

E-Bulletin

February 2006, Issue #8

The OHTAC E-bulletin is issued on a regular basis to provide you with updates on the latest committee recommendations. OHTAC has reviewed several health technologies and all its recommendations are available on the OHTAC Web site at http://www.health.gov.on.ca/english/providers/program/mas/ohtac_recommend.html.

Should you have additional information about any of these technologies, please submit it to the Medical Advisory Secretariat (MAS) at the contact information found at the end of this bulletin.

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DES REPORT: COST EFFECTIVENESS ANALYSIS OF DRUG ELUTING STENTS COMPARED TO BARE METAL STENTS FOR PERCUTANEOUS CORONARY INTERVENTIONS IN ONTARIO (INTERIM REPORT, PROGRAM FOR ASSESSMENT OF TECHNOLOGY IN HEALTH, DECEMBER 2005.)

Issue

In 2002, the Medical Advisory Secretariat, Ontario Ministry of Health and Long-term Care (MOHLTC) completed a review of the evidence regarding drug eluting stents (DES). The systematic review of the literature identified only one published randomized controlled clinical trial describing the use of sirolimus. Other ongoing studies regarding both paclitaxel and sirolimus were available as published abstracts only.

DES contain drugs which diffuse from the stent to inhibit the growth of cells and thickening in the vessel wall in order to reduce the risk of restenosis (re-narrowing of the artery). The question facing Ontario is which patients will benefit from these stents, especially because the efficacy studies had focused predominantly on patients at low risk from restenosis - i.e. patients with wider and shorter segments of coronary artery stenosis.

The MOHLTC felt that further Ontario-specific evaluation of the technology was warranted. Therefore, in collaboration with the MOHLTC, the 12 Ontario Regional Interventional Cardiac Care Centres and the Cardiac Care Network of Ontario (CCN); the Institute for Clinical & Evaluative Sciences (ICES) and the Program for Assessment of Technology in Health (PATH) at McMaster University designed and conducted an observational study or "field evaluation" to support the evaluation of the effectiveness and cost-effectiveness DES compared to Bare Metal Stents (BMS) in Ontario.

The objectives of the study are twofold (1) To estimate the reduction in the risk of repeat revascularization associated with the use of DES, relative to BMS, among patients at high risk of restenosis; and (2) Combining the data from the CCN registry with costs and other published evidence, to estimate the cost effectiveness of percutaneous coronary interventions (PCI) with DES, relative to PCI with BMS.

The interim report by PATH provides an analysis of revascularization rates in 9,103 patients for whom at least 9 months of follow-up data is available. The ongoing observational study is continuing to prospectively collect data at 12 Regional Cardiac Care Centres in Ontario in order to evaluate the longer-term rate of revascularization, with a maximum follow-up of 28 months for some patients. The final results based on the follow up of all 20,431 patients studied

in the field evaluation are expected in the summer of 2006. PATH presented its interim findings based on the first 9,103 patients to OHTAC and this forms the basis for this e-bulletin.

Key Findings

- The interim results from the field evaluation indicate that DES reduces predicted revascularization rates in some but not all patient cohorts at 1 year compared to bare metal stents (BMS).
- In non post myocardial infarction (MI) patients, DES appears to be most effective in reducing the need for revascularization in patients with long or narrow lesions ("high risk" patients). This benefit was magnified in patients with diabetes.
- DES also appears to be effective in post MI patients. However, further data collection is required in order to confirm the benefit of DES by lesion type in this patient cohort.
- DES compared to BMS does not appear to provide a reduction in revascularization rates in patients with short and wide lesions, in patients with and without diabetes.

**OHTAC
Recommendations**

- That DES be offered to those patients considered for stent placement and who have any 2 or more of the following:
 - long lesions (greater than 20 mm)
 - narrow lesions (less than 2.75 mm)
 - diabetes
- That the current support of DES not be increased at this time.
- That these recommendations be provided to hospitals and cardiologists as soon as possible.
- The total annual supply of DES stents required based on OHTAC's recommendation is 9,085 stents. By targeting DES use to high risk patients, the expected number of patients managed with DES will decrease. As a result, the total number of DES stents used in the province will remain approximately the same in 2005/06 as in 2004/05.

Implications

While OHTAC made its recommendations based on effectiveness, it found that DES was not cost-effective with the cost per quality adjusted life years (QALY) gained varying between \$223,580 per QALY for patients with diabetes and long and narrow lesions to \$2,221,692 per QALY for all non-diabetic patients, irrespective of lesion width or length. This cost-ineffectiveness is due to the high cost of DES.

