

HOT SPOT

The Newsletter of the Rapid Response Radiotherapy Program
of the Odette Cancer Centre



Volume 11, Issue 1, February 2009

Editorial

By Elizabeth Barnes, MD, FRCP(C)

Hot Spot is celebrating its 10-year anniversary! Many thanks to the regular and guest contributors over the last decade, and for the current administrative assistance from Stacy Lue. We also wish to congratulate the RRRP on being a 2008 Cancer Care Ontario Quality and Innovation award

recipient. This issue of **Hot Spot** focuses on hematology and blood transfusion medicine. Debbie Lauzon from the Ontario Regional Blood Coordinating Network discusses resource issues surrounding blood transfusion, Dr. Blair Henry gives an overview of the ethical issues, and Dr. Mary Vachon looks at the

psychosocial aspects of the use of blood products. The insert by Dr. Rena Buckstein discusses malignant stem cell disorders (MDS), and how to refer patients to the MDS clinic at the Odette Cancer Centre. Dr. Ewa Szumacher provides a CME update on palliative medicine.

Maintaining Ontario's blood supply: A fine balancing act

By Debbie Lauzon, ART, BHA

Ontario uses half of the Canadian blood supply at an annual cost of \$450 million. While the use of some blood components such as red blood cells is relatively stable in Ontario (see Figure One, page 2), the use of other components such as intravenous immune globulin (IVIg) continues to climb at a rate of approximately 10% per year.

Maintaining an adequate supply of blood and blood components for the Canadian population is a constant challenge. Strategies used by Canadian Blood Services (CBS) for predicting demand include the use of historical data, and an annual demand forecasting exercise involving all hospital transfusion services, which are asked to project their needs for blood and blood components for the coming year. This information is used to determine whether there will be new programs, or changes to existing programs, which may impact blood utilization. For example, in 2008 the addition of one orthopedic surgeon in a small community hospital in Ontario resulted in an increase in annual utilization of red cells by 30% at its site.

Blood is a perishable commodity. Most blood products have a relatively short shelf

life, e.g., red cells—42 days, platelets—five days. This creates a fine balance between having enough to meet demand, and minimizing wastage of products that reach their expiry before they can be used. The Ontario Regional Blood Coordinating Network (ORBCoN) was established by the MOHLTC in 2006 with a mandate to take a comprehensive and integrated approach to blood management throughout the province. ORBCoN, in collaboration with the hospital liaison specialist from Canadian Blood Services, visits hospital transfusion services on an annual basis to review blood and blood component utilization and wastage with the intent to address variances in practice. Since initiating these site visits, the wastage rate for red blood cells has decreased by 38%. In addition to the focus on utilization, ORBCoN has developed educational resources to promote best practice in the field of transfusion medicine.

Since the release of the Krever Commission Report (1997) into the “tainted” blood scandal of the 1980s, physicians have been encouraged to consider the use of alternatives to transfusion, avoid the use of “transfusion

triggers” and to assess the need for blood and blood components on an individual case-by-case basis. In the “pre-Krever” era, single unit transfusions were discouraged, the old adage being that if you need one, two is even better. Currently, physicians are encouraged to transfuse a single unit, and then reassess the patient prior to ordering a second unit.

The Krever report also stressed the need for patients to be well informed about their treatment options, and that the discussion

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prior to obtaining consent for transfusion include a conversation outlining the risks, benefits and any alternatives that may be available. New advances in medication and disease management have reduced the need for transfusion of red cells for some patients. Most health care institutions have implemented a separate process for obtaining consent for blood transfusion to accentuate the importance of this discussion.

