

Dr. Daren Heyland, MD, M.Sc., FRCP(C)



Kingston General Hospital
Angada 4, Room 5-416
76 Stuart Street
Kingston, Ontario Canada K7L 2V7
Telephone: (613) 549-6666 ext. 3339
Fax: (613) 548-2428
Email: dkh2@queensu.ca

Daren is Professor of Medicine within the Department of Medicine at Queen's University and is trained in Internal Medicine, Critical Care Medicine, and Clinical Epidemiology. He has been with Queen's since 1996 and has a cross-appointment with the Department of Community Health and Epidemiology. In addition to his academic responsibilities, Daren is an Intensive Care Unit Staff Physician with the Kingston General Hospital (KGH). He was the Director of Research for the Critical Care Program at KGH from 1996 to 2008 and is currently the Director of the Clinical Evaluation Research Unit, an academic research organization that conducts multicenter studies based at KGH.

Daren has been a scientific reviewer for a number of journals including the Journal of the American Medical Association, Chest, American Journal of Respiratory and Critical Care Medicine, Intensive Care Medicine, Critical Care, and Journal of Palliative Care. He has also served as a member of the Editorial Board for the Journal of Critical Care and grant reviewer for the Canadian Institute for Health Research (CIHR) Clinical Trials Committee from 2004 to 2008. Daren held a Career Scientist Award (1996 to 2005) and has conducted several reviews, meta-analyses, and randomized trials that have evaluated the efficacy of various therapeutic approaches resulting in the development of best practice guidelines for the nutritional support and management of ventilator-associated pneumonia in critically ill patients. He brings considerable expertise and experience in diverse end of life research projects.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

Daren's research interests include:

- Nutritional therapy, gastrointestinal motility, stress ulcer prophylaxis, and gastrointestinal structure and function in the context of critical illness;
- Pneumonia, sepsis, and other infections in the critically ill patient;
- Randomized trials, systematic reviews and meta-analysis, outcomes assessments, economic evaluations, quality of life assessments and Evidence-based medicine;
- End of life care, aging, patient preferences, and clinical decision-making.

Daren has given over 300 presentations locally, nationally and internationally, and has published in 146 peer-reviewed journals as well as in 218 abstracts, editorials, case reports, book chapters, and/or non-peer reviewed journals. He has been awarded ~14 million dollars as a Principal Investigator and ~10 million dollars collaborating as a Co-Investigator in a number of peer-reviewed investigator-initiated research grants from agencies such as CIHR, Social Sciences and Humanities Research Council, Physician's Service Incorporated Foundation, Ontario Thoracic Society, Canadian Intensive Care Foundation, and other provincial funding. He also participated in industry-sponsored research activities (~1.3 million).

A list of his peer-reviewed journal publications (as of April 9, 2009) includes:

- 1) Heyland DK, Sauve M. A case of Neuroleptic Malignant Syndrome with out the use of neuroleptics. *Can Med Assoc J* 1991; 145(7):817-819.
- 2) Heyland DK, Mandell LA. Gastric colonization and Nosocomial Pneumonia: Evidence for causation. *Chest* 1992; 101:187-93.
- 3) Heyland DK, Bradley C, Mandell LA. Effect of Acidified Enteral Feeds on Gastric Colonization in the Critically Ill Patient. *Crit Care Med*, 1992; 20:1388-1394.
- 4) Heyland DK, Cook DJ, Guyatt G. Enteral Nutrition in the Critically Ill Patient: A Review. *Int Care Med*, 1993; 19:435-442.
- 5) Heyland DK, Cook DJ, Jaeschke R, Griffith L, Lee HN, Guyatt GH. Selective Decontamination of the Digestive Tract: An Overview. *Chest* 1994; 105:1221-9.
- 6) Heyland DK, Cook DJ, Guyatt G. Does the Formulation of Enteral Feeding Products Influence Infectious Morbidity and Mortality in the Critically Ill Patient: A Critical Review of the Evidence. *Crit Care Med* 1994; 22:1192-1202.
- 7) Heyland DK, Winder B, Cook DJ, Brylowski L, van der Mark H, Guyatt G. Enteral Nutrition in the Critically Ill Patient: A Prospective Survey. *Crit Care Med* 1995; 23:1055-1060.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 8) Cronin L, Cook DJ, Carlet J, Heyland DK, King D, Fisher CJ. Corticosteroid Treatment for Sepsis: A Critical Appraisal and Meta-analysis of the Literature. *Crit Care Med* 1995; 23:1430-1439.
- 9) Cook DJ, Reeve BK, Guyatt GH, Heyland DK, Griffith LE, Buckingham L, Tryba M. Stress Ulcer Prophylaxis in the Critically Ill: Resolving Discordant Meta-analyses. *JAMA* 1996; 275:308-314.
