August 15, 2011

System lets health providers better predict which obese patients are at risk for death – and which ones don't need to lose weight at all

Two large, independent studies confirm the Edmonton Obesity Staging System can better predict health risks for people living with excess weight – and suggest that health is not measured in pounds alone.

EDMONTON, AB – Health professionals can reliably predict an overweight or obese patient's risk for death – and even the degree to which they need to lose weight – thanks to a new classification system developed by University of Alberta researchers.

A study published today in the *Canadian Medical Association Journal* http://www.cmaj.ca/content/current found that higher Edmonton Obesity Staging System (EOSS) scores were a strong predictor of increased mortality in both the overall population and a subset of individuals considered eligible for bariatric surgery – independent of their body mass index, waist circumference or the presence of metabolic syndrome. Authors tested EOSS using data from a population-representative survey of 8,143 people in two U.S. National Health and Human Nutrition Examination Surveys (NHANES).

In another paper published online today in *Applied Physiology, Nutrition, and Metabolism* http://www.nrcresearchpress.com/doi/full/10.1139/h11-058, researchers led by York University's Dr. Jennifer Kuk categorized 6,000 obese Americans according to EOSS criteria, comparing their mortality risk to 23,000 lean individuals over a 16-year span. Obese individuals with no, or only mild, impairments were found to have the same mortality risk as lean individuals, and were less likely to die from cardiovascular causes. Interestingly, obese individuals who had no, or only mild, physical, psychological or physiological impairments had a higher body weight in early adulthood, were happier with that weight, and had attempted to lose weight less frequently during their lives. However, these individuals were also more likely to be physically active and consume a healthy diet.

The Edmonton Obesity Staging System (EOSS) is modeled on staging systems that classify the extent and severity of other diseases such as cancer, mental illness and heart disease. It offers five stages of obesity based upon both traditional physical measurements such as BMI and waist-to-hip ratio, plus clinical measurements that reflect medical conditions often caused or aggravated by obesity (such as diabetes, hypertension and heart disease).

The five-point scale clearly defines the spectrum of disease progression and severity. A patient at Stage 0, while obese, has no apparent obesity-related risk factors (e.g.., high blood pressure, cholesterol and/or glucose levels), no physical symptoms or functional limitations and no psychopathological systems. Higher stages (1 – 4) reflect the increased presence and severity of risk factors, comorbidities and functional limitations – along with the need for more intensive interventions, such as behavioural, pharmacological or surgical treatment options. Patients at Stage 4 have severe, potentially end-stage comorbidities and disabilities. At this stage, patients, likely require palliative measures including pain management, occupational therapy and psychosocial support.

"Body mass index, which is widely used to categorize and assess patients with obesity, only measures how big you are – not how sick you are," explains Canadian Obesity Network founder Dr. Arya M. Sharma, who first proposed the classification system and co-authored both papers. "The importance of EOSS is that it puts an emphasis on individualized treatment needs depending on how at-risk the patient is, not how much they weigh. With a single piece of paper, physicians can rapidly assess needs, and as importantly, prioritize treatment resources such as surgery."

Dr. David Allison of the University of Alabama at Birmingham (UAB), co-author of the *CMAJ* paper, adds that the researchers were gratified by the outcome. "The powerful predictability bodes well for the future use of this system. Most importantly, it shows that EOSS can lead to differential treatment outcomes," says Allison.

"Our findings challenge the idea that all obese individuals need to lose weight," Kuk, an Assistant Professor in York's School of Kinesiology & Health Science, explains. "It is possible that trying and failing to lose weight may be more detrimental than staying at an elevated body weight while engaging in a healthy lifestyle that includes physical activity and a balanced diet."

A summary of the EOSS tool can be downloaded here: http://www.obesitynetwork.ca/files/EOSS_4.pdf

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Padwal, RS, Pajewski, NM, Allison, DB, Sharma, AM. Using the Edmonton obesity staging system to predict mortality in a population-representative cohort of people with overweight and obesity. *CMAJ* 2011. DOI:10.1503/cmaj.110387.

Kuk JL, Ardern, CI, Church TS, Sharma AM, Padwal R, Sui X, Blair SN. Edmonton Obesity Staging System: association with weight history and mortality risk. *APNM*, 36(8), 570-576. DOI:10.1139/h11-058.

For more information, or to schedule interviews, contact:

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ATTENTION EDMONTON-BASED MEDIA:
Dr. Arya. M. Sharma will be available for interviews on Monday, August 15:
Li Ka Shing Centre for Health Research Innovation, University of Alberta
87 Ave. & 112 St.*
1:00 - 2:00 p.m. MST
Please meet media associate at the main entrance off 112 St.

About the Canadian Obesity Network – Réseau canadien en obésité (CON-RCO)
CON-RCO was founded in 2006 to link the research, policy and practice communities to advance the development and delivery of effective obesity prevention and treatment solutions. The network's core strategies focus on addressing the stigma associated with excess weight, changing the way policy makers and health professionals approach obesity, and improving access to prevention and treatment resources. Currently, more than 6,000 professionals in Canada are members of the network. CON-RCO is hosted by the University of Alberta, and is based at the Royal Alexandra Hospital in Edmonton, AB. www.obesitynetwork.ca

About NRC Research Press - Publisher of *Applied Physiology, Nutrition, and Metabolism*
NRC Research Press, previously the publishing arm of the National Research Council of Canada (NRC) since 1929, transitioned in September 2010 from NRC and the Federal Government of Canada into an independent not-for-profit organization operating under the new name Canadian Science Publishing. Canadian Science Publishing (which continues to operate under the brand NRC Research Press) is the foremost scientific publisher in

Canada and one of the most advanced electronic publishing services in the world. With over 50 highly skilled experts and an editorial team comprising some of the world's leading researchers, NRC Research Press (Canadian Science Publishing) communicates scientific discoveries to over 100 countries.