The Ontario Nurse Transfusion Coordinator (ONTraC) program funded by the MOHLTC in 2002 placed an RN in 25 facilities throughout Ontario to implement perioperative blood conservation programs. The overall objective of ONTraC is to reduce perioperative allogeneic transfusions in Ontario through training, having informed patients consider alternatives to blood and blood components, and improving quality of care practices involving blood and blood components. The initial targeted procedures selected were total knee replacement, abdominal aortic aneurysm (AAA) surgery, and coronary artery bypass graft (CABG) surgery. Radical prostatectomy and total hip replacement have been added as targeted procedures. Reduction in utilization of red cells related to the targeted procedures is attributable, in part, to the work being done within the ONTraC program.

Management of blood shortages is a cooperative effort involving Canadian Blood Services as the supplier and health care professionals in institutions where blood and blood components are used. The Ontario Contingency Plan for the Management of Blood Product Shortages, developed by a working group comprising experts in the field, was distributed to hospital CEOs and Transfusion Medicine Directors in January of 2008. Hospitals across the province are currently developing site-specific contingency plans, with the intent that there will be a standardized approach to blood shortages in order to ensure equitable access to blood and blood components across the province.

The National Contingency Plan for the Management of Blood Product Shortages developed by the National Advisory Group for Transfusion Medicine has just been released in draft and distributed within the field for comment. The success of these plans in managing shortages will be directly related to the preparedness and cooperation of the health care professionals involved within the blood system.

Fluctuations affecting the blood supply also occur within the donor population. Factors affecting the number of blood donors are often related to seasonal fluctuations including: peak holiday periods, weather, health-related issues (e.g., flu season), as well as cultural influences. Less than 3% of individuals

who are eligible actually donate blood. This fact, combined with the fact that the donor population is aging, means that CBS must actively recruit young donors, as well as market to those donors from visible minorities who may not be familiar with the voluntary donor process in Canada.

Canadian Blood Services is keenly aware of this supply and demand balance, and the creation of a reliable and efficient national blood and blood product inventory system has been a top priority with the introduction of the Supply Chain Management Forum (SCMF). The SCMF is charged to work with regional hospitals to offer regular updates on supply and demand issues, thereby making sure patients across the region receive the right blood and blood products at the right time and at the right place.

Blood shortages will occur; of this we can be certain. By ensuring that blood is being used appropriately at all times, and that alternatives are considered when applicable, we can help make sure that this life-saving intervention will be available for those who need it the most.

“Blood transfusion is a lot like marriage. It should not be entered into lightly, unadvisedly or wantonly, or more often than is absolutely necessary” (Beal, 1976).

