

# CURRICULUM VITAE

(Revised 2016-11-09)

## I. BIOGRAPHICAL DATA

Name: **Philip A. Barber**  
Date of Birth: July 6, 1968  
Address: Department of Clinical Neurosciences  
University of Calgary  
Calgary, Alberta  
CANADA

Telephone: 403 944 4399  
Fax: 403 270 8928

Citizenship: British  
Canadian

Present rank: **Associate Professor**  
Department: Clinical Neurosciences, Radiology  
Faculty: Cumming School of Medicine  
Institution: University of Calgary

## II. ACADEMIC RECORD

Final degree: MB ChB  
Date completed: 1991  
Specialty: Neurology  
Institution of Neurology training: Department of Clinical Neuroscience, Manchester University, United Kingdom

- i) Undergraduate: **MB ChB** 1986-1991 Sheffield University Medical School
- ii) Special professional:
  - MRCP (UK), March 1995
  - Certificate of Completion of Specialist Training (CCST) in Neurology, Oct 2001
  - Fellow of the Royal College of Physicians Canada, FRCPC (Neurology), May 2005
  - Fellow of the Royal College of Physicians Edinburgh, FRCP Edin, July 2006
- iii) Licensure: Full registration, Royal College of Surgeons and Physicians of Alberta. General Medical Council Specialist Register
- iv) **Doctorate of Medicine (MD), University of Sheffield, UK, July 2005**

### **III. AWARDS AND DISTINCTIONS**

The Old Cestrian Prize 1986

Swann Morten Medical Student Fellowship Award 1990

North of England Neurological Association Travel Award 1998

Glaxo Wellcome Fellowship Award 1998

Canadian Institute of Health Research Postdoctoral Fellowship 2001

Heart and Stroke Foundation of Canada Postdoctoral Fellowship 2001

Alberta Foundation for Medical Research Postdoctoral Fellowship 2001

Canadian Stroke Network Award for the best Postdoctoral Fellowship Application March 2001

EH Burrows Scientific Prize. Annual Scientific Meeting of the British Society of

Neuroradiologists, Guildhall, Winchester, 11-12 October 2002

Alberta Heritage Foundation of Medical Research Clinical Investigator 2005-2008

Alberta Heritage Foundation of Medical Research Prize 2005-2011

Canadian Institute of Health Research New Investigator 2005-2010 (declined)

Heart Stroke Foundation of Canada New Investigator 2005-2010

Henry JM Barnett Research Scholarship Award 2005/2006

University of Calgary Young Innovator Award 2005

2015 ASTech Award Winner: Societal Impact Calgary Stroke Program (Nov 2015)

2016 President's Excellence Award for Outstanding Achievement in Research - ESCAPE Trial Team

### **IV. ACADEMIC/CLINICAL APPOINTMENTS**

#### **Present**

Associate Professor, Department of Clinical Neurosciences, University of Calgary, 3330 Hospital Drive NW, Calgary T2N 4N1, CANADA.

Adjunct Professor, Associate Professor, Department of Radiology, University of Calgary, Cumming School of Medicine (effective July 2009)

Joint Appointment, Associate Professor – Department of Community Health Sciences (May 1, 2017-June 30, 2019)

Consultant Neurologist, Foothills Hospital, 1403-29<sup>th</sup> ST NW, Calgary, AB, CANADA

#### **Hospital Training & Positions**

August 1991- January 1992: House Officer in General Surgery and Orthopedics, Barnsley District General Hospital. Mr. B G Way & Mr. B Bhadeshwar

February 1992 April 1992: House Officer in General Medicine and Hepatology Royal Hallamshire Hospital Sheffield. Dr D Greaves, Dr N D S Bax & Professor D Triger

May 1992 July 1992: House Officer in Neurology Royal Hallamshire Hospital Sheffield.  
Dr G A B Davies-Jones & Professor J H Sagar

August 1992- January 1993: Senior House Officer, General Medicine & Care of the Elderly St Georges Hospital Lincoln. Dr D M Stokoe

February 1993- July 1993: Senior House Officer in General Medicine and Hematology Lincoln County Hospital Lincoln. Dr D R Prangnell & Dr M I Adelman & Professor J. Walls

August 1993- January 1994: Senior House Officer in General Medicine & Respiratory Diseases Northern General Hospital Sheffield. Dr P B Anderson

February 1994- July 1994: Senior House Officer in Accident & Emergency Medicine, Northern General Hospital Sheffield. Mr. J Wardrope & Dr F P Morris