- 10) Heyland DK, Cook D, King D, Kernerman P, Bruin-Buisson C. Maximizing Oxygen Delivery in Critically ill Patients: A Methodologic Appraisal of the Evidence. *Crit Care Med* 1996; 24:517-524.
- 11) Heyland DK, Winder B, Cook DJ, Guyatt G. Do Critically Ill Patients Tolerate Early, Intra-gastric Nutrition? *Clin Int Care* 1996; 7:68-73.
- 12) Heyland DK, Kernerman P, Gafni A, Cook DJ. Economic Evaluations in the Intensive Care Unit: Do they help us improve the efficiency of our Unit? *Crit Care Med* 1996; 24:1591-1598.
- 13) Heyland DK, Gafni A, Griffith L, Cook DJ, for the Canadian Critical Care Trials Group. The Clinical and Economic Consequences of Clinically Important Bleeding in Critically Ill Patients. *Clin Int Care* 1996; 7:121-125.
- 14) Heyland DK, Tougas G, Cook DJ, Guyatt GH. Cisapride Improves Gastric Emptying in Mechanically Ventilated, Critically Ill Patients: A Randomized, Double-blind Trial. *Am J Respir Crit Care Med* 1996; 154:1678-1683.
- 15) Heyland DK, Tougas G, Cook DJ. Impaired Gastric Emptying in Critically Ill Patient. *Intensive Care Med* 1996; 22:1339-1344.
- 16) Naylor CD, Guyatt GH, Heyland DK for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. X. How to use an article reporting variations in the outcomes of health services. *JAMA* 1996; 275; 554-558.
- 17) Naylor CD, Guyatt GH, Heyland DK for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. IX. How to use an article about a clinical utilization review. *JAMA* 1996; 275; 1435-1439.
- 18) Guyatt GH, Naylor CD, Juniper L, Heyland DK, Cook DJ for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. XII How to use an article about health-related quality of life. *JAMA* 1997; 277:1232-1236.
- 19) Drummond MF, Richardson WS, O'Brien B, Levine M, Heyland DK for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. XI. How to use an economic analysis of clinical practice: A. Are the results of the study valid? *JAMA* 1997; 277:1552-1557.
- 20) O'Brien B, Heyland DK, Richardson WS, Levine M, Drummond MF for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. XI. How to use an economic analysis of clinical practice: B. What are the results and will they help me in caring for my patients? *JAMA* 1997; 277: 1802-1806.
- 21) Cook DJ, Hebert PC, Heyland DK, Brun-Buisson C, Marshall JC, Russell J, Sprung C. For the Evidence-Based Medicine in Critical Care Working Group. How to use an Article on Therapy or Prevention: Pneumonia Prevention Using Subglottic Secretion Drainage. *Crit Care Med* 1997; 25:1502-1513.
- 22) Cook DJ, De Jonge B, Heyland DK. The relationship between nutrition and nosocomial pneumonia: Randomized trials in critically ill patients. *Crit Care* 1997; 1:3-9.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 23) Cook DJ, Levy MM, Heyland DK. For the Evidence-Based Medicine in Critical Care Working Group. How to Use a Review Article: Prophylactic endoscopic sclerotherapy for esophageal varices. Crit Care Med 1998;26; 692-700.
- 24) Heyland DK, Meade M, Cook D, Guyatt GH, Gafni A. The frequency and methodological rigor of quality of life assessments in the critical care literature. Crit Care Med 1998;26; 591-598.
- 25) Heyland DK, Wood G. The effect of acidified enteral feeds on contamination of the enteral nutrition feeding system. Nutrition in Clinical Practice 1998; 13:S33-37.
- 26) Heyland DK. Making inferences from scientific research. Nutrition in Clinical Practice 1998;13:S1-7.
- 27) Heyland DK, Konopad E, Noseworthy T, Shustack A, Johnston R, A Gafni. Is it worthwhile to continue treating patients with a prolonged stay (>14 days) in the Intensive Care Unit: An economic evaluation. Chest 1998;114:192-198.
- 28) Heyland DK, MacDonald S, Keefe L, Drover JW. Total parenteral nutrition in the critically ill patient: A meta-analysis. JAMA 1998; 280:2013-2019.
- 29) Heyland DK, Konopad E, Alberda C, Keefe L, Cooper C, Cantwell B. How well do critically ill patients tolerate early, intragastric enteral feeding? Results of a prospective multicenter trial. Nutrition in Clinical Practice 1999; 14:23-28.