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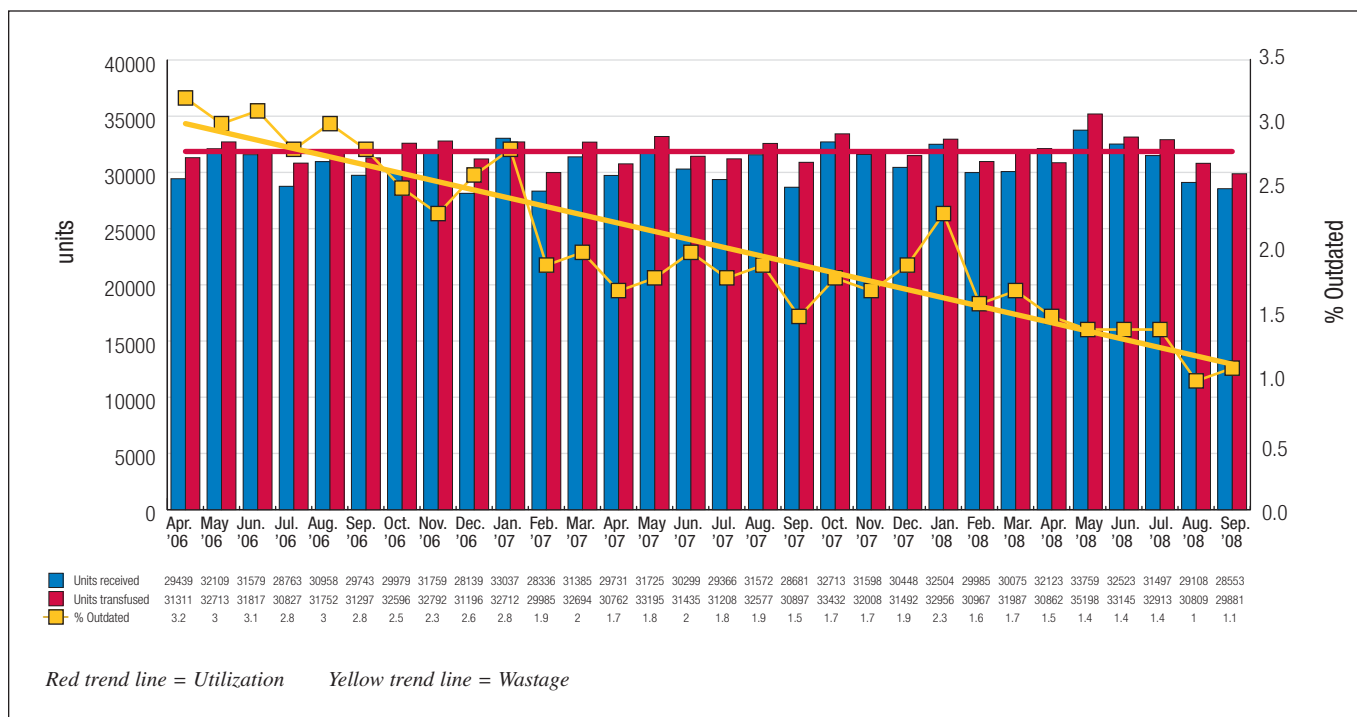


Figure One. Ontario Red Cell Utilization and Wastage Data (April 2006–September 2008)

De Moto Sanguinas (on the movement of blood) Ethics across the spectrum of transfusion

By Blair Henry, Clinical Ethicist

Riddle: What life-saving medicinal product can only be found in some humans, but not others? Is considered a free gift given either from another or to oneself and, yet, comes at a considerable cost? Is not classed as a drug and, yet, has a limited shelf life? Is more valuable in its parts, rather than as a whole? Won't be accepted if you've just gotten a tattoo? Can be toxic between a fetus and its mother? And, finally, has a tainted past that continues to influence its future?

Answer: Blood, and blood products

The above riddle illustrates, only in small part, how complex and also conflicting the issue of blood and blood transfusions can be within health care. Transfusion medicine's long history (dating back to 2500 BCE) is a fascinating exploration of science's encounter with the various mythological and religious belief systems underpinning our earliest understanding of the human body and what constitutes health. This intriguing encounter continues even to this day with the familiar cases involving Jehovah's Witnesses and their prohibition of blood transfusions.

The unfolding story of the ethical issues, imbedded in the movement of blood throughout history, continues into our modern health care system from the

field of obstetrics, involving medicine at the beginning of life through to palliative care at the end of life.

Understanding that this article cannot do justice to the full exploration of ethical issues, the following table outlines a preliminary taxonomy of key issues that surface in this field of medicine.

A role of ethics in clinical practice is to ensure the values inherent in the issue at hand are given reasonable consideration. Some of the key values that surface in the reflection of ethical considerations related to transfusion medicine are:

- Informed consent (given our moral assumption about choice and our societal value on liberty, the need for full disclosure of risk, benefits and alternative is an important cornerstone of any ethical reflection)
- Distributive justice (given the resource allocation requirements of the system—a decision-making process that is based on fairness and equity is paramount)
- Beneficence (underlying principle of doing good)
- Non-maleficence (avoiding harm and the inherent obligation to protect).