August 1994- January 1995: Senior House Officer in Cardiology, Northern General Hospital Sheffield. Dr S Campbell

February 1995-1 August 1995: Senior House Officer in Clinical Neurology Royal Hallamshire Hospital Sheffield. Dr G S Venables & Dr G A B Davies-Jones

August 1995-December 1995: Locum Registrar in Geriatrics and General Medicine Royal Hallamshire Hospital Sheffield. Dr P Lawson, Professor L Ramsay

December 1995 Locum Registrar in Neurology Leeds General Infirmary. Drs. Parsons & Spokes

### **Specialty Training**

1<sup>st</sup> January 1996- 30<sup>th</sup> April 1996: Registrar in Clinical Neurology and Neurophysiology. North Manchester General Hospital. Dr G M Yuill, Dr D I Shepherd & Dr J Smaje.

1<sup>st</sup> May 1996- 31<sup>st</sup> December 1996: Registrar in Clinical Neurology, Salford Royal Hospital Trust Dr A C Young & Dr P N Cooper

1<sup>st</sup> Jan 1997 –31<sup>st</sup> December 1997: Specialist Registrar in Clinical Neurology and Neurophysiology, Manchester Royal Infirmary Professor D Neary & Dr W Schady

1<sup>st</sup> January 1998- 31<sup>st</sup> September 1998: Specialist Registrar in Neurology and Neurophysiology, Salford Royal Hospital Trust. Dr G Yuill & Dr D Shepherd

1<sup>st</sup> October 1998- 31<sup>st</sup> September 2001: Clinical Neurology Fellow, Foothills Medical Centre, Calgary, Canada. Dr AM Buchan

October 1<sup>st</sup> 2001- June 30<sup>th</sup> 2003 Postdoctoral Fellow, and Visiting Scientist, National Research Council, Institute of Biodiagnostics (West), Room 153 3330 Hospital Drive NW, Calgary T2N 4N1, CANADA. Supervisor: Dr Alastair Buchan

July 1<sup>st</sup> 2003- March 30<sup>th</sup> 2009 Assistant Professor, Department of Clinical Neurosciences, University of Calgary and Visiting Scientist, National Research Council, Institute of Biodiagnostics (West), Room 153 3330 Hospital Drive NW, Calgary T2N 4N1, CANADA.

April 1<sup>st</sup> 2009-July 31<sup>st</sup> 2011 Associate Professor, Department of Clinical Neurosciences, University of Calgary and Visiting Scientist, National Research Council, Institute of Biodiagnostics (West), Room 153 3330 Hospital Drive NW, Calgary T2N 4N1, CANADA.

August 1<sup>st</sup> 2011-July 31<sup>st</sup> 2011 Honorary Senior Research Associate, Dementia Research Centre, National Hospital for Neurology and Neurosurgery, Queen Square, London WC1N 3BG

## **V. EDUCATIONAL ACTIVITIES**

### **i. Undergraduate**

Undergraduate clinical bedside and small group teaching 1994-1996 University of Sheffield, UK

Undergraduate weekly clinical bedside and small group teaching 1996-1998 University of Manchester, UK

Neurological Syndrome Classification. University of Manchester May 1997

Neuroscience Course clinical bedside teaching University of Calgary, 1999-2004 (6 week period)

Ischemic Stroke: symptoms and signs. Neuroscience Undergraduate Course August 1999

Neuroscience Clinical Small Group Teaching, August-September 2000-2008

Stroke Seminar: 'Stroke Symptoms and Signs', September 2000

Stroke Seminar: 'Pathophysiology of Ischemic and Hemorrhagic Stroke', Neuroscience Course September 2001-2008

Undergraduate Stroke Course Modulator 2010 to present

### **ii. Graduate (course and student supervision)**

MRCP part II teaching 1995-1998, University of Manchester and Sheffield, UK

APSAC diploma March and September 1997 University of Manchester, UK

Secondary Stroke Prevention. University of Calgary Therapeutics Course March 1999

Resident Stroke Rounds. Monthly teaching September-June 1999-2001

Neurology Resident Seminar: The Biochemistry of Ischemic Stroke November 2002-2008

Resident stroke service in patient teaching: 2000-2009

TORCH PROGRAM, University of Calgary 2005-present

- Animal Stroke Models and Neurotherapeutics
- Clinical stroke treatments and thrombolysis

