Centre universitaire de santé McGill
McGill University Health Centre

Technology Assessment Unit of the McGill University Health Centre

TAU Annual Report

April 2010 - April 2011

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Mission Statement

- To advise the hospital in difficult resource allocation decisions, using an approach based on sound, scientific technology assessments, and a transparent, fair decision-making process.

- To publish its research in peer-reviewed journals when appropriate, and contribute to the training of personnel in the field of health technology assessment.

MUHC TAU Executive Committee

Nandini Dendukuri – Director **Dr. Maurice McGregor - Chairperson**

Committee Members	Discipline
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Christian Janicki	Quality Management
Patricia Lefebvre	Quality Management, Risk Management and Performance
Brenda MacGibbon-Taylor	Patients' Committee
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Guylaine Potvin	Multidisciplinary Council
Judith Ritchie	Council of Nurses
Hugh Scott	Consultant (Invited Member)
Gary Stoopler	Administration

Arrivals

Dr. Alison Sinclair joined our TAU Unit as a Research Scientist in September 2010.

This publication was compiled and edited by Lorraine Mines of the Technology Assessment Unit of the McGill University Health Centre (MUHC TAU). This document is available in PDF format on our website: http://www.mcgill.ca/tau/publications/annual

TAU Reports

NOTE: Projects are researched and drafts prepared by members of the MUHC TAU, referred below as "the authors". They are assisted by expert consultants appointed for each project. Draft reports are then circulated, reviewed, amended and finally approved by the full Executive Committee who thereby become “the authors” of the final report. From April 1, 2010 through April 30, 2011 the following six reports were approved:

Collatamp (Colorectal Surgery)

Requestor:	Gary Stoopler, Administrative Director, Surgery, Medicine, Cancer Care, Mental Health & Women’s Health, MUHC
Title:	Efficacy and cost-effectiveness of a gentamicin-loaded collagen sponge as an adjuvant antibiotic prophylaxis for colorectal surgery
Publication date:	April 28, 2010
Author(s):	Irene Pan, Nandini Dendukuri
Consultant(s):	Dr. Barry Stein, Dr. Patrick Charlebois -Department of Colorectal Surgery Doris Dubé - Quality Assessment Dr. Alain Lapointe - External Consultant – French Translation
Background:	There is an interest in decreasing the risk of surgical site infections following non-laparascopic colorectal surgery at the McGill University Health Centre (MUHC). The GI division has proposed the use of a gentamicin-loaded collagen sponge (GCS) as an adjuvant antibiotic prophylaxis
Recommendation(s):	1. It was recommended that the risk of surgical site infection at the MUHC be re-estimated during a period of strict adherence to the standard antibiotic protocol.

2. The routine use of the gentamicin-loaded collagen sponge as an adjuvant antibiotic prophylaxis for colorectal surgery should be re-examined as soon as these data are available

Negative Pressure Wound Therapy (NPWT)

Requestor:	TAU Initiative
Title:	Negative Pressure Wound Therapy (NPWT) Update of Report 19
Publication date:	June 25, 2010
Author(s):	Xuanqian Xie, Maurice McGregor
Consultants:	Mr Lincoln D'Souza, Senior Advisor for Wound Care and Stoma Program, MUHC Mr Nicolas Robert, Department of Finance, MUHC Dr. Alain Lapointe, External Consultant – French Translation
Background:	Traditionally, wounds that do not heal by first intention have been treated by moist saline dressings or various forms of interactive foam. Over the past decade such wounds have increasingly received Negative Pressure Wound Therapy (NPWT). This report is an update of a health technology assessment (HTA) evaluating this technology, published in 2005 by the Technology Assessment Unit (TAU) of the McGill University Health Centre (MUHC).
Recommendation(s):	In view of the evidence that NPWT promotes the healing of many types of wound, and because at this time NPWT is already the accepted standard treatment used throughout the MUHC it is recommended that the MUHC should continue to fund this technology. The *Programme for Wound Care* should be encouraged to undertake an RCT to evaluate the effectiveness of NPWT and its influence on length of hospital stay and costs for the treatment of pressure ulcers, necrotising fasciitis, and wounds complicated by osteomyelitis.

