



Reuters

A new sunsafe fashion statement for Australian beaches perhaps? In Qingdao, in the eastern China province of Shandong, women wear nylon masks to block the sun's rays. The mask is under mass production and is on sale at local swimwear shops.

From the CSIRO Preventative Health Flagship

Colorectal cancer: towards control by prevention

It is not technology that makes a difference, but rather how it is applied. Collaboration between CSIRO's Preventative Health Flagship, Flinders University, Clinical Genomics Pty Ltd, the Ludwig Institute for Cancer Research, and Melbourne and Adelaide Universities has provided a national platform for applying a multidisciplinary approach to the control of colorectal cancer (CRC) through prevention and early detection.

In early detection, the technological focus has been to move beyond faecal tests for CRC screening to next-generation molecular diagnostic tests. Ideally, such a test would be blood-based and detect the molecular signature associated with significant pre-invasive lesions (advanced adenomas) or early-stage cancer; targeting the former prevents cancer

and targeting the latter ensures its curability. At the Digestive Disease Week conference in the United States in May this year, we described the discovery of blood-borne methylated DNA sequences that reflect such a disease signature. In parallel, a promising panel of blood proteins has also been identified. Both molecular approaches are currently being tested in validation trials.

In exploring prevention through dietary interventions we have collectively focused upon "resistant" (ie, poorly digestible) starch because natural fermentation of resistant starch in the colon produces bioactive and genome-stabilising short-chain fatty acids. We have mapped the cellular pathways by which these simple molecules induce programmed cell death to support gut homeostasis, and we are working to identify the optimal

grain-food approach to capture this benefit for colonic health.

To improve health care, these technology solutions require consumer engagement. The collaboration has also shown ways to increase awareness about cancer prevention and early detection, and so increase participation in preventive programs such as, for example, the National Bowel Cancer Screening Program (NBCSP). We have also determined that the general public prefer a blood test to a faecal test, further supporting the likelihood of such technology becoming part of screening programs like the NBCSP.

This collaborative approach to early detection, intervention and advice to government and patients underpins the development of innovative solutions to a common killer cancer.

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News

Inactivity rivals smoking as cause of death

As millions around the world settle on their couches to watch elite athletes compete at the London Olympics, research has shown that physical inactivity is as lethal as obesity and smoking in increasing the risk of non-communicable diseases and premature mortality.

The study, published in a series on physical activity in *The Lancet*, estimated that, worldwide, physical inactivity caused 6% of the burden of disease from coronary heart disease, 7% of type 2 diabetes, 10% of breast cancer and 10% of colon cancer. According to the authors, inactivity causes 9% of premature mortality, which equates to more than 5.3 million of the 57 million total deaths in 2008. Another study published in the series also found that one in three adults and close to 80% of adolescents worldwide were at increased risk of disease as a result of physical inactivity. Australian, US, UK, Brazilian, Swiss and Danish researchers used self-reported data to compare patterns of physical activity in adults from 122 countries (covering 89% of the world's population) and adolescents from 105 countries. There were marked regional variations: 17% of adults in South-East Asia were inactive, compared with 43% in the Americas, 5% in Bangladesh and 72% in Malta.



As part of the series, Professor Adrian Bauman, from the University of Sydney, and colleagues reviewed evidence of why some people are more physically active than others. They found that research had focused more on individual factors in high-income countries, but questions about inactivity in low- and middle-income countries, which carry most of the world's burden of non-communicable disease, remained unanswered.

Lancet 2012; 18 July (online)

Vitamin adjunct improves treatment response in hepatitis C

Vitamin B₁₂ supplementation significantly improves sustained viral response (SVR) in people with chronic hepatitis C infection not yet treated with antiviral therapy, an Italian study has found. The randomised controlled trial of 94 patients naive to antiviral therapy found that addition of vitamin B₁₂ to the standard therapy of pegylated interferon- α and ribavirin improved the overall rate of SVR by 34% compared with standard therapy alone. The effect was pronounced in those with difficult-to-treat viral genotypes, such as hepatitis C virus genotype 1, and those with high baseline viral load. The researchers said that, until eligibility criteria for new generation hepatitis C virus antiviral drugs become well established, standard care plus vitamin B₁₂ supplementation was a "safe and inexpensive alternative to improve the rate of SVR in difficult-to-treat patients".

Gut 2012; doi:10.1136/gutjnl-2012-302344

Reasons more than skin deep

Psychosocial factors play a key role in skin examination behaviour, particularly in people with no history of melanoma, and should be considered as part of public education programs, a study conducted across three continents has found. The Melanoma Genetics Consortium's study of more than 8000 adults found that a number of factors, especially a personal or family history of melanoma, affected skin examination behaviour. Unsurprisingly, frequency of examination was higher in Australia than in the three European regions combined. As expected, participants with no history of melanoma reported the lowest levels of self-examination and clinical examination. Psychosocial factors linked with skin examination included perceptions about the benefits of screening and the personal risk of developing melanoma, and beliefs about the ability to identify suspect lesions.

Arch Dermatol 2012; 16 July (online)

MI risk spikes after hip and knee replacement

The risk of acute myocardial infarction (AMI) is substantially increased in the first 2 weeks after total hip or knee replacement surgery. A study of more than 95000 Danish patients found a 25-fold increased risk of AMI during the first 2 weeks after total hip replacement and 31-fold increased risk after total knee replacement surgery compared with matched controls. The risk of AMI fell sharply after this period but stayed significantly elevated until 6 weeks after hip replacement. An editorial in the same issue said the study confirmed there was increased cardiac risk during the perioperative period. It said physicians must not only identify the at-risk patient, but also use the "armamentarium of medical therapies" to prevent perioperative AMI and reduce cardiac deaths.

Arch Intern Med 2012; 23 July (online)

From the MJA archives

MJA 1959; 29 August (edited extract)

Out of the frypan

SIR: I have found that the Sunbeam electric frypan with a glass lid makes an excellent hot-air steriliser. The low initial cost of the frypan, plus its modest size compared with conventional sterilisers, makes it a very convenient unit for the general practitioner's surgery. A metal grid with feet approximately a quarter of an inch long should be placed in the frypan to prevent the material being sterilised from touching the bottom of

the pan. The grid also allows free circulation of air. A small thermometer is placed on the grid in such a manner that the scale may be read through the glass frypan cover. Satisfactory sterilisation is obtained by maintaining a temperature of 160°C for one hour.

Yours, etc,
RE Davis

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