DEPARTMENT OF MICROBIOLOGY

teagasc
Agriculture and Food Development Authority

ucc
Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

ELDERMET
-Your chance to help the elderly be healthier!

The elderly population is a dynamic one, growing rapidly thanks to advances in both science and medicine, resulting in dramatic increases in life expectancy. Ensuring that the elderly population continues to experience the benefits of a healthy gut microflora may be a key contributor to ensuring a healthy ageing lifestyle. The bacteria that live in your gut help to protect your health by playing a variety of important roles, from interacting with your food during digestion, to influencing your immune system. It is widely accepted that the bacterial residents of the gut (intestinal microbiota) are fundamental for maintenance of host health. In fact, the human intestinal tract is home to 2 Kg of bacterial cells (harbouring an estimated 1,000 species). Relatively little, however, is known about how diet and lifestyle influence, and are influenced by, the bacteria in your gut.

Dr Paul O'Toole is the lead researcher of the new ELDERMET project that is aiming to answer that very question. ELDERMET sees Paul joining forces with a large group of researchers from the APC, Teagasc, UCC and clinicians from local Cork hospitals. Paul will employ cutting edge sequencing technology to determine the composition of the gut flora in the elderly population. ELDERMET will provide answers to basic questions about how gut bacteria differ between people, between older and younger people and the change in gut bacteria over time. The project will unlock the connection between diet, lifestyle, gut bacteria and health. The knowledge gained from ELDERMET will not only influence the foods eaten by older people, but will also promote health by shaping the design of 'functional foods' produced specifically for the older age-group.

For ELDERMET to work, we need help! We are recruiting 500 people who will help to answer important scientific questions leading to the establishment of dietary strategies for the elderly Irish population, which will ultimately result in a healthier population dynamic. If you or someone you know is over 65 years and would like more information on how to be part of ELDERMET, please contact: Dr Siobhán Cusack at: 021 490 1754 or s.cusack@ucc.ie

APC
Alimentary Pharmabiotic Centre
Interfacing Food and Medicine

Yakult

The Alimentary Pharmabiotic Centre (APC) in association with Yakult

IRRITABLE BOWEL SYNDROME OPEN DAY

Chaired by **Professor Eamonn Quigley**,
Alimentary Pharmabiotic Centre,
National University of Ireland, Cork;
Consultant Gastroenterologist,
Cork University Hospital and President, World Gastroenterology Organisation

Brookfield Health Sciences Complex
Lecture Theatre G01
College Road, University College Cork
Saturday, 14 June 2008, 2pm-4pm.

Admission Free
Everyone Welcome

See http://apc.ucc.ie for more details

IF YOU WOULD LIKE TO RECEIVE FUTURE COPIES OF INSIDEOUT, OR HAVE ANY COMMENTS, PLEASE CONTACT
Andrea Doolan. Alimentary Pharmabiotic Centre, BioSciences Institute, University College Cork, Ireland
Email: apc@ucc.ie http://apc.ucc.ie

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InsideOut

Welcome *to our first newsletter of 2008 for patients and the medical community. Our newsletter is intended to give an overview of some of the research being performed within the APC, and issues relating to gastro-intestinal health in general.*

Did you know that over consumption of foods high in fat and sugar can increase the risk of health problems such as Type 2 diabetes? Type 2 diabetes is on the rise in Ireland, fueled largely by the current obesity epidemic. There's no cure for type 2 diabetes, but there's plenty you can do to manage - or prevent - the condition. Dr James Ryan has written an interesting article on Type 2 diabetes for this issue of InsideOut.

A profile of nurse Ann O'Neill, Department of Medicine, Cork University Hospital is also included in this newsletter. Information on an exciting new Project 'ELDERMET' relevant to the elderly population and the announcement of a new Clinical Research Centre are also documented.

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NDP
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Childhood Obesity and Heart Disease – The Facts

Dr James Ryan, Specialist Registrar in Endocrinology & Diabetes Mellitus, BioSciences Institute, UCC and Endocrine Department, CUH

It's hard to pick up a newspaper or magazine these days without seeing an article decrying the rise in obesity levels in children. The big question is what health consequences will the future hold for our children and what is our role as adults and parents?

Let's look at some recently published scientific papers and attempt to glean some important messages for ourselves, both locally and globally.