- 30) Heyland DK, Cook DJ, Heule M, Marshall J, Guslits B, Lang J, Jaeschke R. The clinical utility of invasive diagnostic techniques in the setting of ventilator-associated pneumonia. Chest 1999; 115:1076-1084.
- 31) Heyland DK, Cook DJ, Griffith L, Keenan S, Brun-Buisson C. The attributable morbidity and mortality of ventilator-associated pneumonia in the critically ill patient. Am J Resp Crit Care Med 1999; 159:1249-1256.
- 32) Heyland DK. Nutritional support in the seriously ill hospitalized patient: A systematic review of the literature. Brazilian J Clin Nutrition 1999; 14(2):95-112.
- 33) Heyland DK, MacDonald S, Keefe L, Drover JW. Total parenteral nutrition in the critically ill patient: A systematic review of the literature. Crit Care International 1999; 9:10-12.
- 34) Heyland DK, Gafni A, Kernerman P, Keenan S, Chalfin D. For the Evidence-Based Medicine in Critical Care Working Group. How to use an economic evaluation. Crit Care Med 1999; 27; 1195-1202.
- 35) Deegan H, Dent S, Heyland DK, Keefe L, Drover JW. Supplemental parenteral nutrition in the critically ill patient: A retrospective study. Clinical Intensive Care 1999; 10:131-136.
- 36) Heyland DK, Cook DJ, Schoenfeld PS, Frietag A, Varon J, Wood G. The effect of acidified enteral feeds on gastric colonization in the critically ill patient: Results of a multicenter randomized trial. Crit Care Med 1999; 27:2399-2406.
- 37) Taylor JS, Heyland DK, Taylor SJ. How advance directives affect hospital resource use. Systematic review of the literature. Can Fam Physician 1999; 45:2408-2413.
- 38) Keenan SP, Guyatt GG, Sibbald WJ, Cook DJ, Heyland DK, Jaeschke R. For the Evidence-Based Medicine in Critical Care Working Group. How to use an article about diagnostic technology. Crit Care Med 1999; 27:1726-1731.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 39) Cook DJ, Heyland DK, Griffith L, Cook R, Marshall JM, for the Canadian Critical Care Trials Group. Risk factors for clinically important gastrointestinal bleeding in patients requiring mechanical ventilation. Crit Care Med 1999; 27(12):2812-2817.
- 40) Heyland DK. Enteral and parenteral nutrition in the seriously ill hospitalized patient: A critical review of the evidence. J Nutrition, Health & Aging 2000; 4:31-41.
- 41) Heyland DK. Parenteral nutrition in the critically ill patient: More harm than good? Proceedings of the Nutrition Society 2000; 59:457-466.
- 42) Heyland DK, Lavery JV, Tranmer J, Shortt SED, for the Queen's/KGH End of Life Research Working Group. The final days: An analysis of the dying experience in Ontario. Annals of Royal College of Physicians and Surgeons of Canada 2000; Annals 2000; 33:356-361.
- 43) Heyland DK, Gafni A, Levine MAH. Do potential patients prefer tissue plasminogen activator (TPA) over streptokinase (SK)? An evaluation of the risks and benefits of TPA from the patient's perspective. J Clinical Epidemiology 2000; 53:888-894.
- 44) Giacomini MK, Cook DJ, Heyland DK for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. XXIII. Qualitative research in health care: A. Are the results of the study valid? JAMA 2000; 284:357-362.
- 45) Giacomini MK, Cook DJ, Heyland DK for the Evidence-Based Medicine Working Group. User's Guides to the medical literature. XXIII. Qualitative research in health care: B. What are the results and how do they help me care for my patients? JAMA 2000; 284:478-482.
- 46) Heyland DK, Hopman W, Coe H, Tranmer J, McColl MA. Long-term health-related quality of life (HRQL) in survivors of sepsis: Short Form 36 - A Valid and Reliable Measure of HRQL. Crit Care Med 2000; 28:3599-3605.
- 47) Heyland DK, Tranmer J, Feldman-Stewart Deborah. End of life decision making in the seriously ill hospitalized patient. An organizing framework and results of a preliminary study. J Palliative Care 2000; 16:S31-S39.
- 48) Heyland DK, Lavery JV, Tranmer J, Shortt SED, SJ Taylor for the Queen's/KGH End of Life Research Working Group. Dying in Canada: Is it an institutionalized, technologically supported experience? J Palliative Care 2000; 16:S10-S16.
- 49) Heyland DK, Novak F. Immunonutrition in the critically ill patient: More harm than good? JPEN 2001; 25:S51-55.
- 50) Heyland DK, Montalvo M, MacDonald S, Keefe L, Drover JW. Total parenteral nutrition in the surgical patient: A meta-analysis. Canadian J Surg 2001; 44:102-111.