The above overview covers, in very general terms, some of the key issues that are imbedded into the blood and blood product collection and distribution system. As previously stated, this list is not meant to be exhaustive, but illustrative of

how extensive this field of medicine is. Blood and blood products are so pervasive in their usage and influence that most health care professionals will encounter some form of ethical dilemma involving the donation, collection, use, testing, storage, transfusion, or allocation of blood or blood products at some point in their careers. It is hoped that with the guidance of solid data and facts, having an empathic understanding of the parties involved, and using reflective reasoning in the face of ambiguity—ethical dilemmas in the field of transfusion medicine can be a faced with integrity and optimism.

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Team members of the Rapid Response Radiotherapy Program



2008
Rapid Response Radiotherapy Program (RRRP), Odette Cancer Centre

Edward Chow, Cyril Danjoux, May Tsao, Toni Barnes, Arjun Sahgal, Gunita Mittra, Emily Sinclair, Nives Krajnovic, Cathy Doyle, Ernest Dixon, Michelle Ross, Grace Chan, Matina Floros

Quality Award

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Canadian Society
of Radiation
Oncology

An overview of ethical issues in transfusion medicine	
System Components	
Blood as gift or commodity	The fundamental understanding of how blood is viewed by society has a major impact on the ethical assessment of issues related to its donation, testing, and use. Most developed societies consider that the donation and transfusion of blood are rooted in the notion of gift (not as a product), which implies a freedom to accept or defer it. The notion of blood as a gift rather than a commodity also entails a specific set of obligations on all parties involved: the system needs to reflect its altruistic basis, and be responsible to all members of the public and the health care system in its operation. Safety of the blood supply becomes a fundamental promise made and demands trust from all parties involved. This obligation extends to the concept of stewardship for a valuable resource, which implies there is both a medical (doctor-patient) and social (wise distribution) decision-making component involved in the allocation and use of this gift. Decisions need to reflect an ethic of public service on behalf of all parties involved. Debate and discussion continue over the values of a private for-payment versus a non-profit, voluntary-based blood donation system.
Alternatives to blood use	Concern for allocation of a limited resource, the inherent risks involved in transfusions, respect for religious beliefs, and concern for public safety have fuelled scientific enquiry into alternatives for blood products in health care. The field of bloodless transfusions has received considerable interest, and new pharmaceutical products offering alternatives such as volume expanders and oxygen therapeutics are common blood substitutes in use, and the field continues to grow. The duty of good stewardship entails an obligation for clinicians to use alternatives in the practice of medicine when evidence suggests this would be a reasonable and safe alternative.
Emergency research	Much of the research involved in blood substitution or transfusion guideline development entails research in the context of emergency situations: Trauma patients experience high blood loss and limited options related to informed consent create inherent ethical concerns related to deferring informed consent on vulnerable patients in times of crisis to support scientific enquiry in this field.
Safety and trust	<p>The Krever Enquiry (1997) stated that, “The Canadian Red Cross erred in not barring gay men from donation when it was known that AIDS was predominantly a disease of gay men, which led to over 1,000 cases of HIV being transmitted between 1982 and 1983.” This report and the tainted blood scandal it was envisioned to review significantly changed the landscape of blood donation in Canada.</p> <p>The Krever report came down on the issue stating that the rights of the recipients (patients) to receive safe blood overrules the rights of the donor to not be discriminated against in efforts to screen for potentially dangerous pathogens, and the courts have upheld that public rights are higher than the individual’s right.</p> <p>Screening of blood donors entails automatic deferrals based on exposure to various diseases (Creutzfeldt Jakob Disease, HIV, Hepatitis, Diabetes), as well as people engaging in high-risk activities (people who take money or drugs for sex, all men who have had sex with men, and IV drug users). Temporary deferrals of six mos. are required for anyone having obtained a tattoo. This has created considerable moral distress for health care workers entailed in screening potential donors, and within various disease/advocacy groups that feel discriminated against. The value of donor anonymity (protected by Privacy and Confidentiality) must now be balanced against mitigation of harms and risk in the system.</p>
Maternal–fetal conflict	Few topics can polarize as the under-pinning of the maternal-fetal conflict. The medical model of consideration for the mother–fetus relation has shifted from unity to duality—wherein there are two individual patients for consideration. However, the legal status of the fetus brings forward complicated ethical issues when a pregnant woman refuses medical therapy that could be life-saving for her fetus (intrauterine transfusions or surgical delivery and the field of feto-maternal medicine), which becomes bolstered as gestation progresses towards the point of viability.
Umbilical cord blood	The medical promises of hematopoietic stem cells in umbilical cord blood have raised public awareness of this new field in transfusion medicine—wherein allogenic transplantation uses are now being overshadowed by the potential for donation to sibling or parents in need of stem cells when a human leukocyte antigens identical bone marrow cell is unavailable. Cases where procreation has been used as a means to create future donors has raised considerable public concern. Also under review is the move from the current private cord blood collection and storage practices towards an altruistic publicly funded banking for allogenic transplantation.
End-of-life care and futility issues	Blood symbolizes life, and nowhere in health care is this more evident than in the area of end-of-life care. Transfusion, as treatment for palliative care, can be seen as efficacious and necessary as ventilator support in high-intensity care units and, though ineffective in treating the underlying disease, patients and family often demand transfusions as treatment when death is near—creating conflict for health care teams who must balance risk (transfusion risks) and burdens against limited benefit in the therapies they deliver at the end of life.