A study on teens' diets, carried out in UCC (under the direction of Professor Albert Flynn) and UCD which surveyed 450 teenagers aged 13-17 years from secondary schools throughout Ireland was published in January 2008. Key findings included:

- Low intakes of fruit and vegetables
- Four out of five teenagers are not getting enough dietary fibre
- Daily salt & fat intake is higher than recommended - over 50% of teenagers exceed recommendations
- Since 1990 the prevalence of overweight and obesity combined has increased from 6% to 19% in boys and from 15% to 17% in girls

In the New England Journal of Medicine (NEJM) December 2007, a Danish study of 250,000 children, revealed that raised body-mass index (a marker of obesity) in childhood was associated with coronary heart disease (CHD) events in adulthood. The association was stronger in boys than in girls, and the risk of an event in adulthood increased in both sexes as the child's age increased from 7 to 13 years. These findings suggest that as children are becoming heavier worldwide, greater numbers of them are at risk of having CHD in adulthood.

In 1997, another study in NEJM linked parental and offspring obesity – with both parents non-obese a child has only a 7% chance of developing obesity. If one parent is obese the risk of developing obesity is increased to 40% and that risk doubles to 80% if both parents are obese. While there are genetic causes of obesity, these constitute a tiny percentage of cases.

Obesity in childhood is linked with psychosocial problems such as depression, as well as medical problems such as insulin resistance and Type 2 Diabetes. We now know it increases the risk of coronary heart disease in adulthood. We need to set an example by ensuring our lifestyle and diets improve in order to facilitate a healthier environment for our children.

New Clinical Research Centre, Cork University Hospital

The recent award, by the Health Research Board, to UCC, of a multi-million Euro grant towards the establishment of a New Clinical Research Centre at Cork University Hospital represents a major boost to clinical research programme at the APC, as well as to all involved in clinical research in the area. This facility, which will be developed and administered to international standards appropriate for the conduct of clinical research, will permit the performance of high quality clinical research in Cork through the provision of customised facilities, dedicated research staff and appropriate statistical, IT and trial design support.

Professor Eamonn Quigley, APC said "The provision of a Facility of this standard has become an essential component of high quality research programmes worldwide; the Cork Centre will permit the translation of progress in laboratory research by Irish scientists to the bedside."

Pictured from left to right: Professor Eamonn Quigley, APC, Dr Michael Murphy, President, UCC and Tony McNamara, General Manager, Cork University Hospital Group

Ann O'Neill

Ann joined the APC in 2007 and is working as a Research Nurse with the Gastroenterology Team under the guidance of Professor Fergus Shanahan and Professor Eamonn Quigley, based in the Department of Medicine CUH.

She is currently collecting data on patients with IBS (irritable bowel syndrome). This research project is being carried out by using symptom and health questionnaires, medical history and blood tests on patients who attend the GI Outpatient Department. The aim of this project is to collect as much data as possible to help medical researchers study the nature of this condition and attempt to develop improved methods of diagnosis and treatment of IBS. This is a very debilitating condition for a lot of the patients.

Ann is very friendly and approachable, enjoys the new challenge, especially meeting the patients, and with her widespread knowledge and understanding provides useful and relevant information/resources to help patients cope with their symptoms and improve their quality of life.

Ann is also helping other researchers collect data for their projects within the APC/BioSciences Institute.

Ann qualified as a SRN followed by an Intensive Care Certificate course in London where she gained vast experience in many fields of medicine. Having worked as a Sister in critical/cardiac care for many years both in Cork and London, she started to work as Research Nurse in Circulatory Health 15 years ago and has worked on many pharmaceutical company sponsored research projects. Ann worked in a busy Hypertension Clinic in London as Nurse Specialist gaining great experience dealing with patients who needed to implement lifestyle changes to improve their health and reduce the risks of developing chronic disease.

In recent years Ann has been working in a Clinical Research Organisation in Cork where various trials including Overactive Bladder, Smoking Cessation and Constipation were carried out. Some bioavailability studies were carried out with healthy volunteers who had full medical screening prior to participating, and monitoring during the trials.

Ann is looking forward to the challenge of participating in other areas of research for IBS and IBD (inflammatory bowel disease).

In her spare time Ann enjoys music, social ballroom dancing, walking and reading.