- 51) Wright F, Heyland DK, Drover JW, MacDonald S, Zoutman D. Antibiotic-coated central lines: Do they work in the critical care setting? Clinical Intensive Care 2001; 12:21-28.
- 52) Heyland DK, Wood G, Cook DJ for the Canadian Critical Care Trials Group. Is the stomach an important source of tracheal contamination and subsequent pneumonia? Clinical Intensive Care 2001; 12(1):29-36.
- 53) Cook DJ, Heyland DK, Marshall J for the Canadian Critical Care Trials Group. On The Need For Observational Studies To Design And Interpret Randomized Trials: A Case Study in Stress Ulcer Prophylaxis. Intensive Care Med 2001; 27:347-354.
- 54) Tranmer JE, Heyland DK. Decisional role in seriously ill hospitalized patients near the end of life: The patient's and provider's perspective. Can Oncol Nurs J 2001; 11:8-13.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 55) Heyland DK, Novak F, Drover J, Jain M, Suchner U. Should immunonutrition become routine in critically ill patients: A systematic review of the evidence. JAMA 2001; 286:944-953.
- 56) Heyland DK, Drover J, MacDonald S, Novak F, Lam M. Effect of post-pyloric feeding on gastroesophageal regurgitation and pulmonary microaspiration: Results of a randomized controlled trial. Critical Care Med 2001; 29:1495-1501.
- 57) Kindopp S, Drover JD, Heyland DK. Capnography confirms correct feeding tube placement in intensive care unit patients. Can J Anesth 2001; 48:705-710.
- 58) Suchner U, Heyland DK, Peter K. Immune-modulatory actions of arginine in the critically ill. British Journal of Nutrition 2001; 87:S121-132.
- 59) Heyland DK. In search of the magic nutraceutical: Problems with the current approaches. Journal of Nutrition 2001; 131:2591S-2595S.
- 60) Cook DJ, Griffith L, Walter S, Guyatt GH, Meade MO, Heyland DK, et al. The attributable mortality and length of ICU stay of clinically important gastrointestinal bleeding in critically ill patients. Crit Care 2001; 5:368-375.
- 61) Heyland DK, Tranmer J, for the KGH ICU Research Working Group. Measuring family satisfaction with care in the intensive care unit: The development of a questionnaire and preliminary results. J Crit Care 2001; 16:142-149.
- 62) Heyland DK, Rocker GM, Dodek PM, Kutsogiannis DJ, Konopad E, Cook DJ, Peters S, Tranmer JE, O'Callaghan CJ. Family satisfaction with care in the ICU: The results of a multicenter study. Crit Care Med 2002; 30:1413-1418.
- 63) Booth CM, Heyland DK, Paterson WG. Gastrointestinal promotility drugs in the critical care setting: A systematic review of the evidence. Crit Care Med 2002; 30:1429-1435.
- 64) Drover JD, Dhaliwal R, Heyland DK. Post-pyloric feeding in the critically ill: Not all it is cracked up to be. Int J Intensive Care 2002; 9:139-145.
- 65) Novak F, Heyland DK, Avenell A, Novak F, Drover J, Su X. Glutamine supplementation in serious illness: A systematic review of the evidence. Crit Care Med 2002; 30:2022-2029.
- 66) Heyland DK, Cook DJ, Dodek P. Prevention of ventilator-associated pneumonia (VAP): A survey of Canadian practice. J Critical Care 2002; 17:161-167.
- 67) Heyland DK. Immunonutrition in the critically ill patient: Putting the cart before the horse? Nutrition Clin Pract 2002 17(5):267-272.
- 68) Heyland DK, Drover JD, Dhaliwal R, Greenwood J. Optimizing the Benefits and Minimizing the Risks of Enteral Nutrition in the Critically Ill: Role of Small Bowel Feeding. JPEN 2002;26:S51-57.
- 69) Heyland DK, Schroter-Noppe D, Drover J, Jain M, Keefe L, Dhaliwal R, Day A. Nutrition support in the critical care setting: Current practice in Canadian ICUs - opportunities for improvement? JPEN 2003; 27(Jan-Feb):74-83.
- 70) Heyland DK, Rocker GM, Dodek PM, Cook DJ, O'Callaghan CJ. Dying in the ICU: Perspectives of family members. Chest 2003; 124(Jul); 392-397.
- 71) Heyland DK, Rocker GM, Dodek PM, Kutsogiannis DJ, Cook DJ, Peters S. Decision making in the ICU: Perspectives of the substitute decision maker. Intensive Care Medicine 2003; 29(Jan): 75-82.
