabe¹, Elgaily Elrayah²

1. Department of Nutrition and Dietetics

2. Hepatology Department, St. Vincent's University Hospital, Dublin 4, Ireland

Introduction: Patients with chronic liver disease are often malnourished prior to Orthotopic Liver Transplantation (OLT). However, after liver transplantation, the majority of patients gain a significant amount of weight, increasing their risk of developing diabetes, hypertension, cardiovascular disease. Obesity can also increase their risk of developing renal impairment, prohibiting the use of tacrolimus and cyclosporin.

Aim: To investigate the prevalence of obesity in patients after OLT in St. Vincent's University Hospital.

Method: Healthcare records of patients transplanted in 2009 and 2010 were reviewed, looking at age, gender, diagnosis, date of liver transplant, weight pre liver transplant and weight at 1 month post OLT, at 3, 6, 12, 24 and at 36 months as well as the duration on prednisolone.

Results:

Table 1 outlines the changes in BMI across the 3 years post liver transplant

BMI post OLT				
Classification	Underweight (<20 kg/m ²)	Optimal (20-25 kg/m ²)	Overweight (25-30 kg/m ²)	Obese (>= 30 kg/m ²)
Immediately post OLT n=56	10 (17.9%)	25 (44.6%)	14 (25%)	7 (12.5%)
At 6 months n= 48	1 (2%)	20(41.7%)	16 (33.3%)	11(23%)
At 1 year n= 39	2 (5%)	13 (33.3%)	12 (30.85%)	12(30.85%)
At 2 years n= 35	2 (3.6%)	11 (31.4%)	13 (37.2%)	9 (25.7%)
At 3 years n=37	2 (5.4%)	10 (27%)	13 (35.2%)	12 (32.4%)

Overall 32% of patients became obese and 68% of patients became overweight or obese by 3 years, compared with only 12.5% and 37.5% respectively in the immediate period post OLT. Interestingly, the most rapid weight increase occurred within the first six months followed by the time period between 1-2 years ($p=0.017$). Of those who were not obese immediately post OLT, 20% became obese at 1 year post OLT and 29.4% at 3 years. Patients who remained on prednisolone at 1 year post OLT had higher weight gain in 1 year than patients who were not on prednisolone at 1 year (9.82kg vs 6.1kg).

Conclusion: Obesity is prevalent post liver transplant, the majority of weight gain occurs within the first 6 months. Greater and more effective efforts are needed by the Liver MDT to improve a patients' awareness of their BMI and benefits of weight loss and healthy lifestyle changes.

Nutritional status and prevalence of nutrition/dietetic problems in orthopaedic patients in St. Vincent's University Hospital

J. Kelly^{1,2}, N. Bates³, G. Guiry³, C. Corish^{1,2}

1. Dublin Institute of Technology

2. Trinity College Dublin

3. Department of Nutrition and Dietetics, St. Vincent's University Hospital

Introduction: Orthopaedic patients have been previously reported to be at risk of malnutrition and its associated complications, such as infection and pressure sores.

Aim: The aim of this study was to investigate the nutritional status and prevalence of nutrition and dietetic problems in orthopaedic patients in St. Vincent's University Hospital, Dublin.

Methods: Nutritional assessment was undertaken on consenting inpatients > 65 years admitted to an orthopaedic ward over a 3-week period in June 2014. The assessment included weight, ulna length, BMI, triceps skinfold thickness, mid-arm muscle circumference, handgrip strength, biochemical markers, clinical information (specifically Waterlow pressure sore score, MUST score, mobility and surgical procedure) and dietary intake (24 hour recall). Statistical analysis was performed on Microsoft Excel and IBM software application SPSS version 20.

