

CURRICULUM VITAE

NAME: **HELMUT WALTER UNRUH**

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Winnipeg, Manitoba
Canada, R3A 1R9

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E-MAIL: hunruh@exchange.hsc.mb.ca

ACADEMIC RANK: Professor

UNDERGRADUATE EDUCATION:

1970 - 1972 Faculty of Science, University of Manitoba

1972 - 1976 Faculty of Medicine, University of Manitoba

DEGREES OBTAINED AND SPECIALTY QUALIFICATIONS:

1976 MD, University of Manitoba

1982 FRCSC, General Surgery, Royal College of Physicians
and Surgeons of Canada

1984 Diplomat of the American Board of Surgery

1985 Special Competence Certification, Thoracic Surgery, Royal
College of Physicians and Surgeons of Canada

1988 FACS, American College of Surgeons

1993 Recertified by American Board of Surgery

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POSTGRADUATE EDUCATION:

July 1976 - June 1977 Rotating Internship, University of Manitoba

July 1977 - June 1980 Residency, General Surgery, University of Manitoba

July 1980 - June 1981	Medical Research Council of Canada Fellow, Respiratory Investigation Unit, University of Manitoba
July 1981 - June 1982	Chief Resident, Surgery, University of Manitoba
July 1982 - June 1983	Medical Research Council of Canada Fellow, Respiratory Investigation Unit, University of Manitoba
July 1983 - June 1984	Thoracic Surgery Registrar, Royal Devon and Exeter Hospital (Wonford) Exeter, England
July 1984 - Dec 1984	Clinical Fellow, Cardiovascular and Thoracic Surgery, Montreal General Hospital, McGill University

ACADEMIC APPOINTMENTS:

July 1982 - June 1983	Demonstrator, Department of Surgery, University of Manitoba
June 1985 - June 1991	Assistant Professor, Department of Surgery, University of Manitoba
July 1991 - June 1994	Associate Professor, Department of Surgery, University of Manitoba
July 1989 - June 1995	Program Director - Cardiothoracic Surgery
July 1989 - Jan. 1995	Acting Section Head - Cardiothoracic Surgery, University of Manitoba
July 1995 - June 1999	Program Director - Thoracic Surgery
July 1994 - Present	Professor, Department of Surgery, University of Manitoba
January 1996 - Present	Section Head, Thoracic Surgery, University of Manitoba
May 1997 - Present	Professor, Department of Pediatrics, University of Manitoba

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ACADEMIC APPOINTMENTS (Cont'd):

July 1999 - Present	Director of Research, Department of Surgery University of Manitoba
May 2000 - Present	Member, Faculty Council of Graduate Studies

University of Manitoba

July 2000 - June 2002 Member, Faculty Executive Council
University of Manitoba

HOSPITAL APPOINTMENTS:

July 1982 - June 1983	Medical Staff, Special 1, General Hospital, Health Sciences Centre, Winnipeg
Jan. 1985 - June 1988	Associate Staff, Department of Surgery, Health Sciences Centre, Winnipeg
July 1988 - Present	Active Staff, Department of Surgery, Health Sciences Centre, Winnipeg
July 1988 - 1995	Service Chief, Thoracic Surgery Service, Health Sciences Centre, Winnipeg
Feb 1991 - Jan. 1995	Acting Section Head, Cardiothoracic Surgery, Health Sciences Centre, Winnipeg
July 1993 - Present	Associate Staff, Department of Surgery, St. Boniface General Hospital, Winnipeg
Jan. 1994 - Present	Director, Manitoba Lung Transplant Program
January 1996 - Present	Section Head, Thoracic Surgery, Health Sciences Centre and University of Manitoba
July 1996 - June 1998	Treasurer, Medical Staff, Health Sciences Centre
July 1998 - June 2000	Vice-President, Medical Staff, Health Sciences Centre
July 2000 – June 2002	President, Medical Staff, Health Sciences Centre

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OTHER APPOINTMENTS:

1981 - 1982	Vice President, Professional Association of Interns and Residents of Manitoba
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1982 - 1983	President, Professional Association of Interns and Residents of Manitoba
1990 - 1991	President, Manitoba Thoracic Society
1993 - 1998	President, Manitoba Chapter, Canadian Association of Clinical Surgeons (Western Division)
1996 - 2000	Treasurer, Manitoba Chapter, American College of Surgeons
1998 - 2002	Councillor, The College of Physicians & Surgeons of Manitoba

AWARDS:

May 1979	Junior Resident Award: Dr. Harry Micay Memorial Award for High Standing, Department of Surgery, University of Manitoba
July 1980	Fellowship of the Medical Research Council of Canada
December 1980	First Prize, Resident Paper Competition, Manitoba Chapter, American College of Surgeons
December 1981	Second Prize, Resident Paper Competition, Manitoba Chapter, American College of Surgeons
May 1982	Senior Resident Award: Davis and Geck Award, Department of Surgery, University of Manitoba
July 1984	Fellowship jointly sponsored by: Scientific Educational and Research Fund, Health Sciences Centre, Winnipeg; and Faculty Fund, University of Manitoba
April, 1996	Scholastic Award, Manitoba Medical Association

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MEDICAL SOCIETY MEMBERSHIPS:

Canadian Medical Association
 American College of Surgeons
 Manitoba Thoracic Society

Canadian Society of Transplantation
 Society of Thoracic Surgeons
 Canadian Association of Thoracic Surgeons
 International Society for Heart and Lung Transplantation
 American Association for Thoracic Surgery

COMMITTEE PARTICIPATION:

Hospital:

Chairman, Section of Thoracic Surgery

Member, Thoracic Disease Site Group,
 CancerCare Manitoba

Hospital (Past):

Past President, HSC Medical Staff Executive

Member, Surgery Clinical Council

Member, Executive Committees, Health Sciences Centre
 & St. Boniface General Hospital

Chairman, Privileges and Credentials Committee, Department of
 Surgery

Member, Implementation Committee, Cardiology and Cardiac
 Surgery

Member, Cardiology Headship Review

Member, Standards Committee, Department of Surgery

Member, Nd-Yag Laser Committee

Member, Tissue Bank Advisory Committee

Chairman, HSC Medical Staff Executive

CURRICULUM VITAE – HELMUT WALTER UNRUH

COMMITTEE PARTICIPATION (Cont'd):

Member, HSC Medical Advisory Council

Member, HSC Clinical Program Coordinating Committee

Member, Internal Disclosure Policy Working Group

WRHA:

WRHA (Past):

Member, Wound Closure Work Group

Member, Medical Advisory Committee

Member, Medical Staff Council

University:

Chairman, Faculty Promotions Committee, Dept. of Surgery

Member, Faculty Council of Graduate Studies

Member, Postgraduate Thoracic Surgery Residency Program Committee

Member, Surgery Postgraduate Committee

Chairman, Surgical Research Advisory Committee

Member, Dept. of Surgery GFT Council

Member, Surgery Program Council

Member, Dept. of Surgery Joint Executive Committee

Member, Dept. of Surgery SERF Committee

CURRICULUM VITAE - HELMUT WALTER UNRUH

COMMITTEE PARTICIPATION (Cont'd):

University (Past):

University Department Surgery Executive Committee

Awards Selection Committee, Surgery Education and Research Fund

Postgraduate Cardiac Surgery Residency Committee

Member, Selection Committee for Head of Respiratory

Member, Clerkship Reorganization Committee

Member, Postgraduate Vascular Surgery Committee

Surgical Undergraduate Education Committee, Clerkship
Coordinator (1986-1992)

Member, Committee of Examiners, Medicine III and IV

Member, Clinical Comprehensive Examination Steering Committee

Member, Selection Committee for Head of Cardiology
Committee

Member, Selection Committee for Cardiothoracic Headship

Member, Faculty Postgraduate Medical Education Program Review
Committee

Member, Joint Department Heads Committee, HSC & SBGH

Member, Faculty Executive Council

Provincial:

Member, MMA Section of Thoracic Surgery

Provincial (Past):

Member, Executive Committee, American College of Surgeons
(Manitoba Chapter)

Councillor, The College of Physicians & Surgeons of
Manitoba (1998 - 2002)