- 72) Heyland DK, Tranmer JE, O'Callaghan CJ, Gafni A. The Seriously Ill Hospitalized Patient: Preferred Role in End of Life Decision Making. J Critical Care 2003; 18(Mar):3-10.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 73) Tranmer JE, Heyland DK, Dudgeon D, Squires-Graham M, Coulson K. Measuring the symptom experience of seriously ill cancer and noncancer hospitalized patients near the end of life with the memorial symptom assessment scale. *J Pain Symptom Manage* 2003;25(May):420-429.
- 74) Heyland DK, Dhaliwal R, Drover JW, Gramlich L, Dodek P, for the Guidelines Committee. Canadian clinical practice guidelines for nutrition support in the adult critically ill patient. *JPEN* 2003; 27(Sep-Oct):355-373.
- 75) Frank C, Heyland DK, Chen B, Farquhar D, Meyers K, Iwassa K. Determining resuscitation preferences of elderly inpatients: a review of the literature. *CMAJ* 2003; 169(Oct):795-9.
- 76) Bourgault A, Heyland DK, Drover J, et al Prophylactic pancreatic enzyme use to reduce the incidence of enteral feeding tube occlusion: A Pilot Study. *Nutrition in Clinical Practice* 2003; 18(5):398-401.
- 77) Lacherade JC, Cook DJ, Heyland DK, Chrusch C, Brochard L, Brun-Buisson C. Prevention of venous thromboembolism in critically ill medical patients: A Franco-Canadian cross-sectional study. *J Critical Care* 2003; 18(4) (Dec):228-237.
- 78) Martin CM, Doig GS, Heyland DK, Webster G, Morrison T, Sibbald WJ. A multicenter, cluster randomized clinical trial of algorithms for critical care enteral and parenteral therapy (ACCEPT). *CMAJ* 2004; 170(Jan):197-204.
- 79) Cook DJ, Rocker GM, Heyland DK. Dying in the ICU: Strategies that may improve end-of-life care. *Can J Anesth* 2004; 51(Mar):266-272.
- 80) Rocker GM, Heyland DK, Cook DJ, Dodek PM, Kutsogiannis DJ, O'Callaghan CJ. Most critically ill patients are perceived to die in comfort during withdrawal of life support: a Canadian multicenter study. *Can J Anesth* 2004; 51(Jun):623-630.
- 81) Rocker G, Cook DJ, Sjøkvist P, Weaver B, Finfer S, McDonald E, Marshall J, Kirby A, Levy, M, Dodek P, Heyland DK, Guyatt G, for the Canadian Critical Care Trials Group. Clinician predictions of intensive care unit mortality. *Crit Care Med* 2004; 32(May):1149-1154.
- 82) Dhaliwal RD, Jurewitsch B, Harrietha D, Heyland DK. Combination enteral and parenteral nutrition in critically ill patients: Harmful or beneficial? A systematic review of the evidence. *Intensive Care Med* 2004; 30:1666-1671.
- 83) Dodek PM, Heyland DK, Rocker G, Cook DJ. Translating family satisfaction data into quality improvement. *Crit Care Med* 2004; 32(9):1922-1927.
- 84) Dodek P, Keenan S, Heyland DK, Cook DJ, et al. Evidence-based clinical practice guideline for the prevention of ventilator-associated pneumonia. *Ann Intern Med* 2004; 141(4):305-313.
- 85) Gramlich L, Kichian G, Pinilla J, Rodych NJ, Dhaliwal R, Heyland DK. Does enteral nutrition compared to parenteral nutrition result in better outcomes in critically ill adult patients? A systematic review of the literature. *Nutrition* 2004; 20(10):843-848.
- 86) Heyland DK, Dhaliwal R, Day A, Jain M, Drover J. Validation of the Canadian clinical practice guidelines for nutrition support of mechanically ventilated patients: Results of a prospective observational study. *Crit Care Med* 2004; 32(11):2260-2266.
- 87) Parker CM, Heyland DK. Aspiration and the risk of ventilator-associated pneumonia. *Nutrition Clin Pract* 2004; 19(6):597-609.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 88) Heyland DK, Dhaliwal R, Suchner U, Berger M. Antioxidant nutrients: A systematic review of vitamins and trace elements in the critically ill patient. *Intensive Care Med* 2005(Mar); 31(3):327-337.
- 89) Rocker GM, Cook DJ, O'Callaghan CJ, Pichora D, Dodek PM, Conrad W, Kutsogiannis DJ, Heyland DK. Canadian nurses' and respiratory therapists' perspectives on withdrawal of life support in the intensive care unit. *J Crit Care* 2005(Mar); 20:59-65.
- 90) Heyland DK, Groll D, Caeser M. Survivors of acute respiratory distress syndrome: Relationship between pulmonary dysfunction and long-term health-related quality of life. *Crit Care Med* 2005(Jul); 33(7):1549-1556.