Ultrafiltration

Requestor:	Mr. Gary Stoopler, Administrative Director, Surgery, Medicine, Cancer Care, Mental Health & Women's Health
Title:	Efficacy, safety and cost of ultrafiltration for the management of acute decompensated heart failure.
Publication date:	May 31, 2010
Author(s):	Irene Pan, Maurice McGregor
Consultants:	Dr. Viviane Nguyen, Director, Coronary Care Unit (CCU), Cardiovascular Division, MUHC. Dr. Alain Lapointe, External Consultant – French Translation
Background:	Ultrafiltration is increasingly used for the management of acute decompensated heart failure. Its exact role is not yet clearly defined. The cardiology division of the McGill University Health Centre (MUHC) has submitted an application to use this therapeutic approach for 50 patients per year suffering from acute, decompensated, diuretic-resistant heart failure in the cardiology intensive care unit.
Recommendation(s):	UF treatment should be available for the management of the estimated 50 diuretic resistant heart failure patients per year in the MUHC. It is recommended that budget be made available for this purpose. It is recommended that the cardiovascular division undertake a study to identify the extent and duration of the health benefits of UF. Until there is clear evidence of long-term benefit (probably with an associated reduction in hospital costs), UF should not be used for the treatment of heart failure in the absence of diuretic resistance.

Argon Beam Coagulation (ABC)

Requestor:	Donna Stanbridge, Chair, Operating Room Product Approval Committee (ORPAC)

Title:	Argon beam coagulation in orthopaedic, urological and thoracic surgery at the MUHC: A brief report
Publication date:	November 26, 2010
Author(s):	Irene Pan, Nandini Dendukuri, Maurice McGregor
Consultants:	Dr. Sero Andonian, Division of Urology, Department of Surgery, MUHC, Dr. Robert Turcotte, Division of Orthopaedics, Department of Surgery, MUHC, Dr. Christian Sirois, Division of Thoracic Surgery, Department of Surgery, MUHC, Dr. Prosanto Chaudhury, Division of General Surgery, Department of Surgery, MUHC, Mr. Adam Majewski, Medical Engineering, University Health Network, Toronto, Mr. Tito Abanto and Mr. Serge Kakos, Biomedical Engineering, MUHC, Mr. André d'Auteuil, Genie Biomedicale, Centre Hospitalier de l'Université de Montréal, Mr. Shawn Xie, Technology Assessment Unit, MUHC
Background:	The Orthopaedics, Urology, and Thoracic divisions of the Department of Surgery at the McGill University Health Centre (MUHC) have jointly requested purchase of an electrosurgical generator with argon beam coagulator (ABC) capability for use in the operating room of the Montreal General Hospital. ABC is used for two quite different objectives: 1) to secure haemostasis and to obtain better surgical visibility during surgery, and 2) as an adjuvant therapy following surgery for bone tumours. In this report we consider only its use in the three areas for which the technology has been requested at the MUHC.
Recommendation(s):	In coming to a decision on this issue the Surgical Mission should take the following points into consideration : • Some surgeons believe that the availability of ABC in the operating room may result in better surgical outcomes. • The budget impact of approving this acquisition would be relatively modest, approximately $20,000 a year. • Before undertaking any permanent purchase, the possibility of converting existing equipment should be explored.

- If such conversion is not feasible this technology should initially be acquired on a short-term basis to allow for its evaluation by different interested surgeons.

Aortic Valve Bypass (AVB)