Psychosocial aspects of the use of blood products

By Mary Vachon, RN, PhD

My first exposure to blood products was when I was diagnosed with non-Hodgkin's lymphoma in 1996 on the way to lecture at the International Lymphoma Meeting in Hong Kong and Shanghai. My initial prognosis was not very optimistic. On a Sunday, I was having trouble breathing and one of my palliative care friends prescribed an inhaler. On Monday, I had a bone marrow aspiration and chemotherapy and on Thursday headed off to lecture. We were travelling together, as a family, our first international trip as a family of four. Some of my lectures were going to be in conjunction with my son. I come from a family of Boston Irish politicians. I figured if this was the last set of lectures I would be giving, how wonderful it would be to symbolically pass on the torch to my son.

I had already told my oncologist that quality of life was most important to me, so he and my oncology team were doing all they could to get me off and keep me well during my lecture tour. I asked about a blood product stimulating agent, which I knew some of my clients were taking. He considered the request and agreed it might be helpful. I carried my supply, carefully refrigerating it on airplanes and in hotels, but on the third day of my treatment I noticed the warning that it had been frozen. It was great to get help from the industry salespeople and some oncologists who had agreed to cover in case of problems. The next day, the product arrived and I continued my lecturing. It worked so well I stayed on the product for the rest of my treatment and continued with my regular work schedule, with a bit more flexibility for meditation, yoga and chi gong at Wellspring.

M.J. was referred to me in 1997 for palliative care, having recently been diagnosed with both kidney cancer and multiple myeloma. We are still meeting regularly. She is now 80, a widow with four adult children, one of whom, D., has been in residential care since early childhood and is a very important, full member of the family. In addition to her kidney cancer and multiple myeloma, M.J. has also been diagnosed with several

skin cancers and, recently, with a large breast cancer, "which I could see growing in the mirror every morning." She had a course of chemotherapy and there is now no evidence of a lump.

Prior to M.J.'s initial diagnosis, she remembers returning from a trip to Africa feeling quite ill. Maybe she had hurt her back lifting heavy suitcases. Her GP ordered blood tests and an x-ray, and then repeated the blood work. He then arrived unannounced, told her to get her clothes on because he was taking her to Sunnybrook. She asked, "Why" and he said, "Because, everything that you are going to need is there." She relates that he dropped her at the door, telling her that if he went in with her they would send her home, and she needed to have immediate attention. Within a few hours in emergency, it became clear there was something significantly wrong and M.J. was admitted. She recalls awakening in a room at Sunnybrook "with 10 people at the foot of my bed. Some nice lady doctor told me I had multiple myeloma. I said, 'are you telling me I have cancer? What does this mean?' She wasn't very positive and told me I was in kidney failure and dying... Both of my cancers were picked up at the same time, but they told me the myeloma was much more of a problem and needed to be treated immediately."