- 91) Dhaliwal R, Heyland DK. Nutrition and infection in the ICU: What does the evidence show? *Curr Opin Crit Care* 2005(Oct); 11(5):461-467.
- 92) Heyland DK, Groll D, Rocker G, Dodek P, Gafni A, Tranmer J, Pichora D, Lazar N, Kutsogiannis J, Shortt S, Lam M, for the Canadian Researchers at the End of Life Network (CARENET). End of life care in acute care hospitals in Canada. A quality finish? *J Palliat Care* 2005 (Autumn); 21(3):142-150.
- 93) Patel R, Griffith L, Meade M, Mehta S, Hodder R, Martin C, Heyland DK, et al. for the Canadian Critical Care Trials Group. Burden of Illness in ThromboEmbolism in Critical Care (BITEC) Study: A multicenter observational study. *J Crit Care* 2005(Dec); 20(4):341-347.
- 94) Heyland DK, Dodek P, Rocker G, et al. for the Canadian Researchers at the End of Life Network (CARENET). What matters most in end-of-life care: Perceptions of seriously ill patients and their family members? *Can Med Assoc J* 2006(Feb); 174(5):627-633.
- 95) McClave SA, Chang, WK, Dhaliwal R, Heyland DK. Nutrition support in acute pancreatitis: A systematic review of the literature. *JPEN* 2006(Mar/Apr); 30:143-156.
- 96) Howes D, Green R, Gray S, Stenstrom R, Easton D, Heyland DK for the Canadian Association of Emergency Physicians. Evidence for the use of hypothermia after cardiac arrest. *Can J Emerg Med* 2006(Mar); 8(2):109-115.
- 97) Heyland DK, Dhaliwal R. Oxidative stress in the critically ill: A preliminary look at the REDOXS study. *Critical Care Rounds* 2006(Apr), 7(1).
- 98) Groll DL, Heyland DK, Caeser M, Wright JG. Assessment of long-term physical function in acute respiratory distress syndrome (ARDS) patients. Comparison of the Charlson Comorbidity Index and the Functional Comorbidity Index. *Am J Phys Med Rehabil* 2006(Jul); 85(7):574-581.
- 99) Heyland DK, Frank C, Groll, D, Pichora D, Dodek P, Rocker G, Gafni A for the Canadian Researchers at the End of Life Network (CARENET). Understanding cardiopulmonary resuscitation decision making: Perspectives of seriously ill hospitalized patients and family members. *Chest* 2006(Aug); 130(2):419-428.
- 100) Jain MK, Heyland DK, Dhaliwal R, Day A, Drover J, Keefe L, Gelula M. Dissemination of the Canadian Clinical Practice Guidelines for nutrition support: Results of a cluster randomized trial. *Crit Care Med* 2006(Sept); 34:2362-9.
- 101) Heyland DK, Dhaliwal R, Day A, Muscedere J, Drover J, Suchner U, Cook DJ, for the Canadian Critical Care Trials Group. REducing Deaths due to OXidative Stress: The REDOXS© Study: Rationale and study design for a randomized trial of glutamine and antioxidant supplementation in critically ill patients. *Proc Nutr Soc* 2006(Aug); 65(3):250-263.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 102) Parker CM, Heyland DK, Groll D, Caesar, M. Mechanism of injury influences quality of life in survivors of acute respiratory distress syndrome. *Intensive Care Med* 2006(Sept); 32:1895-2000.
- 103) Cook D, Rocker G, Giacomini M, Heyland DK. Understanding and changing attitudes toward withdrawal and withholding of life support in the ICU. *Crit Care Med* 2006 (Nov); 34(11) [Suppl]:S317-S323.
- 104) Heyland DK, Cook D, Dodek P, Muscedere J, Day A for the Canadian Critical Care Trials Group. A randomized trial of diagnostic techniques for ventilator-associated pneumonia. *N Engl J Med* 2006(Dec); 355(25):2619-30.
- 105) Wall RJ, Engelberg R, Downey L, Heyland DK, Curtis JR. Refinement, scoring, and validation of the Family Satisfaction in the Intensive Care Unit (FS-ICU) survey. *Crit Care Med* 2007; 35(1):271-279.
- 106) Frank C, Heyland DK, Pichora D. CARENET: A resource for researchers in end-of-life care. *Canadian Journal of Geriatrics* 2006; 9(4):147-149.
- 107) Frank C, Pichora D, Schroder C, Wattam P, Heyland DK. Improving end-of-life care in clinical teaching units: The Associated Medical Services, Inc. Fellowship in End of Life care. *Can J GIM* 2006; 1(1):21-22.
