To read all new materials from MAS and OHTAC, be sure to visit the "What's New" section of our websites. You can subscribe to the e-Bulletin and other OHTAC/MAS releases via our RSS feed. To find out more, click on the icon to the right or visit:

http://www.health.gov.on.ca/english/providers/program/mas/mas_ohtac_rss.html

NEW REPORTS FROM MAS & OHTAC

The *2009 OHTAC Progress Report*

The Ontario Health Technology Advisory Committee is pleased to announce that it will shortly be posting on its website the English and French versions of its 2009 Progress Report *Advancing Health – Evidence-Based Advice on Health Technology*. The report contains a series of graphs and maps that capture by Local Health Integration Network (LHIN), the use of select technologies at the time of the analysis and tracks changes in usage over time. In future, we will continue to track these procedures while adding new technologies. Our 2009 Progress Report demonstrates how Ontario's approach to health technology is generating collaboration, saving lives, driving evidence-based decision-making and attracting world-wide attention. If you require further information, please contact Birthe Jorgensen, Director, MAS at 416-314-3999 or birthe.jorgensen@ontario.ca.

The following recommendations and MAS report have been recently completed and are available for download, or will be shortly, at the **Ontario Health Technology Assessment Series** (OHTAS) website.

1. Primary Angioplasty for the Treatment of Acute ST-Segment Elevated Myocardial Infarction: An Evidence Update

A literature search was conducted to update the 2004 evidence-based review by the Medical Advisory Secretariat (MAS) on the use of primary angioplasty, also referred to as primary percutaneous coronary intervention (PCI), for the treatment of acute ST-segment elevated myocardial infarction (STEMI).

Five comparisons were examined in this updated review:

- Primary PCI vs. In-Hospital Thrombolysis
- Primary PCI vs. Pre-Hospital Thrombolysis
- Facilitated PCI vs. Primary PCI
- Rescue PCI vs. Repeat Thrombolysis
- Routine Early PCI after Thrombolysis vs. Thrombolysis (and Rescue PCI if needed)

There is evidence from RCTs for the superiority of primary PCI over thrombolysis for recurrent myocardial infarction rates but not for overall survival. However OHTAC is concerned that: 1) there are significant numbers of STEMI patients who receive no reperfusion therapy; 2) a substantial proportion of reperfused STEMI patients do not receive reperfusion therapy within maximum recommended target times, especially among those who need to be transported long distances from referral hospitals to PCI hospitals for primary PCI; and 3) recent data from observational studies suggest that the timeliness with which either mode of reperfusion is delivered is a more important determinant of outcomes than the mode of reperfusion.

Therefore, OHTAC recommended that:

1. Hospitals must provide timely access to reperfusion (within 90 minutes for primary PCI or within 30 minutes for thrombolysis) for optimal outcomes in patients with STEMI.
2. For patients undergoing thrombolytic reperfusion, attempts should be made to refer them subsequently to a PCI facility with a level of urgency most appropriate for the patient's condition. In particular, patients who are eligible for rescue PCI should be transferred in a timely manner. The routine use of thrombolysis followed immediately by PCI (facilitated PCI) should not be encouraged due to increased risk of major bleeding.

3. When indicated, thrombolysis should be administered as first line treatment if it is unlikely that primary PCI will be available within the maximum recommended target time (as stated above) for patients being considered for primary PCI.
4. Thrombolysis should be available in ambulances for those Ontarians who do not have timely access to a PCI facility or an emergency room due to their geographic location.
5. There is uncertainty regarding: 1) the number of STEMI patients in Ontario who receive no reperfusion treatment; and 2) the penetration rate and timeliness of primary PCI and thrombolysis in Ontario. Therefore, through the LHINs, referral and PCI hospitals should be asked to work together with other key partners to track information on the timeliness, management, and outcomes of STEMI patients in Ontario and these data should be publicly reported back to all hospitals and other relevant stakeholders who are involved in or have a responsibility for the optimal management of STEMI patients.
6. Through continuing education, health professionals should follow state-of-the-art thrombolytic management in order to maintain skills related to the timely use of thrombolysis, where appropriate.