Results: Thirty patients (16 male, 14 female, mean age 80 years) were assessed. Sixteen patients were admitted after a fall; hip surgery was the most frequently performed procedure (n=14). Four patients were underweight (BMI < 20 kg/m²). Six patients were deemed to be at high risk of malnutrition, using the MUST screening tool. The average percentage of energy requirements achieved from diet and ONS was 61% (range: 27-123%; mean daily energy deficit 674 kcal (SD 410)) and for protein was 72% (range: 25-157%). This did not vary significantly by gender, age (65-74; 55-84; 85+) or BMI (under-, normal, overweight or obese) categories, or by MUST or pressure sore score, mobility or surgical procedure. Patients taking ONS (n=5) had significantly higher energy and protein intakes than patients not taking ONS (mean energy intake 92% vs. 55%, p=0.0001; mean protein intake 100% vs. 66%, p=0.021). BMI and pressure sore scores (n=25) were found to have an inverse relationship (r=-0.41, p<0.05). The median time for MUST screening after admission was 1 day (range 0 to 54 days). Poor appetite, inadequate hospital meal portion sizes and mealtime distractions were identified as the specific dietetic problems in these orthopaedic patients.

Conclusion: Orthopaedic patients in St. Vincent's University Hospital, Dublin are at risk of malnutrition, regardless of BMI. Patients taking ONS were more likely to meet their nutritional requirements. Patients with a lower BMI were more likely to have a higher pressure sore score. MUST screening practice was inconsistent. Recommendations have been devised around catering, staff education, weight monitoring, malnutrition, ONS and further research.

People with dementia and their nutritional status in an Irish population

M. McKeon¹, M. McDonnell-Naugton², C. Glennon¹, G. Flanagan-Rugaboer¹, S. Faherty²

1. Community Nutrition & Dietetics Service, Health Service Executive Dublin Mid-Leinster, Republic of Ireland

2. Department of Nursing and Health Science, Athlone Institute of Technology, Republic of Ireland

Background: Currently, there is estimated to be over 41,000 people in Ireland with dementia (Cahill et al, 2012). In twenty years, this number is predicted to double, and treble in thirty years (EuroCoDe, 2009; Cahill et al, 2012). Malnutrition is recognised as a major issue affecting people with dementia. (Chang, 2011). Behavioural difficulties at mealtimes have been identified as one factor which may contribute to weight loss and poor nutritional status (Chang, 2011).

Aim: The aim of this study was to examine whether behavioural problems at mealtimes increased the risk of malnutrition among individuals with dementia.

Objectives: To record demographic information, measure nutritional status, identify and measure the occurrence of behavioural problems at mealtimes.

Methodology: Nutritional risk was measured using both the Malnutrition Universal Screening Tool (MUST) and the Mini Nutrition Assessment Short form (MNA-SF). The Edinburg feeding and evaluation questionnaire (Ed FED-Q) was used to categorise and measure behavioural problems at mealtimes.

Results: The Ed FED-Q was found to be significantly correlated with both the MUST and the MNA categories of nutritional risk ($P < 0.01$). Twenty-eight (80%) out of the 35 participants who were categorised at high risk of malnutrition according to the MUST had an Ed FED-Q score of > 10 . A negative linear relationship between the MNA and the Ed FED-Q ($r = -.706$, $P < 0.01$).

Conclusion: The results suggest that there is an important relationship between behavioural problems at mealtimes and risk of malnutrition among people with dementia which should be considered when planning nutritional care interventions for this group.

Actual versus instructed patient fasting practices: An audit of compliance with local guidelines

K Boland¹, P Boland², C Murray², GA Doherty¹

1. Centre for Colorectal Disease, St. Vincent's University Hospital, Elm Park, Dublin 4

2. School of Medicine and Medical Science, University College Dublin, Elm Park, Dublin 4

Introduction: There is a lack of consistency between actual and instructed fasting times which may lead to inadequate or prolonged fasting. This is associated with patient discomfort and adverse effects through insulin resistance and induction of the acute-phase inflammatory response, evidenced by higher CRP levels¹. The previous tradition of an npo after midnight order has been challenged and is no longer universally recommended.

Aim: We audited compliance with patient information leaflets within our department.

Methods: A prospective audit of adult patients attending the endoscopy department of a tertiary hospital was carried out over 5 non-consecutive days. We devised a questionnaire recording patient demographics and procedure type, time of admission, procedure and time to next meal. Questions put to patients included their understanding of why fasting was necessary, from when to fast, last solids taken and time of pre-fasting meals, drinks and medications.