CURRICULUM VITAE - HELMUT WALTER UNRUH

COMMITTEE PARTICIPATION (Cont'd):

Member, Standards Committee, College of Physicians & Surgeons
of Manitoba (1998 - 2002)

National: Member, Thoracic Surgery Nucleus Committee, Royal College of Physicians and Surgeons (1985 -)

Chair, Specialty Committee in Thoracic Surgery, Royal College of Physicians & Surgeons of Canada (Mar/99 - Sept/04)

National (Past): Member, Canadian Coordinators for Undergraduate Surgical Education

Councillor Canadian Society of Cardiovascular and Thoracic Surgeons Executive Committee

Corresponding Member, Cardiovascular and Thoracic Surgery Specialty Committee, Royal College of Physicians and Surgeons (1989-1995)

Examiner, Cardiothoracic Surgery, Royal College of Physicians and Surgeons (1993-1995)

Chairman, Examination Board, Thoracic Surgery, Royal College of Physicians & Surgeons (1996 - 1998)

Corresponding Member, Test Committee in Principles of Surgery, Royal College of Physicians & Surgeons of Canada (2000 - 2001)

Vice-President, Canadian Association of Thoracic Surgeons (2000 - 2001)

President, Canadian Association of Thoracic Surgeons (2001 - 2002)

CURRICULUM VITAE - HELMUT WALTER UNRUH

RESEARCH GRANTS RECEIVED:

1986	Manitoba Lung Association - Evaluation of endobronchial lymphoscintigraphy in staging for lung cancer	\$ 8,392.00
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1986	University of Manitoba, Medical Faculty Fund - Pulmonary preservation techniques for lung transplantation	4,000.00
1987	Manitoba Health Research Council - Left ventricular performance in gram negative sepsis (S. Mink, Principal Investigator)	25,000.00
1988	Faculty of Medicine Travel Fund	750.00
1988	Canadian Heart Foundation - Lung preservation for transplantation (2 years)	31,812.00
1988	Canadian Heart Foundation - Ventricular mechanics in experimental anaphylactic shock (2 years) (W. Kepron, Principal Investigator)	50,000.00
1990	Heart and Stroke Foundation of Canada - Lung preservation reperfusion studies (2 years)	61,555.94
1990	Heart and Stroke Foundation of Canada - Ventricular mechanics in experimental anaphylactic shock (W. Kepron, Principal Investigator)	25,000.00
1992	Heart and Stroke Foundation of Canada - Lung preservation reperfusion studies (1 year)	30,778.00
1996	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	27,400.00
1997	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	24,000.00

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RESEARCH GRANTS RECEIVED (Cont'd):

1998	Manitoba Cancer Treatment & Research Foundation Combination Therapy of Cancer with Interferon Alpha & Toremifene - A Pilot Project. (1 year)	50,000.00
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(I. Berczi, Principal Investigator)

1998	Manitoba Research Council (MRC) Canadian Lung Volume Reduction Surgery Project (CLVRS) (Dr. A. L. Tan, Principal Investigator)	8,500.00
1998	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	21,621.00
1999	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	22,121.00
1999	Manitoba Cancer Treatment & Research Foundation Combined Treatment of Advanced Ovarian & Lung Cancer with Interferon Alpha & Tamoxifen (Dr. Unruh, Co-Investigator)	35,000.00
2000	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	11,630.00
2001	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	10,160.00
2001	National Cancer Institute of Canada – (Local Co-Investigator) Multi-Center Study. Principal Investigator – Dr. R. J. Finley “Validation of a Disease-Specific Quality of Life Questionnaire for Patients with Carcinoma of the Esophagus”	600.00/ pt. enrolled in study
2002	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	15,273.00
2003	Canadian Cystic Fibrosis Foundation Transplant Centre Grant (1 year)	16,455.00

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RESEARCH GRANTS RECEIVED (Cont'd):

2004	Canadian Cystic Fibrosis Foundation	20,518.00
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Transplant Centre Grant (1 year)

STUDENTS SUPERVISED:

Bachelor of Science (Medicine), University of Manitoba

2001/2002 Teddi Swidinsky
Thesis: The Role of Cytomegalovirus (CMV) Infection in the Development of Chronic Lung Allograft Infection.

