



TARGET

TECHNOLOGY ASSESSMENTS, REVIEWS, GUIDELINES & EVIDENCE-BASED TOPICS

TECHNOLOGY ASSESSMENTS & SYSTEMATIC REVIEWS

Interventions in people with impaired glucose tolerance

This systematic review and meta-analysis found that lifestyle and pharmacological interventions reduce the rate of progression to type 2 diabetes mellitus in people with impaired glucose tolerance. Lifestyle interventions (overall pooled hazard ratio 0.51, 95% CI 0.44–0.60) are as effective as drug treatment on the risk of developing type 2 diabetes mellitus. For pharmacological interventions, adverse effects need to be fully understood to enable potential harms and benefits to be assessed. Determining the best approach to intervention would depend not just on performance in trial settings but on issues not yet resolved (e.g. whether compliance can be maintained in practice).

Gillies CL, Abrams KR, Lambert PC, et al.

Pharmacological and lifestyle interventions to prevent or delay type 2 diabetes in people with impaired glucose tolerance: systematic review and meta-analysis. BMJ 2007; 334:299.

<http://www.bmj.com/cgi/content/full/334/7588/299>

Effectiveness of smoking cessation therapies

Smoking is the leading cause of preventable death in the world. However, smoking cessation is challenging and behavioural interventions have had only modest success. This systematic review evaluated pharmacological interventions to help smokers to stop smoking. The review found that Nicotine Replacement Therapy (NRT), bupropion and varenicline all provide therapeutic effects in assisting with smoking cessation.

Wu P, Wilson K, Dimoulas P, et al. Effectiveness of smoking cessation therapies: a systematic review and meta-analysis. BMC Public Health 2006; 6:300.

<http://www.biomedcentral.com/1471-2458/6/300>

Efficacy and comparative effectiveness of off-label use of atypical antipsychotics

Atypical antipsychotics (e.g. olanzapine, risperidone) have been approved by the U.S. Food and Drug Administration (FDA) for treatment of schizophrenia and bipolar disorder. They have also been used for off-label indications, such as treatment of behavioural problems in dementia, depression, obsessive-compulsive disorder, posttraumatic stress disorder, personality disorders and

Tourette's syndrome. This systematic review found that, with few exceptions, there was insufficient high-grade evidence to reach conclusions about the efficacy of atypical antipsychotic medications for any of the off-label indications. More head-to-head trials comparing atypical antipsychotics are needed for off-label indications other than dementia.

Shekelle P, Maglione M, Bagley S, et al. Comparative effectiveness of off-label use of atypical antipsychotics.

Comparative Effectiveness Review No. 6. Rockville, MD: Agency for Healthcare Research and Quality, January 2007.

http://effectivehealthcare.ahrq.gov/repFiles/Atypical_Antipsychotics_Final_Report.pdf

GUIDELINES

Global Initiative for Chronic Obstructive Lung Disease (GOLD): Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease

The Global Initiative for Obstructive Lung Disease (GOLD) has recently revised their guidelines on chronic obstructive pulmonary disease. The revised guidelines incorporate new evidence since the publication of the guidelines in 2001. The objective is to provide healthcare workers, healthcare authorities and the general public with state-of-the-art information about chronic obstructive pulmonary disease and specific recommendations on the most appropriate management and prevention strategies.

GOLD guidelines <http://www.goldcopd.org/download.asp?intId=379>

Ministry of Health Clinical Practice Guidelines: Chronic Obstructive Pulmonary Disease

The Ministry of Health's (MOH) guidelines on chronic obstructive pulmonary disease take reference from the GOLD guidelines and contain recommendations on classification, evaluation, treatment and monitoring of the disease. Topics like management of acute exacerbations, air travel, surgery and end-of-life care are covered.

MOH clinical practice guidelines: COPD

http://www.hpp.moh.gov.sg/HPP/MungoBlobs/118/737/cpg_booklet_copd.pdf

Other Ministry of Health Clinical Practice Guidelines

Published MOH clinical practice guidelines may be freely downloaded as Adobe Acrobat files from the MOH website. The guidelines are also available as ISilo or MsReader files for Personal Digital Assistant users. Slides and sound files of speeches from guideline launches may also be downloaded.

Recent clinical practice guidelines:

- *Use of Corticosteroids in General Practice*

<http://www.hpp.moh.gov.sg/HPP/MungoBlobs/338/780/Use%20of%20Corticosteroids%20in%20General%20Practice%20Booklet.pdf>

- *Epilepsy in Adults*

<http://www.hpp.moh.gov.sg/HPP/MungoBlobs/373/663/Epilepsy%20booklet.pdf>

EVIDENCE-BASED TOPICS

Drug-eluting stents and the risk of late stent thrombosis

Meta-analyses^(1,2) presented at the 2006 World Congress of Cardiology raised concerns about the risk of late stent thrombosis associated with the use of drug-eluting stents. The US FDA's Circulatory System Devices Panel reviewed the scientific data and concluded that although Taxus and Cypher stents were associated with a small increase of late stent thrombosis, the risk from drug-eluting stents did not outweigh the benefits of drug-eluting stents compared to bare metal stents.

- *The FDA clinical overview* http://www.fda.gov/ohrms/dockets/ac/06/briefing/2006-4253b1_01.pdf
- *FDA statement on drug-eluting stents* <http://www.fda.gov/cdrh/news/010407.html>

1. Camenzind E. Safety of Drug Eluting Stents: a meta-analysis of 1st Generation DES programs. Presented at the European Society of Cardiology (ESC) Scientific Congress, 2-5 September 2006, Barcelona, Spain.

2. Nordmann A, et al. Mortality in randomized controlled trials comparing drug-eluting vs. bare metal stents in coronary artery disease: a meta-analysis. *Eur Heart J* 2006; 27:2784-814. Epub 2006 Oct 4.

(See clinical overview)

EBM Resources: Bandolier

Bandolier is an independent journal about evidence-based healthcare written by Oxford scientists. The content of the journal is from recently-published systematic reviews and meta-analyses. The electronic version of Bandolier appears online six months after the paper version. Here's an interesting article that was featured:

Astrology, Illness and Chance

A recent article⁽³⁾ examined the perils of multiple statistical testing. A database of urgent admissions for 10.7 million Ontario residents was examined for statistically significant associations between diagnosis and the patient's astrological sign. For each diagnosis, the astrological sign with the highest admission rate was tested statistically against the rate for all 11 other signs combined, using a significance level of 0.05. It was found that Leos had a statistically significant probability of gastrointestinal haemorrhage and Sagittarians were more likely to be admitted for a fractured humerus. After adjusting the significance level to account for multiple comparisons, none of the associations remained significant. The findings were a reminder that statistical significance can be misleading if statistics are not used properly. Despite there being no biological plausibility for a relationship between astrological sign and illness, many could be found in a large data set. It's something to keep in mind the next time you encounter a study where multiple subgroup analyses have been done.

<http://www.jr2.ox.ac.uk/Bandolier/band153/b153-3.html>

3. Austin PC, Mamdani MM, Juurlink DN, et al. Testing multiple statistical hypotheses resulted in spurious associations: a study of astrological signs and health. *J Clin Epidemiol* 2006; 59:964-9.

TARGET is a quarterly news summary that seeks to bring evidence-based publications to the attention of SMJ readers. If the publications are available on the Internet, URL links are provided. This news summary is published in collaboration with the Health Technology Assessment Branch of the Ministry of Health, Singapore.