Results: 101 patients were consented including 42 men. The median age was 61 years. The median time from admission to procedure was 1 h (0.25-3). Excluding patients with prescribed prolonged fasting, the median time until next meal was 1.5 h (0.5-8). 17 patients were noncompliant with recommended fasting times for solids. 12/17 misunderstood the patient information, 1 did not read provided documentation, and 4 inpatients received inaccurate verbal guidance. 18/101 patients were inpatients. 4/8 inpatients having OGDs were fasted excessively. The fasting times for patients awaiting colonoscopy were variable and not consistently aligned with instructions. The median time from last solids was 25 h (11-42) and from fluids was 12.5 h (3.5-29). 12/41 colonoscopy patients were noncompliant with a low-residue diet, potentially limiting quality of endoscopy. Patients are given clear advice on continuation of certain medications. 36 patients were prescribed these medications and 10 stopped these unnecessarily. 9 patients did so without seeking advice, and 1 patient did so as advised by his GP.

Conclusion: Patient comprehension and recall may limit adherence leading to prolonged or abbreviated fasting times despite patients reporting understanding of fasting practices in question. Patients are currently questioned on last meal and fluids to minimise risk of aspiration. Prolonged fasting from solids and particularly fluids may be associated with a negative experience and adverse events. Giving inpatients written information on procedures should be considered alongside re-educating staff to avoid prolonged npo orders and improve patient comfort. Reiterating guidance on continuation of medications in the patient appointment letter may also attenuate consequent adverse events.

References: 1. Perrone F, da-Silva-Filho A, Adorno I, et al. Effects of preoperative feeding with a whey protein plus carbohydrate drink on the acute phase response and insulin resistance. A randomized trial. *Nutrition Journal* 2011;10(1):66.

An audit of the meal time service and care in a large Dublin teaching hospital

G. Corrigan, N. Connolly, O. Deeney, E. Fanning, H. Guiden, R. Hannon, C. O'Hanlon, K. McElligott, S. McMahon, C. Moreau, A. Shaw, M. O'Donoghue, C. O'Neill, Beaumont Hospital, Dublin 9

Introduction: Auditing of meal time service and delivery is crucial in ensuring the provision of effective nutritional care, and helps to identify areas where improvements in meal delivery can be made.

Aim: To evaluate the meal service in Beaumont Hospital including duration of meal times, comparison of meals ordered to those received and provision of assistance at meal times. We sought to identify any barriers and areas for development around meal service to improve the nutritional care of patients admitted to the hospital.

Methods: An audit form was developed by the dietetic department. An observational audit was conducted by 14 dietitians across 3 meals for one day over 7 different wards.

Results (Table 1): A total of 203 patients were included in the audit, with 484 meals delivered on 7 wards. The effect on oral intake from meal interruptions was neutral on most occasions. The average time from meal trolley arrival to delivery of last tray was 23.1 minutes (Range 7-55 minutes). Breakfast was the most delayed meal (Average time 36.7 minutes, Range 22-55 minutes) due to nursing handover and timing of meal arrival to ward.

Table 1: Results

	Requiring assistance	Received assistance	Received wrong meal ± portion	Received extra food that had been ordered	>50% food wastage	Provided with minimum time for meals (>30 mins)
No. Of Patient Meals	118	99	93	13	96	484
% of Total Meals Served	24%	20%	19%	65%*	20%	100%

*% of those that ordered extra food (n=20)

84% of patients received the required assistance. All patients received at least 30 minutes to eat each meal. 19% of meals served were not as ordered / extra orders were omitted, with 46% of this error being at the evening meal. This was heavily attributed to the omission of a high calorie dessert in 53% of the evening meals delivered. 51% of milk orders were not received, despite its availability on all 7 wards.

Conclusion: The audit highlighted the need for improved meal time care, including protection of meal times, with focused staff support and increased delivery of snacks and milk. Reconfiguration of meals may optimise meal consumption and reduce wastage. Ongoing audit of the food delivery service is planned.

Impact of body composition parameters on clinical outcomes in patients with metastatic castrate-resistant prostate cancer treated with docetaxel

SJ Cushen¹, DG Power², KP Murphy³, R McDermott⁴, M Lim⁴, BT Griffin⁵, L Daly¹, P McEneaney⁶, K O'Sullivan⁷, AM Ryan¹

1. Dept of Food & Nutritional Sciences, University College Cork

2. Dept of Medical Oncology, Mercy & Cork University Hospitals, Cork

3. Dept of Radiology, Cork University Hospital, Cork

4. Dept of Medical Oncology, St. Vincent's University Hospital, Dublin

5. School of Pharmacy, University College Cork

6. Dept of Radiology, Mercy University Hospital, Cork

7. Dept of Statistics, University College Cork

Introduction: Patients with loss of fat free mass are prone to dose limiting toxicity during chemotherapy.