2. Percutaneous Vertebroplasty for the Treatment of Painful Osteoporotic Vertebral Compression Fractures

The Medical Advisory Secretariat conducted a health technology assessment on vertebroplasty reviewing the results of all randomized controlled trials published since 2005. The objective was to assess the efficacy and safety of this procedure in the treatment of painful osteoporotic vertebral compression fractures. Recently, the results of two blinded randomized placebo-controlled trials of percutaneous vertebroplasty were reported. These trials, providing the highest quality of evidence available to date, do not support the use of vertebroplasty in patients with painful osteoporotic vertebral compression fractures. Based on the results of these trials, vertebroplasty confers no additional benefit over usual care and is not free of risks.

OHTAC recommended vertebroplasty should not be considered as the standard treatment for patients with osteoporotic vertebral compression fractures and conservative treatment, which allows the fracture to heal naturally, and is safer than vertebroplasty, is preferred as the first line of treatment in these patients.

3. Balloon Kyphoplasty for Treatment of Painful Osteoporotic Vertebral Compression Fractures: An Evidence Update

Balloon kyphoplasty is a surgical vertebroplasty procedure with an additional requirement of inserting a bone tamp with an inflatable balloon to expand the collapsed vertebral body and to create a space to be filled with bone cement. The injection of bone cement into the expanded cavity may allow the natural height of the fractured vertebra to be restored.

In order to update its previous recommendation of December 2004 regarding efficacy and safety of balloon kyphoplasty for treatment of painful osteoporotic vertebral compression fractures, OHTAC analyzed the current literature. No RCT compared kyphoplasty with a sham procedure similar to the double blinded RCTs on vertebroplasty. However, two RCTs on balloon kyphoplasty were found: one compared balloon kyphoplasty with vertebroplasty and the other compared balloon kyphoplasty with non-surgical care.

OHTAC recommended conservative treatment which allows the fracture to heal naturally; initiation of management of the underlying condition; patient monitoring including bone mineral density testing; and, patient education about the course of natural healing and alternative treatment options such as kyphoplasty if there is no response to conservative treatment within an appropriate time.

4. Neuroimaging for the Evaluation of Chronic Headaches

Headache disorders are generally classified as either primary or secondary with further sub-classifications into specific headache types. Primary headaches are those not caused by a disease or medical condition and include i) tension-type headache, ii) migraine, iii) cluster headache and, iv) other primary headaches. Secondary headaches are those caused by an underlying medical condition. While primary headaches disorders are far more frequent than secondary headache disorders, there is an urge to carry out neuroimaging studies (CT and/or MRI scans) out of fear of missing uncommon secondary causes and often to relieve patient anxiety. The clinical utility of neuroimaging studies to detect uncommon secondary causes of headache was examined. An expert panel met in the early fall to advise on the use of neuroimaging in persons with chronic headache and high levels of anxiety and/or depression given that moderate quality evidence showed lower system costs associated with scanning this population.

OHTAC found that the current utilization of CT and MRI for evaluation of headache is not excessive. OHTAC recommended consulting with an expert panel to establish whether the evidence is sufficient for guideline development. However, if evidence for pre-test and post-test probabilities (likelihood ratios) is insufficient for guideline development, then OHTAC recommends a field evaluation to obtain better evidence through prospective tracking to re-evaluate these estimates.

5. Update to OHTAC Recommendation on the Safety of Laparoscopic Adjustable Gastric Banding (LAGB)

A presentation by the Ontario Bariatric Network was made to OHTAC on August 26, 2010. OHTAC expressed concern that no movement had taken place in offering Laparoscopic Adjustable Gastric Banding (LAGB) as a safe option in bariatric techniques. To draw attention to the importance of patient choice OHTAC has strengthened one of its recommendations from November 2009 to emphasize that LAGB should be offered as one of the bariatric techniques available to patients in bariatric surgery facilities that form part of the bariatric surgery network. The revised recommendation will be posted shortly at the same site as the **original recommendation**.

6. French Version of the Application for Health Technology Review by OHTAC

OHTAC is pleased to announce that the French version of the **application form** is now available on line.

OPEN FOR PUBLIC COMMENT

The following evidence-based reviews and OHTAC recommendations have recently been **posted for public consultation** or will be shortly:

1. Endovascular Radiofrequency Ablation for Varicose Veins

This study examined the safety and effectiveness of endovascular radiofrequency treatment for varicose veins (VV). Endovascular techniques such as radiofrequency ablation (RFA) and endovascular laser therapy (ELT) are image guided procedures within the vein that are increasingly being offered as alternatives to surgery for VV reflux. The overall summary of the evidence reviews showed that there were fewer complications, less pain and a quicker recovery after RFA than surgery. RFA was also as effective as surgery in the short term although longer term follow-up is needed to assess recurrence after both treatments. OHTAC recommended that patients with varicose vein reflux should be offered endovascular ablation [endovascular laser therapy (EVLT) or radiofrequency ablation (RFA)], and given the improved patient outcomes with endovascular ablation therapies,

patients should only be offered surgical ligation and vein stripping if they are not candidates for endovascular ablation approaches.