2002/2003 Alessandra Cassano-Bailey
Thesis: Psychosocial Determinants and Consequences of Subclinical Non-Compliance in Lung Transplant Recipients

CONTINUING MEDICAL EDUCATION PRESENTATIONS:

March 1985. Mediastinal Assessment for Lung Cancer. Department of Surgery Grand Rounds, Winnipeg.

April 1985. Lung Cancer Staging and Treatment. Manitoba Cancer Foundation, Winnipeg.

May 1985. Pulsion Intubation Versus Traction Intubation for Obstructing Carcinomas of the Esophagus. Department of Surgery Research Symposium, Winnipeg.

May 1985. ATLS Course - Instructor, Winnipeg.

September 1985. ATLS Course - Instructor, Winnipeg.

March 1986. Endobronchial Lymphoscintigraphy for Mediastinal Assessment. Canadian Association of Clinical Surgeons, Western Division, Winnipeg.

March 1986. Endobronchial Interstitial Lymphoscintigraphy - A Non-invasive Method for Mediastinal Assessment of Patients with Lung Cancer. Department of Surgery Research Symposium, Winnipeg.

April 1986. ATLS Course - Instructor, Winnipeg.

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CONTINUING MEDICAL EDUCATION PRESENTATIONS (Cont'd):

June 1986. Altered Respiratory Mechanics after Surgery. Physiotherapy Division, Canadian Lung Association Annual Meeting, Winnipeg.

June 1986. Lung Cancer Controversies. Manitoba Thoracic Society Annual Meeting, Winnipeg.

September 1986. Pleural Effusion. University of Manitoba Continuing Medical Education, Brandon.

September 1986. ATLS Course - Instructor, Winnipeg.

April 1987. Collins Infusion with and without Oxygen for Pulmonary Preservation. Department of Surgery Research Symposium, Winnipeg.

May 1987. ATLS Course - Instructor, Winnipeg.

January 1988. ATLS Course - Instructor, Winnipeg.

February 1988. Dysphagia. Department of Otolaryngology, Winnipeg.

April 1988. Thoracic Trauma. Critical Care Review, Winnipeg.

April 1988. Left Ventricular End-Systolic Pressure Dimension Relations (LVESPL) in Awake and Anesthetized Dogs. Department of Surgery Research Symposium, Winnipeg.

May 1988. ATLS Course - Instructor, Winnipeg.

February 1989. ATLS Course - Instructor, Winnipeg.

March 1989. ATLS Course - Instructor, Winnipeg.

April 1989. Investigation and Medical Management of Gastro-esophageal Reflux Disease. Surgical Scientific Days, Winnipeg.

May 1989. ATLS Course - Instructor, Winnipeg.

May 1989. Thoracic Empyema. Department of Surgery Grand Rounds, Winnipeg.

May 1989. Vascular Properties of Excised Lower Left Lung Lobes (LLL) Perfused with Eurocollins Solution (ECS) and Prostacyclin. Department of Surgery Research Symposium, Winnipeg.

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CONTINUING MEDICAL EDUCATION PRESENTATIONS (Cont'd):

September 1989. ATLS Course - Instructor, Winnipeg.

October 1989. Chest Trauma. Section of Orthopedics Grand Rounds, Winnipeg.

November 1989. ARDS and ECMO. Department of Surgery Grand Rounds, Winnipeg.

February 1990. ATLS Course - Instructor, Winnipeg.

March 1990. ATLS Course - Instructor, Winnipeg.

April 1990. Acute Effects of Belzer's UW Solution (UWS) in the Lung. Department of Surgery Research Symposium, Winnipeg.

May 1990. Lung Transplantation. Department of Surgery Grand Rounds, Winnipeg.

September 1990. ATLS Course - Instructor, Winnipeg.

May 1991. Surface to Nuclear Distances in Human Bronchial Epithelium: Relationship to Penetration by Rn Daughters. Department of Surgery Research Symposium, Winnipeg.