Requestor:	Gary Stoopler, Administrative Director Surgery, Medicine, Cancer Care, Mental Health & Women's Health
Title:	Aortic valve bypass (apicoaortic conduit) in adult degenerative aortic stenosis
Publication date:	February 22, 2011
Author(s):	Alison Sinclair, Maurice McGregor, Xuanqian Xie
Consultants:	Dr. Benoit E. de Varennes, Division of Cardiac Surgery, MUHC Dr Giuseppe Martucci, Cardiovascular Division, Department of Medicine, MUHC
Background:	Aortic valve bypass (AVB; apicoaortic conduit) involves the surgical implantation of a valved conduit between the apex of the left ventricle and the aorta, with the objective of relieving obstruction of the left ventricular outflow tract. It has a 40-year history of use in patients with congenital obstructions and idiopathic hypertrophic sub-aortic stenosis and more recently has been adopted for the relief of symptomatic degenerative aortic valve stenosis (AS) in patients who are poor candidates for surgical aortic valve replacement. These patients are also eligible for consideration for transcatheter aortic valve implantation (TAVI). This review was undertaken to determine the health benefits and risks of AVB in adults, and to compare the experience and costs with recent MUHC experience and published results for TAVI.
Recommendation(s):	It is recommended that the choice of intervention for patients with severe calcific aortic stenosis (surgical aortic valve replacement, TAVI, AVB) continue to be made by the existing joint committee.

The department of cardiovascular surgery should be authorised to obtain the necessary expendable equipment for AVB and to use this procedure when there is agreement that it is likely to have a better outcome than TAVI.

A detailed case registry should be maintained and reviewed in one year at the latest.

For those cases in which both procedures appear feasible there is no reason to replace the better documented TAVI procedure by AVB at this time.

Blood Irradiation

Requestor:	Danielle Lamy, Associate Director, Quality and Risk Management, MUHC.
Title:	X-ray versus gamma irradiation of blood components for prevention of transfusion-associated graft versus host disease.
Publication date:	April 12, 2011
Author(s):	Alison Sinclair
Consultants:	Ginette Lebel, Assistant Head, Transfusion Services, MCH Ann Wilson, Transfusion Services, MCH Linh-Chi Nguyen, Department of Biomedical Engineering, MUHC
Background:	Irradiation of blood components for the prevention of transfusion-associated graft versus host disease (TA-GvHD) in immune-suppressed or otherwise at-risk patients is a long-established practice. The Montréal Children's Hospital is investigating replacement of its 29-year-old Caesium-137 source (gamma) irradiator with either an updated model of a gamma irradiator or an X-ray irradiator (Gammacell 1000GE Elite, or Raycell CE, both made by Best Theratronics). The Technology Assessment Unit (TAU) was asked to review the available evidence in order to determine whether the two technologies were comparable in terms of effectiveness.

(Comparison of costs has been carried out by the Biomedical Engineering Department.)

Conclusion(s): No studies have been identified that directly compare the effectiveness of X-ray and gamma irradiation for the purpose of irradiating blood to eliminate TA-GvHD.

On the basis of an understanding of the mechanism of disease and considerable data on cell response to ionizing radiation, it is expected that X-rays and gamma rays would have equivalent effectiveness in ablating the proliferative potential of cells responsible for TA-GvHD.

The Joint Professional Advisory Committee of the UK Transfusion Services on blood components has recommended X-ray irradiation as a suitable, safe alternative that is equivalent to gamma ray irradiation.

The capacity of both machines being investigated by the MUHC should be sufficient to meet the annual demand.

Diffusion

- Our reports are indexed in the international database for the Center for Reviews and Dissemination, York University, UK. http://www.york.ac.uk/inst/crd/crddatabases.htm)
- Our reports are diffused from our website (www.mcgill.ca/tau) . Between April 1, 2010 and April 30, 2011 our website received 140,370 hits.
- Our reports are also now circulated to all members of the McGill RUIS.

TAU Related Activities

Dr. Dendukuri represents TAU at quarterly meetings of hospital-based technology assessment units in Quebec that are organized at INESSS.

Dr. McGregor is a regular contributor to the Executive Training for Research Application (EXTRA) program for health executives.

Dr. Dendukuri acted as a consultant to INESSS on a project aimed at evaluating bypass surgery in Quebec.

Presentations

Lapointe A, McGregor M. La microchirurgie endoscopique transanale (TEM). CADTH Symposium. Halifax. April 19, 2010.

Pan I. Dendukuri N, McGregor M. Efficacy and cost-effectiveness of Collatamp-G for infection prophylaxis in cardiac surgery. CADTH Symposium. Halifax. April 19. 2010.

McGregor M. Les coûts de l'acquisition des technologies de la santé.Hôpital Sacre-Cœur. June 1, 2010.