The previous MAS review and OHTAC recommendation from April 2010 on **Endovascular Laser Treatment for Varicose Veins** are also available on the website.

2. Personalized Medicine Technologies

Cancer Care Ontario asked MAS to provide evidence-based analyses on the effectiveness and cost-effectiveness of three oncology pharmacogenetic tests currently in use in Ontario:

- Gene Expression Profiling for Guiding Adjuvant Chemotherapy Decisions in Women with Early Breast Cancer: An Evidence-Based Analysis
- Epidermal Growth Factor Receptor Mutation (EGFR) Testing for Prediction of Response to EGFR-Targeting Tyrosine Kinase Inhibitor (TKI) Drugs in Patients with Advanced Non-Small-Cell Lung Cancer: An Evidence-Based Analysis
- K-RAS testing in Treatment Decisions for Advanced Colorectal Cancer: An Evidence-Based Analysis

These evidence-based analyses have been completed in conjunction with internal and external stakeholders including a Provincial Expert Panel on Pharmacogenetics (PEPP). Within the PEPP, subgroup committees were developed for each disease area. For each technology, a budget impact analysis was also completed by the Toronto Health Economics and Technology Assessment Collaborative (THETA) and appears within the reports.

3. Robotic-Assisted Minimally Invasive Surgery for Gynecologic and Urologic Oncology

A literature search was conducted to examine the clinical effectiveness and incremental costs of robotic-assisted, minimally invasive surgery for cervical, endometrial and prostate cancers.

For both gynecology and prostate cancer, two comparisons were made:

- Robotic-assisted laparoscopic radical/total hysterectomy vs. laparotomy and laparoscopy
- Robotic-assisted laparoscopic radical prostatectomy vs. retropubic radical prostatectomy and laparoscopic radical prostatectomy

The results of this evidence-based analysis may inform the surgical treatment and management of these cancers.

COMING SOON

1. Clinical Utility of Serologic Testing for Celiac Disease in Ontario

Celiac disease is an autoimmune disorder characterized by a chronic inflammatory state of the proximal small bowel mucosa and triggered by the ingestion of gluten - a protein present in wheat, rye and barley. The structural and functional changes in the small bowel result in impaired digestion and absorption of nutrients and the treatment consists of strict, lifelong adherence to a gluten-free diet. The diagnosis of celiac disease is confirmed by characteristic abnormalities in small bowel biopsy. Serologic tests aid in the diagnosis of celiac disease. MAS has conducted a systematic review of evidence in order to evaluate the sensitivity, specificity, clinical validity, clinical utility, and cost-effectiveness of serologic celiac disease tests used in Ontario in subjects with symptoms consistent with the disease. An expert panel has been struck to contextualize the evidence.

CURRENTLY UNDER REVIEW

The following topics are currently **under review**:

Update on Negative Pressure Wound Therapy - This review is undertaken in response to the publication of new RCTs since the initial report on negative pressure wound therapy was published in July 2006. *Anticipated Completion: Winter 2011*

Chronic Obstructive Pulmonary Disease (COPD) - This mega analysis will synthesize the evidence around smoking cessation, multidisciplinary care, vaccines, pulmonary rehabilitation, oxygen therapy, telemonitoring, and hospital-at-home care for acute exacerbations as a platform for policy development *Anticipated Completion of All Components: Winter 2011*

Continuous Glucose Monitoring - This review will examine the role of a Continuous Glucose Monitors (CGM) in the management of diabetes. *Anticipated Completion: Winter 2011*

Diurnal Tension Curve for Intraocular Pressure Management - This review will examine the validity of this test for screening for glaucoma in selected populations and the test's clinical utility in a post diagnosis treatment situation. *Anticipated Completion: Winter 2011*

Study of Improving Multiple Infusion Line Safety - As requested by OHTAC, the Healthcare Human Factors Laboratories at the University Health Network is investigating the safety, effectiveness and usability of multiple line infusions. *Anticipated Completion: 2011*

OHTAC and MAS welcome your questions and comments. Please contact us at: OHTACinfo.moh@ontario.ca