November 1991. Complications Following Thoracic Surgery. Jack Culligan Memorial Symposium, Department of Anaesthesia, Winnipeg.

November 1991. Lung Cancer Therapy Update. Department of Medicine Grand Rounds, Winnipeg.

November 1991. The Use of Mannequins in Teaching Physical Diagnosis. Canadian Coordinators of Undergraduate Surgical Education Biannual Meeting, Banff.

February 1992. ATLS Course - Instructor, Winnipeg.

April 1992. ATLS Course - Instructor, Winnipeg.

September 1992. Second Annual Congress - Canadian Society for Endoscopic and Laparoscopic Surgery - Symposium Chairman, Ottawa.

April 1993. ATLS Course - Instructor, Winnipeg.

April 1993. Lung Transplantation. OR Nurses Inservice, Health Sciences Centre, Winnipeg.

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CONTINUING MEDICAL EDUCATION PRESENTATIONS (Cont'd):

April 1993. Lung Transplantation. Department of Surgery Grand Rounds, Winnipeg.

April 1993. Lung Transplantation. 14th Annual Cystic Fibrosis Seminar, Winnipeg.

May 1993. Diagnostic Algorithm for Acute Superior Vena Caval Obstruction (SVCO).
Department of Surgery Research Symposium, Winnipeg.

June 1993. Diagnostic Algorithm for Acute Superior Vena Caval Obstruction (SVCO). McGill
Cardiovascular and Thoracic Society Annual Meeting, Montreal.

October 1993. ATLS Instructor Course - Instructor, Winnipeg.

December 1993. Lung Transplantation: Future Directions for Manitoba. Transplant Workshop
sponsored by The Canadian Association of Transplantation and The Manitoba Transplant Program,
Winnipeg, Mb.

January 1994. Thoracoscopy and Laser Therapy. Continuing Medical Education for Family
Physicians. Winnipeg, Mb.

January 1994. Lung Transplantation. Operating Room Nurses Inservice, Winnipeg.

January 1994. Lung Transplantation. Surgical Intensive Care Nurses Inservice, Winnipeg.

January 1994. Lung Transplantation. Surgical Grand Rounds, Grace General Hospital, Winnipeg.

February 1994. ATLS Course, Instructor, Winnipeg.

March 1994. Lung Transplantation - OR and PICU Postoperative Care. Pediatric OR and PICU
Nurses, Winnipeg.

April 1994. Lung Transplantation. Pediatric Nurses. MARN, Winnipeg.

April 1994. ATLS Course, Instructor, Winnipeg.

April 1994. Lung Transplantation - when and who is a candidate. "Lungs in Action" Symposium,
Manitoba Lung Association, Winnipeg.

April 1994. Lung Transplantation. Cystic Fibrosis Conference, Winnipeg.

June 1994. Featured Speaker, H.S.C. Board and Foundation Annual Meeting, Winnipeg.
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CONTINUING MEDICAL EDUCATION PRESENTATIONS (Cont'd):

June 1994. Lung Transplantation. X-Ray Rounds. Winnipeg.

June 1994. Lung Preservation for Transplantation, McGill University, Montreal.

November 1994. Lung Transplantation and Cystic Fibrosis. Pediatric Grand Rounds, Children's Hospital, Winnipeg.

January 1995. Lung Transplantation Overview - 1994. Symposium on Heart and Lung Transplantation. Winnipeg.

May 1995. Lung Transplantation. Laboratory Technology, Health Sciences Centre, Winnipeg.

May 1995. Cost-benefit analysis of surveillance of oral cavity cancer patients for lung cancer. Department of Surgery Research Symposium. Winnipeg.

October 1995. ATLS Course, Instructor. Winnipeg.

April 1995. ATLS Course, Instructor. Winnipeg.

October 1996. "Building a new lung transplant programme". Canadian Clinics Meeting; Tenth North American Cystic Fibrosis Conference, Orlando, Florida.

November 1996. "Surgical Panel - Lead Choices". Medtronic Pacemaker Physicians' Seminar, Vancouver, B.C..

November 1996. "Three year experience with Cystic Fibrosis lung transplantation in Manitoba. Fibrosis Conference, Winnipeg, MB.

