CNRC

Children's Nutrition Research Centre

Brisbane, Australia

World class research into children's nutrition

The University Of Queensland
AUSTRALIA

Royal Children's Hospital Foundation

Mission

To improve the health of children and young people through scientific research and education of the highest international standard in the field of nutrition.

Vision

To be a research centre of excellence and international standing in the field of paediatric nutrition and dietetics for the benefit of the children and young people of Queensland and the wider national and international communities.

Our Research

World Class Research into Children's Nutrition

The Children's Nutrition Research Centre (CNRC) research is driven by the need for information relating to the role of diet and nutrition in childhood growth and development, both in health and disease. The CNRC has three areas of expertise: basic science, clinical nutrition research, and public health nutrition. Our key research themes are:

Gastroenterology
(including inflammatory bowel disease, food allergy, supplemental feeding and water absorption)

Oncology
(including body composition, dietary intervention and energy balance)

Infant feeding
(including feeding practices and growth, pre- and probiotics, and feeding problems)

Growth, Developmental and Body Composition
(including growth evaluation, body composition, growth and growth disorders)

Nutrition and genetics
(including growth potential, genetic risk, ethnic differences and genetic profile)

Obesity
(including dietary intervention, body composition assessment and metabolic studies)

About us

The Children's Nutrition Research Centre (CNRC) was established in 1991 by The University of Queensland and the Royal Children's Hospital in Brisbane. It is one of Australia's leading paediatric nutrition centres with an international reputation for research achievement.

The Centre undertakes cutting edge scientific research to improve the nutritional health of children and young people. Particularly renowned are its studies in growth and development, body composition and energy metabolism.

The CNRC consists of an internationally acclaimed Director, highly skilled and award winning postdoctoral researchers and postgraduate students; all of whom are supported by experienced and motivated administrative staff.

The Centre funds and maintains one of the world's best equipped Body Composition Laboratories. It has a wide range of state-of-the-art equipment for non-invasively assessing body composition in health and disease. The laboratory supports clinicians in Queensland hospitals and outpatient clinics, providing the equipment and expertise necessary to run tests and interpret results.

The CNRC is committed to providing professional training and development. Training sessions (including conferences, seminars, workshops and quarterly Neonatal and Infant Therapy Interest Group videoconferences) are held annually to provide health professionals with the latest updates in child nutrition research and clinical practice. Several hundred health professionals benefit each year through our professional training activities.

Mentoring Honours, PhD and MPhil students is an important part of the Centre's mission. Students have the opportunity to learn and benefit from the internationally recognised expertise within the CNRC and collaborate with other high level research groups throughout the world.

The Centre's expertise in children's nutrition is recognised worldwide by government and non-government organisations, for example, staff and students have offered advice to, and served on, many committees and groups such as the National Health and Medical Research Council (NHMRC), Nutrition Society of Australia and Food Standards Australia New Zealand.

Our achievements

CNRC researchers are at the forefront of advancing paediatric nutrition knowledge in Australia and overseas. Eg. The CNRC has contributed to the review of the NHMRC Dietary Guidelines, the update of Australian clinical growth charts, as well as recommendations on feeding practice in preterm infants.

CNRC research has influenced world-wide change in clinicians' attitudes and practice in paediatric nutrition and described new techniques for body composition and energy expenditure assessment. Eg. CNRC researchers developed new equations to predict basic energy requirements for children on life support after an acquired brain injury. The CNRC also validated new pieces of equipment to assess body fat content in conditions such as anorexia, cystic fibrosis and childhood cancer. The best possible results are achieved using such state-of-the-art equipment.

High on our list of achievements is the support and training given to a significant number of high class postgraduate students, many of whom are now contributing to the science of paediatric nutrition in their own right, both locally and internationally.

To date, the CNRC has produced over 300 publications. The American Journal of Clinical Nutrition, the British Journal of Nutrition and the European Journal of Clinical Nutrition are just some of the high impact journals that have published our research. CNRC senior researchers are members of a number of editorial boards and regularly review international journal manuscripts.

Since 1991, the centre has secured more than $12 million in competitive funding to support CNRC research. Eg. The NHMRC funds CNRC work in growth and development of children with cerebral palsy, the ARC funded research into nutrition and appetite in children and young adults, and Queensland Health funded the Healthy Kids Queensland survey.

REE - measuring metabolic rate

Body Composition Laboratory

The CNRC houses one of the world's best equipped Body Composition Laboratories with a wide range of state-of-the-art equipment for non-invasively assessing body composition in health and disease.

The purpose of the Body Composition Laboratory is to conduct research in the area of body composition, and to undertake measurements of body composition and energy metabolism to monitor growth, nutritional status, rehabilitation, and energy requirements in a variety of clinical conditions.

Common clinical conditions referred to the Laboratory are: cancer, eating disorders, obesity, bone marrow transplants, head and spinal injuries, cerebral palsy, inflammatory bowel disease and cystic fibrosis.

Doctors and dietitians can refer patients to the body composition laboratory. Contact 07 3636 8311 or email cnrc@uq.edu.au

Bod Pod - measuring percentage body fat

TBK - measuring body cell mass

Research making a difference - Tamika's story

Eight-year-old Tamika has been diagnosed with Leukaemia. Unfortunately chemotherapy hasn't worked for Tamika and she needs a bone marrow transplant. Tamika visits the Body Composition Laboratory for a Total Body Potassium (TBK) measurement and a Resting Energy Expenditure (REE) assessment before undergoing the transplant. The TBK test will determine Tamika's nutritional status before undergoing the transplant and determine whether any treatment is needed to boost her nutritional status, which will give Tamika's body the best chance of a successful transplant. The REE test will help dietitians plan the nutritional treatment that Tamika needs to prepare for transplant and help her recover after the transplant. Early stage CNRC research shows children with good nutritional status before transplant, and appropriate nutritional support throughout treatment, have better bone marrow transplant outcomes.

Why Nutrition Research is so important

Adequate and optimal nutrition is vital for growth, development and wellbeing in all children. In disease, nutrition and nutritional status are linked with disease progression and therefore morbidity and mortality.

Appropriate nutrition is important for all children. From the extremes of overweight and obesity to the devastating effects of eating disorders and anorexia, these issues can impact dramatically on a child's health, quality of life, and education. Commonly, such nutritional complications in childhood can persist well into adult life.

Work with us!

The CNRC is keen to undertake collaborative work with other research bodies throughout Australia and overseas. To discuss opportunities for collaboration contact the CNRC Director on 07 3636 1981.

Interested in **postgraduate research** in the area of children's nutrition?

The Children's Nutrition Research Centre is looking to take on enthusiastic postgraduate students for honours, masters, and doctoral studies in the following key research themes: gastroenterology, including Inflammatory Bowel Disease; oncology; infant feeding; growth, development and body composition; nutrition and genetics; and obesity. For more information visit www.uq.edu.au/cnrc

You can help!

The CNRC is often seeking children under the age of 18 years to help with our studies. Research outcomes help develop and shape future clinical practices that may benefit the children of tomorrow. Visit our website www.uq.edu.au/cnrc to view our current studies and to see if you can be involved!

Donations

Did you know you can sponsor research or a student undertaking postgraduate studies?

By supporting the CNRC you will be playing a direct role in improving the nutritional health of children.

Funds received through donations, gifts and bequests will help CNRC stay at the cutting edge of research.

To find out more and to support the CNRC through donations, please contact us.

Donations over $2.00 are tax-deductible.

Contact us

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