The full downloadable version of the **interim report** by the Program for Assessment of Technology in Health can be found at:

<http://www.path-hta.ca/DESreport.pdf>

The **OHTAC recommendation** for this technology can be found at the following link:

http://www.health.gov.on.ca/english/providers/program/mas/tech/recommend/rec_des_102105.pdf

TECHNOLOGIES CURRENTLY UNDER REVIEW

Name of technology	Expected dates of web posting
Cardiac positron emission tomography	Late Fall 2005
Endovascular repair for thoracic aortic aneurysm	Winter 2006
Air filtration systems for infection control	Winter 2006
Electroanatomic cardiac mapping and ablative techniques	Winter 2006
Vascular ultrasound screening for abdominal aortic aneurysm	Winter 2006
Automatic external defibrillator	Winter 2006
Intravascular coronary ultrasound	Spring 2006
Breast Cancer Screening and Optimum Imaging Breast Technologies for Women 40-49 years of age	Spring and Summer 2006
Metal-on-metal Hip Resurfacing	Spring 2006
Photopheresis	Spring 2006
Bladder Ultrasound	Spring 2006
Hydrophilic Catheters	Spring 2006
Mid-Urethral Slings	Spring 2006
Integrated HTPAs	Expected dates of web posting
Cardiac imaging technologies	Winter 2006
Osteoarthritis	Late Fall 2005
Heart failure	Winter 2006

Field Evaluations	Expected dates of web posting
Drug Eluting Stent	Final report: Summer 2006
Autologous bone marrow grafting	Tbd
64-slice CT angiography	Final Report::Late 2006/Early 2007
Primary angioplasty	Tbd
Endovascular repair of abdominal aortic aneurysms	Final report: Late 2006
Usability Lab Studies	Expected dates of web posting
Increased use of 64-Slice CT Scanners: Radiation Dose Issues	Winter 2006
Magnetic Resonance Imaging Suites: Patient and Staff Safety	Winter 2006
Automatic External Defibrillators	Spring 2006

PREVIOUS OHTAC RECOMMENDATIONS

- Athroscopic Lavage and Debridement September 2005
http://www.health.gov.on.ca/english/providers/program/mas/tech/recommend/rec_lavdeb_061705.pdf
- Intrathecal Baclofen Pump for Spasticity August 2005
http://www.health.gov.on.ca/english/providers/program/mas/tech/reviews/pdf/rev_pump_081605.pdf

OHTAC is envisaged as the first step in creating a single portal for providing advice to the Ministry of Health and Long-Term Care regarding the uptake, diffusion, and distribution for new health technologies. Find more about OHTAC, its application process, and its recommendations at the following Web site:
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• Hyperbaric Oxygen Therapy for Non-Healing Ulcers in Diabetes Mellitus http://www.health.gov.on.ca/english/providers/program/mas/tech/reviews/pdf/rev_hypox_081105.pdf	August 2005
• Interim Report on Endovascular Repair of Abdominal Aortic Aneurysm (EVAR) http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/ohtac_report_evar_051705.pdf	July 2005
• Intra-Articular Viscosupplementation With Hylan G-F 20 To Treat Osteoarthritis of the Knee http://www.health.gov.on.ca/english/providers/program/mas/tech/reviews/sum_hylan_061705.html	June 2005
• Total Knee Replacement http://www.health.gov.on.ca/english/providers/program/mas/tech/reviews/pdf/rev_tkr_061705.pdf	June 2005
• Osteogenic Protein-1 http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/ohtac_rec_op1_051705.pdf	April 2005
• Multi-detector Computed Tomography Angiography for Coronary Artery Disease http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_multi_050805.pdf	April 2005
• Spinal Cord Stimulation for Neuropathic Pain http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/scs_0305.pdf	March 2005
• Sacral Nerve Stimulation for Urinary Incontinence, Urgency-Frequency, Urinary Retention, and Fecal Incontinence http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/sns_0305.pdf	March 2005
• Deep Brain Stimulation in Parkinson's Disease and Other Movement Disorders http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/dbs_0305.pdf	March 2005
• Bariatric Surgery http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_baria_012105.pdf	January 2005
• Vacuum Assisted Closure Therapy for Chronic Wounds http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_vac_121604.pdf	December 2004
• Balloon Kyphoplasty http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_kypho_121604.pdf	December 2004
• Thermal Balloon Endometrial Ablation for Dysfunctional Uterine Bleeding http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_tbea_091504.pdf	October 2004
• Primary Angioplasty http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_pri_angio_110804.pdf	September 2004
• Bispectral Index Monitor http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_bis_081304.pdf	August 2004
• Radio Frequency Ablation for Primary Liver Cancer http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_rfa_061704.pdf	June 2004
• Repetitive Transcranial Magnetic Stimulation for Major Depressive Disorder http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_rtms_061704.pdf	June 2004
• Coil Embolization For Intracranial Aneurysms http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_eee_0304.pdf	March 2004
• Pyrocarbon Finger Joint Implant http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_pyrocarb_0304.pdf	March 2004
• Video Laryngoscopy for Tracheal Intubation http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_vic_laryng_0304.pdf	March 2004
• Bone Morphogenetic Proteins and Spinal Surgery for Degenerative Disc Disease http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_bmp_ddd_0304.pdf	March 2004
• Artificial Discs for Cervical and Lumbar Spinal Surgery for Degenerative Disease http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_bmp_ddd_0304.pdf	March 2004
• Computer-Assisted Hip and Knee Arthroplasty: Navigation and Robotic Systems http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_arthro_0304.pdf	March 2004
• Computer-Assisted Surgery Using Telem manipulators http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_telman_0304.pdf	March 2004
• Tension-free Vaginal Tape for Stress Urinary Incontinence http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_tv_t_050204.pdf	February 2004
• Patient Monitoring System for MRI http://www.health.gov.on.ca/english/providers/program/mas/reviews/docs/recommend_pmri_050204.pdf	February 2004

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For any comments related to this E-bulletin, please contact the Medical Advisory Secretariat at:

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