November 1996. "Lung Cancer Overview". FRCPC Preparatory and Refresher Course in Radiation Oncology, Winnipeg, MB.

February 1997. ATLS Course Instructor, Winnipeg.

April 1997. ATLS Course Instructor, Winnipeg.

September 1997. Royal College of Physicians and Surgeons Annual Meeting - Symposium: Thoracic Outlet Syndrome. Thoracic Surgical Perspective, Vancouver, B.C.

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CONTINUING MEDICAL EDUCATION PRESENTATIONS (Cont'd):

September 1997. Royal College of Physicians and Surgeons Annual Meeting - Symposium: The Future of Thoracic Surgery in Canada Consensus Conference. "The Royal College - How Do We and How Should We Relate to It?"

February 1998. Lung Transplantation for Cystic Fibrosis. Pediatric Grand Rounds, Winnipeg, Manitoba.

September 1998. Annual Meeting, The Royal College of Physicians & Surgeons of Canada. Symposium - Consensus Conference on Education in Thoracic Surgery. "The RCPS Fellowship Exam - Exam in Evolution?" Toronto, Ontario.

November 1998. Saskatchewan Transplant Program - Donor Management Issues. Saskatoon, Saskatchewan.

September 1999. 30th Annual Education Conference, Northwestern Section of Ontario Association of Medical Radiation Technologists. "Role of Imaging in Lung Cancer - A Surgeon's Perspective" and "Surgery for Emphysema". Thunder Bay, Ontario.

March 2000. The Canadian Society of Transplantation Annual Scientific Meeting. "Living Donor Lung Transplants: Pitfalls & Pearls". Mont Tremblant, Quebec.

April 29, 2000. Surgical Research Symposium University of Manitoba. Innovations in Surgery "Thorascopic Splanchnicetomy for Chronic Pancreatitis. A Pilot Study." Winnipeg, MB

April 20, 2002. Annual Surgical Research Symposium, University of Manitoba. Moving Forward. "Effect of Lung Transplant Recipient and Donor Cytomegalovirus Match on Development of Bronchiolitis Obliterans Syndrome and Survival. Winnipeg, Manitoba.

September 20, 2002. CATS President's Talk, 5th Annual Meeting, Canadian Association of Thoracic Surgeons. "Esophageal Perforation: The Last Great Challenge in Surgery or There Goes The Neighbourhood". London, Ontario.

May 7, 2003. Annual Surgical Research Symposium, University of Manitoba. Minimally Invasive Surgery in the Ambulatory Care Setting. "Thorascopic Sympathectomy for Palmar Hyperhidrosis". Winnipeg, Manitoba.

June 17, 2003. Annual Scientific Meeting, Canadian Association of Emergency Physicians. "Thoracic Trauma: Current Controversies". Winnipeg, Manitoba.

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PAPERS:

1. N.S. Dhalla, S.L. Lee, P.K. Singal, J.C. Yeates, and H.W. Unruh. Subcellular changes in rat hearts perfused with potassium-free medium. Am J Physiol 237(1):C1-9, 1979.
2. H. Unruh, D.I. Robertson and E. Karasewich. Postmastectomy lymphagiosarcoma,