Aim: Our aim was to investigate if body composition, by computed tomography (CT), predicted DLT from docetaxel chemotherapy in patients with metastatic castrate resistant prostate cancer (mCRPC).

Methods: Patients with mCRPC, who were treated with docetaxel were included. Skeletal muscle cross-sectional area at L3 was measured by CT. Sarcopenia was defined using published cut-offs. Toxicity profile was assessed after 3 cycles of the drug and graded according to the National Cancer Institute Common Toxicity Criteria (version 4).

Results: Overall 63 patients, mean age 69 years (SD 8.3 years), were included. Sarcopenia was present in 71.4% (n=45) and of these 31 (68.8%) were both sarcopenic and overweight or obese. Common toxicities (all grades) observed included fatigue (80.9%), pain (46%), and constipation (34.9%). Neutropenia and neurosensory toxicities (grade I-II) were significantly more frequent in sarcopenic patients than in non-sarcopenic patients (16.7% vs. 0% $P=0.012$; 32.1% vs. 11.8% $P=0.011$). On multivariate analysis, body mass index (BMI) was predictive of survival, (BMI < 25kg/m² HR:2.02 [95% CI:1.03 -3.98] $P=0.042$).

Conclusions: Sarcopenia is highly prevalent in patients with mCRPC receiving docetaxel (71%) but is masked by excessive adiposity. Very low skeletal muscle mass is associated with less treatment days and increased neurologic and haematologic toxicities.

Good nutrition for cancer recovery: creating a nutritional resource to address involuntary weight loss in oncology patients

É Ní Bhuachalla¹, DG Power², A O'Connor³, F Dwyer¹, E O' Sullivan⁴, S Cushen¹, J Healy³, AM Ryan¹

1. Dept. Food and Nutritional Sciences, University College Cork, Cork, Ireland

2. Department of Medical Oncology, Mercy & Cork University Hospitals, Cork, Ireland

3. Dept. Tourism and Hospitality, Cork Institute of Technology, Cork, Ireland

4. Breakthrough Cancer Research, Cork, Ireland

Introduction: Cancer-induced weight loss (CIWL), a debilitating condition that affects 31%-87% of cancer patients, is now recognised to be a negative prognostic indicator for a range of malignancies. Although intensive dietetic intervention has been shown to play a beneficial role in weight stabilisation, one-to-one dietetic counselling is not available for all patients. In addition, no Irish resource exists that provides patients and carers with understandable and reliable nutritional information to help attenuate the effects of CIWL.

Aim: To create a nutritional resource for those experiencing CIWL, that translates clinical nutrition recommendations into simple, accessible information and nutritious recipes that have the appropriate nutritional composition.

Methods: Energy and protein targets were established using nutrition recommendations for nutritionally vulnerable patients. High-protein, high-calorie recipe guidelines reflecting these targets were developed and distributed to all members of the Irish Nutrition and Dietetic Institute, specialist oncology dietitians and nurses, as well as professional chefs from across Ireland. An outreach campaign seeking recipes from patients was launched nationwide. Recipes gathered were analysed using WISP software and professional chefs were consulted in order to optimise the nutritional composition of meals.

Results: A 130-page resource containing information, advice and a bank of nourishing recipes was compiled. A total of 120 recipes were received with 52 of the most appropriate recipes selected for inclusion. Of those chosen, 73% required modification by the research dietitian and chef in order to meet nutritional targets. Recipes were fortified with high-protein, high-calorie additions and portion sizes were adjusted to ensure meals were small in volume. All recipes included now comply with the energy and protein goals set for nutritionally vulnerable patients.

Conclusions: Creation of meals that are small in volume but nutritionally concentrated assists anorectic patients in the challenging task of meeting their nutritional requirements. Nineteen thousand copies of this resource have been printed and distributed to oncology centres nationwide in order to disseminate this knowledge to cancer patients.

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