- 108) Heyland DK, Dhaliwal R, Day A, Drover J, Cote H, Wischmeyer P. Optimizing the dose of glutamine dipeptides and antioxidants in critically ill patients: A phase I dose finding study. *J Parenter Enteral Nutri* 2007; 31(2):109-118.
- 109) Jones NE, Suurdt J, Ouellette-Kuntz H, Heyland DK. Implementation of the Canadian clinical practice guidelines for nutrition support: a multiple case study of barriers and enablers. *Nutr Clin Pract* 2007; 22(4):449-57.
- 110) Cote H, Day A, Heyland DK. Longitudinal increases in blood cells mitochondrial DNA (mtDNA) levels are associated with survival in critically ill patients. *Critical Care* 2007; 11(4):R88.
- 111) Sinuff T, Cook D, Giacomini M, Heyland DK, Dodek P. Facilitating clinician adherence to guidelines in the intensive care unit: a multicenter, qualitative study. *Crit Care Med* 2007; 35(9):2083-2089.
- 112) Stapleton RD, Jones N, Heyland DK. Feeding critically ill patients: What is the optimal amount of energy? *Crit Care Med* 2007; 35(9):S535-S540.
- 113) Laverdiere M, Labbe AC, Restieri C, Rotstein C, Heyland DK, Madger S, Steward T. Susceptibility patterns of *Candida spp* recovered from Canadian intensive care units. *J Crit Care* 2007; 22:245-251.
- 114) Sinuff T, Eva K, Meade M, Dodek P, Heyland DK, Cook D. Clinical practice guidelines in the intensive care unit: A survey of Canadian clinician's attitudes. *Can J Anesth* 2007; 54(9):728-736.
- 115) Longo, CJ, Heyland DK, Fisher HN, Fowler RA, Martin C, Day A. A long term follow-up study investigating health related quality of life and resource use in survivors of severe sepsis. Comparison of recombinant human activated protein C to standard care. *Crit Care* 2007; 11(6):R128.
- 116) Muscedere JG, Heyland DK, Cook D. Venous thromboembolism in critical illness in a community intensive care unit. *J Crit Care* 2007; 22(4):285-289.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 117) Aarts MA, Hancock, J, Heyland DK, McLeod RS, Marshall JC. Empiric antibiotic therapy for suspected ventilator-associated pneumonia: A systematic review and meta-analysis of randomized trials. Crit Care Med 2008; 26(1):108-117.
- 118) Heyland DK, Dodek P, Muscedere J, Day A, Cook D. Randomized trial of combination versus monotherapy for the empiric treatment of suspected ventilator-associated pneumonia. Crit Care Med 2008; 36(3):737-744.
- 119) Jones NE, Heyland DK. Pharmaconutrition: A new emerging paradigm. Curr Opin Gastroenterol 2008(Mar); 24(2):215-222.
- 120) Stajduhar KI, Allan DE, Cohen SR, Heyland DK. Preferences for location of death of seriously ill hospitalized patients: Perspectives from Canadian patients and their family caregivers. Palliative Med 2008; 22:85-88.
- 121) Muscedere J, Martin C, Heyland DK. The impact of ventilator associated pneumonia on the Canadian health care system. J Crit Care 2008; 23:5-10.
- 122) Sinuff T, Muscedere J, Cook D, Dodek P, Heyland DK. Ventilator associated pneumonia: improving outcomes through guideline implementation. J Crit Care 2008; 23:118-125.
- 123) Muscedere J, Dodek P, Keenan S, Fowler R, Cook D, Heyland DK. Comprehensive evidence-based clinical practice guidelines for ventilator associated pneumonia: prevention. J Crit Care 2008; 23:126-137.
- 124) Shorr AF, Cook D, Jiang X, Muscedere J, Heyland DK. Correlates of clinical failure in ventilator-associated pneumonia: insights from a large, randomized trial. J Crit Care 2008; 23:64-73.
- 125) Muscedere JG, McColl C, Shorr A, Jiang X, Marshall J, Heyland DK. Determinants of outcome in patients with a clinical suspicion of ventilator associated pneumonia. J Crit Care 2008; 23:41-49.
- 126) Joffe AR, Muscedere J, Marshall JC, Su Y, Heyland DK. The safety of targeted antibiotic therapy for ventilator associated pneumonia: a multicenter observational study. J Crit Care 2008; 23:82-90.
- 127) Albert M, Friedrich JO, Adhikari NKJ, Day AG, Verdant C, Heyland DK. Utility of gram stain in the clinical management of suspected ventilator-associated pneumonia: secondary analysis of a multicentre randomized trial. J Crit Care 2008; 23:74-81.