- experience with three patients and electron microscopic observation in one. *Can J Surg* 22(6):586-590, 1979.
3. L. Oppenheimer, H.W. Unruh, C. Skoog, and H.S. Goldberg. Transvascular fluid flux measured from intravascular water concentration changes. *J Appl Physiol* 54(1):64-72, 1983.
 4. J. Ali, H. Unruh, C. Skoog, H.S. Goldberg. The effects of lung edema on pulmonary vasoactivity of furosemide. *J Surg Res* 35:383-390, 1983.
 5. J. Malo, H. Goldberg, R. Graham, H. Unruh and C. Skoog. Effect of hypoxic hypoxia on systemic vasculature. *J Appl Physiol* 56:1403-1410, 1984.
 6. H.W. Unruh, H.S. Goldberg and L. Oppenheimer. Pulmonary interstitial compartments and tissue resistance to fluid flux. *J Appl Physiol* 57:1512-1519, 1984.
 7. H.W. Unruh and K.M. Pagliero. Pulsion intubation versus traction intubation for obstructing carcinomas of the esophagus. *Ann Thorac Surg* 40(4):337-342, 1985.
 8. S.N. Mink, H.W. Unruh and L. Oppenheimer. Vascular and interstitial mechanics in canine pulmonary emphysema. *J App Physiol* 59:1704-1715, 1985.
 9. H.W. Unruh and R.C-J Chiu. Mediastinal assessment for staging and treatment of carcinoma of the lung. *Ann Thorac Surg* 41:224-229, 1986.
 10. R.C-J Chiu and H.W. Unruh. Myocardial decompensation after major pulmonary resections. International Trends in General Thoracic Surgery, Vol. II. W.B. Saunders Company, 1987, p. 465-474.
 11. R.T. Onotera and H.W. Unruh. Closure of a post-pneumonectomy bronchopleural fistula using fibrin sealant (Tisseel™). *Thorax* 43:1015-1016, 1988.
 12. R.P. Guzman, H.R. Wightman, E. Ravinsky, and H.W. Unruh. Primary melanoma of the esophagus with diffuse melanocytic atypia and melanoma insitu. *Am J Clin Path* 92:802, Dec. 1989.

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PAPERS (Cont'd):

13. H. Unruh, M. Hoppensack, L. Oppenheimer. Vascular properties of canine lungs perfused with Eurocollins' solution and prostacyclin. *Ann Thorac Surg* 49:292-8, 1990.

14. I. Ali and H. Unruh. Management of Empyema Thoracis. *Ann Thorac Surg* 50:355-9, 1990.
15. A. Gomez, R. Wang, H. Unruh, R.B. Light, D. Bose, T. Chau, E. Correa, S. Mink. Hemofiltration reverses left ventricular dysfunction during sepsis in dogs. *Anesthesiology* 73:761-685, 1990.
16. F. Baldwin, A. Hoevy, T. McEwen, R. O'Connor, H. Unruh and D.H. Bowden. Surface to nuclear distances in human bronchial epithelium relationship to penetration by radon daughters. *Health Physics* 60(2):155-162, 1991.
17. E. Correa, S. Mink, H. Unruh and W. Kepron. Left ventricular contractility is depressed despite maintained coronary blood flow in IgE mediated anaphylactic shock in dogs. *Am J Physiol* 260:(Heart and Circ Physiol 29):H744-H751, 1991.
18. E.L. MacIntosh, J.C.W. Parrott and H.W. Unruh. Fistulas between the aorta and tracheobronchial tree. *Ann Thorac Surg* 51(3):515-519, 1991.
19. H. Unruh. Surgical management of dysphagia. *Medicine North America* 4:(17):2315-2323, 1991.
20. N. Khalil, R. O'Connor, H. Unruh, P. Warren, A. Kemp, O. Bereznay, K. Flanders and A.H. Greenberg. Increased production and immunohistochemical localization of transforming growth factor beta (TGF-B) in idiopathic pulmonary fibrosis. *Am J Respir Cell Mol Biol* 5:155-162, 1991.
21. H.W. Unruh, R. Wang, D. Bose and S.N. Mink. Does Phenobarbital anesthesia depress left ventricular contractility in dogs? *Am J Physio* 261:(Heart Circ Physiol 30):H700-H706, 1991.
22. P. McDonald, M. Letts, G. Sutherland, H. Unruh. Aneurysmal bone cyst of the upper thoracic spine - an operative approach through a manubrial sternotomy. *Clin Orthopedics* 279:127-132, 1992.
23. J.D. Urschel, T.A. Horan, H.W. Unruh. Plasma cell granuloma of the lung. *J Thorac Cardiovas Surg* 104:870-875, 1992.