"Then, my oncologist came in and said, 'Well, you've got a really nasty disease, but I think I can help you.' I had chemo—lots of it. I had a lot of my treatment as an inpatient. I came out feeling terrible."

M.J. had her left kidney removed and developed shingles on the site of the surgery. She has lived with chronic post-herpetic neuralgia ever since. The pain has, at times, been a huge problem, at other times acupuncture has been helpful. "The relief lasted four years, but it wears off. You learn to manage pain. The serious pain is gone. I am left with the chronic pain, but I don't cry anymore. Bridge has played a big part in managing my pain. I use it as a distraction technique."

Soon after we met, I visited M.J. in the beautiful home she purchased near Sunnybrook. She figured if she was

going to die, she might as well do it in good surroundings and be close to the hospital. The home she purchased to be a good place to die has been a wonderful place to live and continue her entertaining. I have often said that I thought M.J. stayed alive because of her bridge playing. She is now a Bronze Life Master. About three years ago, M.J. experienced extreme exhaustion. Tests showed her myeloma had returned and she was severely anemic, a problem she had even before her myeloma diagnosis. She went to visit D., not sure she would be able to see him again. At one point, her palliative care physician visited, found her hemoglobin was very low and suggested an emergency blood transfusion. She felt that, as someone coming in for an emergency transfusion, "I was one person they didn't need in the transfusion room. The blood transfusion took all day. It certainly helped, but it must have been so expensive for everybody. If blood products can work, it is much better for everyone. The nurse taught me to self-administer an alternative to blood product, which I do in my kitchen. I'd much rather self-administer in my kitchen than go to Sunnybrook. The product helped to boost my red cell production. In two days I felt much better. If the blood product can help, go for it. It's much more convenient, as long as you know how to do it". However, there are also risks with these medications and one needs to consult your own doctor.

M.J. had chemotherapy with her recent diagnosis of breast cancer, and again she became very anemic and had so little energy she was no longer interested in playing bridge. In December, she had been back to playing bridge for two months, the first time in 2008. She received four firsts, but acknowledged that she had to do some reviewing before going back, "It's a complicated game."

She said that she felt she stayed alive in part because, "I had some tidying up to do... I am able to look myself in the mirror and say, 'I think you did your job well. As a mother, you brought up your children well.'"

Continuing Medical Education 2009–2010

By Ewa Szumacher, MD, MEd, FRCP(C)

Continuing Medical Education (CME) can update health care professionals on the latest advances for modifications to their clinical practice. At the request of the CME organizers and starting in 2006, Hot Spot lists the national and international CME activities in palliative medicine that are of interest to our readers. Please kindly forward details of the CME activities to: Ewa.Szumacher@sunnybrook.ca