- 128) Sanders K, Adhikari NK, Friedrich JO, Day A, Jiang X, Heyland DK. Previous cultures are not clinically useful for guiding empiric antibiotics in suspected ventilator associated pneumonia: secondary analysis from a randomized trial. J Crit Care 2008; 23:58-63.
- 129) Muscedere J, Dodek P, Keenan S, Fowler R, Cook D, Heyland DK. Comprehensive evidence-based clinical practice guidelines for ventilator-associated pneumonia: diagnosis and treatment. J Crit Care 2008; 23:138-147.
- 130) Lauzier F, Ruest A, Dodek P, Albert M, Shorr AF, Day A, Jiang X, Heyland DK. The value of pretest probability and modified clinical pulmonary infection score to diagnose ventilator-associated pneumonia. J Crit Care 2008; 23:50-57.
- 131) Parker C, Kutsogiannis J, Muscedere J, Cook D, Dodek P, Day A, Heyland DK. Ventilator-associated pneumonia caused by multidrug-resistant organisms or pseudomonas aeruginosa: prevalence, incidence, risk factors, and outcomes. J Crit Care 2008; 23:18-26.
- 132) Delisle MS, Williamson DR, Perreault MM, Albert M, Jiang X, Heyland DK. The clinical significance of candida colonization of respiratory tract secretions in critically ill patients. J Crit Care 2008; 23:11-17.

Dr. Daren Heyland, MD, M.Sc., FRCP(C)

- 133) Saberi F, Heyland DK, Lam M, Rapson D, Jeejeebhoy K. Insulin resistance in critically ill patients: Prevalence, incidence, and correlation with inflammation, coagulation and clinical outcomes. JPEN J Parenter Enteral Nutr 2008; 32(3):227-35.
- 134) Rocker GM, Dodek PE, Heyland DK. Toward optimal end-of-life care for patients with advanced COPD: Insights from a multicentre study. Can Respir J 2008; 15(5):249-254.
- 135) Heyland DK, Jones N, Cvijanovich N, Wong H. Zinc supplementation in critically ill patients: A key pharmacconutrient? JPEN J Parenter Enteral Nutr 2008; 32(5):509-519.
- 136) Jones N, Dhaliwal R, Day A, Ouellette-Kuntz H, Heyland DK. Factors predicting adherence to the Canadian clinical practice guidelines (CPGs) for nutrition support in mechanically ventilated, critically ill adult patients. J Crit Care 2008; 23:301-307.
- 137) Arcaroli JJ, Hokanson JE, Abraham E, Geraci M, Murphy JR, Bowler RP, Heyland DK et al. EC-SOD Haplotypes are associated with acute lung injury and mortality. Am J Crit Care Med 2009; 179:105-112.
- 138) Martin CM, Priestap, F, Fisher H, Fowler RA, Heyland DK, Keenan SP, Longo CJ et al for the STAR Registry Investigators. A prospective, observational registry of patients with severe sepsis: The Canadian Sepsis Treatment and Response Registry. Crit Care Med 2009; 37(1):81-8.
- 139) Griesdale D, de Souza R, van Dam RM, Heyland DK et al. Intensive insulin therapy and mortality in the critically ill patients: A meta-analysis including NICE SUGAR study data. CMAJ 2009; 180(8):831-827.
- 140) The NICE-SUGAR Study Investigators. Intensive versus conventional glucose control in critically ill patients. New Engl J Med 2009; 360(13):1283-1349.
- 141) Arcaroli JJ, Hokanson JE, Abraham E, Geraci M, Heyland DK et al. Extracellular superoxide dismutase haplotypes are associated with acute lung injury and mortality. Am J Resp Crit Care Med 179; 105-112.
- 142) Finfer S, Chittock D, Cook D, Heyland DK et al. Intensive versus conventional glucose control in critically ill patients. N Engl J Med 2009; 360(1):1283-97.
- 143) Minor S, Heyland DK, Schroder C. Using the intensive care unit to teach end-of-life skills to rotating junior residents. Am J Surg 2009 (in press).
- 144) Heyland DK, Allan DE, Rocker G, Dodek P, Pichora D, Gafni A. Discussing prognosis with patients and their families near the end of life: Impact on satisfaction with end of life care. Open Medicine 2009 (in press).
- 145) Strachan P, Ross H, Rocker G, Dodek P, Heyland DK. Mind the Gap: Opportunities for improving end-of-life care for patients with advanced heart failure. Can J Cardiology 2009 (in press).
- 146) Schroder C, Heyland DK, Jiang X, Rocker G, Dodek P. Educating medical residents in end-of-life care: insights from a multicentre survey. J Palliat Med 2009 (in press).