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PAPERS (Cont'd):

24. H.W. Unruh. The vascular and interstitial effect of University of Wisconsin solution on canine lung. *Ann Thorac Surg* 54(3):1168-1171, 1992.
25. J.D. Urschel, J.C.W. Parrott, T.A. Horan, H.W. Unruh. Pneumothorax complicating

- cardiac surgery. *J Cardiovas Surg* 33:492-495, 1992.
26. A. Gomez, H. Unruh, S. Mink. Altered left ventricular chamber stiffness and isovolumic relaxation in dogs with chronic pulmonary hypertension due to emphysema. *Circulation* 87(1):247-260, 1993.
 27. C.W.T. Sawchuk, B. Ong, H.W. Unruh, T.A. Horan, R. Greengrass. Thoracic versus lumbar epidural fentanyl for post-thoracotomy pain. *Ann Thorac Surg* 55:1472-6, 1993.
 28. H.W. Unruh. Pulmonary endothelial cell function following modified Eurocollins solution infusion. *J Heart Lung Transpl* 12:700-705, 1993.
 29. J.D. Urschel, T.A. Horan, H.W. Unruh. Necrotizing chest wall infection. *Compl Surg* 12(6):37-39, 43, 1993.
 30. R. Bigsby, R. Greengrass, H.W. Unruh. Diagnostic algorithm for acute superior vena caval obstruction. *J Cardiovasc Surg* 34:347-350, 1993.
 31. D.F. Vretenar, J.D. Urschel, J.C.W. Parrott, H.W. Unruh. Cardiopulmonary bypass resuscitation for accidental hypothermia. *Ann Thorac Surg* 58:895-898, 1994.
 32. H. Henteleff, H. Unruh. Lung Cancer. A Practical Perspective. *Medicine North America* 17(4):226-232, 1994.
 33. A. Gomez, H. Unruh, S. Mink. Left ventricular systolic performance is depressed in chronic pulmonary emphysema in dogs. *Am J Physiol* 276 (Heart Circ Physiol 36):H232-H247, 1994.
 34. H.W. Unruh. Lung preservation and lung injury. *Chest Surg Clin North Am*, 5(1): 91-106, 1995.
 35. D. Lieberman, J. Littleford, T. Horan, H. Unruh. Placement of Left Double-Lumen Tubes With or Without a Stylet. *Can. J. Anaesth.* 43(3): 1-5, 1996.

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PAPERS (Cont'd):

36. N. Khalil, R.N.P. O'Connor, K.C. Flanders, H. Unruh. TGF- β_1 , But Not TGF- β_2 or TGF- β_3 is Differentially Expressed by Epithelial Cells in Areas of Advanced Pulmonary Fibrosis. *Am J Respir Cell Mol* 13:ol, 14::131-138, 1996.
37. C.M. Baron, S.E. Kowalski, R. Greengrass, T.A. Horan, H.W. Unruh, C.L. Baron.

- Epinephrine decreases postoperative requirements for continuous thoracic epidural fentanyl infusions. *Anesth Analg* 82:760-5, 1996.
38. S.N. Mink, A. Becker, H. Unruh, and W. Kepron. Effects of mediators of anaphylaxis on partitioned pulmonary vascular resistance during ragweed shock in dogs. *J. Appl Physiol.* 84(3):782-790, 1998.
 39. S.N. Mink, C. Bands, A. Becker, J. Elkin, S. Sharma, H. Unruh, W.Kepron. Effect of bolus epinephrine on systemic hemodynamics in canine anaphylactic shock. *Cardiovascular Research*, 40: 546-556, 1998.
 40. C. Chrusch, S. Sharma, H. Unruh, E. Bautista, K. Duke, A. Becker, W. Kepron, S.N. Mink. Histamine H3 receptor blockade improves cardiac function in canine anaphylaxis. *Am J Respir Crit Care Med* 1999, 160:1142-1149.
 41. S. Mink, A. Becker, S. Sharma, H. Unruh, K. Duke, W. Kepron. Role of autocoids in cardiovascular collapse in anaphylactic shock in anesthetized dogs. *Cardiovascular Research*, 43: 173-182, 1999.
 42. E. Baral , E. Nagy, G. Krepart, R. Lotocki, H. Unruh, I. Berczi. Antiestrogens Sensitize Human Ovarian and Lung Carcinomas for Lysis by Autologous Killer Cells. *Anticancer Research* 20: 1 - 5, 2000.
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