- February 26–28, 2009—A conference of the Canadian Society of Palliative Care Physicians, Delta Sun Peaks Resort, Sun Peaks, BC; Tel.: (604) 875-5101; info@cpdkt.ubc.ca; http://www.cpd.med.ubc.ca/Events/CPD-KT_Conferences/The_6th_Annual_Advanced_Learning_in_Palliative_Medicine_Conference.htm/
- February 27–28, 2009—7th International Symposium on Supportive Care in Oncology: Cancer Management in the Era of Targeted Agents, The Ritz-Carlton New York, Battery Park; New York, NY; Physicians' Education Resource; Tel.: (888) 949-0045; cme@pergroup.com http://www.cancerlearning.com/index.cfm/fuseaction/conference.showOverview/id/5/conference_id/53
- March 5–7, 2009—Palliative Medicine & Supportive Oncology Symposium 2009—13th Annual International Symposium, Hyatt Regency Bonaventure; Fort Lauderdale, Florida; Contact: T. Myles; Tel.: 800.238.6750; <http://www.ccfme.org/pm09>
- March 6–9, 2009—6th Annual Toronto Radiation Medicine Conference, Old Mill Inn; Toronto, Ontario; Contact: Amanda Bolderston; Tel.: 416-946-4501 ext 4857; amanda.bolderston@rmp.uhn.on.ca www.radmedtoronto.com
- March 13–16, 2009—5th World Congress World Institute of Pain—WIP 2009, New York, NY; Tel.: (336) 714-8385; dianne.willard@worldinstituteofpain.org <http://www2.kenes.com/wip/Pages/home.aspx>
- March 25–28, 2009—Annual Assembly of the American Academy of Hospice & Palliative Medicine (AAHPM) and Hospice & Palliative Nurses Association (HPNA), Austin Convention Center; Austin, Texas; Tel.: (847) 375-4712; info@aahpm.org <http://www.aahpm.org/education/conf/index.html>
- April 15–18, 2009—Association for Death Education and Counseling—31st Annual Conference, Hyatt Regency Dallas; Dallas, Texas; Tel: 847-509-0403; info@adec.org <http://www.adec.org/>
- April 19–21, 2009—Annual Hospice Palliative Care Conference, Sheraton Parkway Toronto North, Richmond Hill, Ontario; info@hpc.conference.on.ca <http://www.hpcconference.on.ca>
- April 24, 2009—Palliative Care Conference—Strengthening Supportive Care when Death is Near: Familial, Institutional, Cultural and Spiritual Care at the End of Life; Crowne Plaza Hotel; Toronto, Ontario; <http://www.careconferences.com/conferences.html>
- April 27–June 24 2009—Certificate in Essential Palliative Care, Esher, Birmingham; Belfast, UK; Contact: Mrs. Catherine Hazell; catherinehazell@pah.org.uk www.pah.org.uk/education
- April 30 to May 2, 2009—Nova Scotia Hospice Palliative Care Association Conference 2009: Peace Talks—Facilitating the Palliative Care Journey Annapolis Basin Conference Centre in Cornwallis Park; Annapolis Valley, NS; Tel.: 401-863-9627; <http://www.nshpca.ca/>
- May 3, 2009—2009 Hike for Hospice Palliative Care, Canada; Contact: Linda Truglia, Canadian Hospice Palliative Care Association; Tel: 1-800-668-2785; ltruglia@scohs.on.ca
- May 3–9, 2009—2009 National Hospice Palliative Care Week, Canada http://www.chpca.net/events/nhpc_week.htm
- May 5–12, 2009 & November 10–17, 2009—The Program in Palliative Care Education & Practice (PCEP), Royal Sonesta Hotel, Boston; Tel.: 617-582-7859; pallcare@partners.org
- May 7–9, 2009—American Pain Society 28th Annual Scientific Meeting, San Diego Convention Center; San Diego CA; <http://www.ampainsoc.org/meeting/>
- May 7–10 2009—11th Congress of the European Association for Palliative Care, Vienna, Austria; <http://www.eapcnet.org/Vienna2009/>
- September 24–27 2009—International Conference on Cultural Connections for Quality Care at the End of Life, Perth, Western Australia; <http://www.conlog.com.au/palliativecare2009/>
- October 8–11, 2009—American Academy of Pain Management – 20th Annual Clinical Meeting; Sheraton Phoenix Downtown Hotel—Phoenix AZ <http://www.aapainmanage.org/conference/Conference.php>
- October 18–21, 2009—2009 Canadian Hospice Palliative Care Conference, Winnipeg, Manitoba; http://www.chpca.net/events/calendar_of_events.htm#oct09
- February 11–14, 2010—IXVII International Conference of Palliative Care of IACP, Trichirappalli, Tamilnadu; India; Contact: Dr. T. Mohanasundaram; drmohs.trichy@hotmail.com

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