McGregor M. A Hospital Perspective. Public Policy Forum. In: Innovating Health: Public

engagement in health technology assessments and coverage decisions. June15, 2010. Montreal.

McGregor M.. Promoting Use of Evidence in Health-care Decisions. EXTRA Program. Module one.Mont Tremblanc.Québec. Aug 11. 2010.

McGregor M. HTA from a Local perspective- Hospital. In; Health Technology Assessment: from Theory to Evidence to Policy. PATH Research Institute. Toronto. October 22, 2010

McGregor M. Paying for Technology. The cost of ignoring opportunity costs. There is no free lunch. THETA Collaboration. SPECIAL WEDNESDAY ROUNDS. Toronto, October 20, 2010

McGregor M. The connect between wait times, sustainability and HTA , 9th HCTP Annual Interdisciplinary Symposium. . Toronto. March 24, 2011.

McGregor M, Xie X, Dendukuri N. The use of quality instruments to weight evidence from RCTs 2011 CADTH Symposium Vancouver. April 4, 2011.

Xie X, McGregor M, Dendukuri N. Negative Pressure Wound Therapy. Is it effective? 2011 CADTH Symposium. Vancouver. April 4, 2011

Sinclair A, Xie X, Dendukuri N. The use of probiotic lactobacillus in the prevention of Clostridium difficile diarrhea in adult inpatients receiving antibiotics. 2011 CADTH Symposium. Vancouver. April 4, 2011

Dendukuri N, Pan I. Efficacy of a Gentamicin-loaded collagen sponge for surgical site infection prophylaxis in cardiac and colorectal surgery. 2011 CADTH Symposium. Vancouver. April 4, 2011

Peer-Reviewed Publications

McGregor M. Paying for Technology: The Cost of Ignoring Opportunity Costs. Healthcare Quarterly. 2010. 13 (2), 90-2.

Caro JJ, Nord E, Siebert U, McGuire A, McGregor M, Henry D, de Pouvourville G, Atella V, Kolominsky-Rabas P. IQWiG methods - a response to two critiques. Health Econ. 2010 Oct 19(10):1137-8.

Caro JJ,Nord E, Siebert U, McGuire A, McGregor M, Henry D, De Pourvourvillr G, Atella V, Kolominsky-Rabas P. The efficiency frontier approach to economic evaluation of health-care interventions. Health Econ. 2010; Oct 19(10): 1117-27.

Xie X, Dendukuri N, McGregor M. Percutaneous radiofrequency ablation for the treatment of early stage hepatocellular carcinoma: A Health Technology Assessment. Journal of Technology Assessment in Health Care. Intl J of Tech Assess in Health Care, 26:4 (2010),390-397.

Xie X, McGregor M, Dendukuri N.The Clinical Effectiveness of Negative Pressure Wound Therapy. A systematic review. Journal of Wound Care, Vol.19, Iss.11,10 Nov 2010, pp 490 – 495.

Awards and Grants

The 2011 Dr. Jill M. Sanders Award of Excellence in HTA Canadian Agency for Drugs and Technology in Health. Recipient: Dr. Maurice McGregor. 2011 CADTH Symposium. Vancouver. April 4, 2011

Dr.Maurice McGregor, O.C., C.Q. was named Officer of the Order of Canada by the Right Honourable David Johnston, Governor General of Canada, for having pioneered and championed the field of health technology assessment in Canada, and for his leadership in medical education and cardiology. 2011.

Dendukuri, N., Pai, M. Development of statistical methods for meta-analysis of tuberculosis diagnostic studies. CIHR Operating Grant awarded from March 2011 competition.

Postscript

The TAU attempts to adjust the services we offer to conform to the resources available in a transparent, logical, fair, and consistent fashion. While some of our recommendations have not supported the acquisition of a technology, and have thus "saved money", others have supported new developments because they have identified the benefits, and found them to be sufficient to justify the increased expenditure. Our sincere thanks are due to the many members of the MUHC who have assisted with data collection, to those who have served as Consultants, and to the members of the Committee who have dedicated many hours to the consideration of these problems. *Maurice McGregor*.