### **Summer Student Supervision:**

1. Nitin Chauhan 2003
2. Hisham Assam 2005 and 2006
3. Jessica Hung King Sang (AHFMR Studentship 2007 and 2008)
4. Zahid Sunderani (AHFMR Studentship 2007)
5. Royce Henning (AHFMR Studentship 2008)
6. Brian Cechmaniek (AHFMR Studentship 2010)
7. Brian Cechmaniek (PURE Studentship 2011)
8. Ajay Mahajan 2013 (Volunteer Position)
9. Mohammad (Amlish) Munir 2013 (CIHR QE2 Scholarship Award)
10. Ajay Mahajan 2014 (CSN Studentship)
11. Samantha Hall 2014 (PURE Studentship)
12. Stephen Campeau 2015 (O'Brien Centre Summer Studentship Award) to Apr 2016
13. Ajay Mahajan 2015 (AI-HS Summer Studentship Award); 2016 Mar/Apr (Research Block)
14. Jacob Ursenbach 2016 (PREVENT Study)
15. Naomi-Rose A. Dutta 2016 (PREVENT Study)
16. Moiz Hafeez 2016 (QuICR Scholarship Award)
17. Gavin Lau 2017 May-Aug (QuICR Scholarship Award)
18. Meaghan Reid May –Aug 2017 (PREVENT Study)

### **Supervisory: Students & Fellows**

#### **Clinical Stroke Fellows**

1. *James Kennedy* (Feb01-Mar05)
  - Faculty Oxford University, England starting 2006
2. *Anna Tomanek* (Jul01-Jun03)
  - AIMG Program Family Medicine 2004 and now practicing as family physician in Calgary
3. *Jessica Simon* (Jul01-Dec04)
  - Medicine resident in Calgary, starting 2004
4. *Shelagh Coutts* (Aug2001-Jun2004)
  - Faculty, University of Calgary, starting 2006
5. *Vanessa Palumbo* (Dec02-Jun05)
  - Faculty, Florence, Italy, starting 2006
6. *Alexis Gagnon* (Jul03-Jun04)
  - Faculty, University of Quebec, starting 2005
7. *Nicolas Weir* (Jan04-Dec05)
  - Faculty, University of Calgary, starting 2006-2009; Consultant Neurologist Southampton General Hospital)
8. *Chandresekaran Sivakumar* (May04-May05)
  - Faculty, University of Calgary, starting 2006
9. *Jayanta Roy* (Jul04-Mar05)
  - Faculty, Kolkata, India, starting 2006
10. *Suresh Subramaniam* (Jul2004-Mar2006)
  - Neurology resident in Calgary starting 2006
11. *Jean-Martin Boulanger* (Aug04-Jul05)
  - Faculty, University of Sherbrooke, starting 2005

12. *Immanuel Dzialowski* (Feb05-Jan06)  
· Completing Neurology residency, Dresden, Germany, starting 2006
13. *Sylaja Pillai* (Jul05-Dec06)
14. *Volker Peutz* (Mar06- Dec07)
15. *Mohamad Awastami* (Jul06-)
16. *Ali Al-Khatami* (Aug06-Jul07)
17. *Albert Jin* (Aug06-Jul08) Faculty Queens's University, Kingston, ON
18. *Young Bin Choi* (Sep06-Jun07)
19. *Farosh Khan* (Jan 07-)
20. *Cynthia Herrera* (Feb 07-March 08)
21. *Alex Poppe* (Aug 2007-8)
22. *Talip Asil* (Feb 2008-9)
23. *Pablo Garcia* (Mar 2008-Jul 2009)
24. *Nan Shoba* (Jul 2008-Nov 2010)
25. *Bejoy Menon* (Nov 2008-May 2011) Faculty, University of Calgary
26. *Rohit Bhatia* (Jan 2009-) Associate Professor, New Delhi
27. *Deon Fung* (Jul 09-2011)
28. *Francois Moreau* (Jul 09-2011) Faculty, Sherbrooke Hospital, QC
29. *Nagar Asdagi* (Jul 09-2011) Faculty, Vancouver General
30. *Anurag Trivedi* (Feb 2013-Jan 2015) Stroke Fellow, University of Victoria, BC
31. *Veronique Dubuc* (Jul 2013-Jun 2014) Staff Neurologist, Sacre Coeur Hospital, Montreal, QC
32. *Philip Choi* (Jul 2013-Nov 2014) Staff Neurologist, Box Hill Hospital, Melbourne, AU
33. *Evgenia Kloudfeld* (Jul 2013-Jun 2015) Attending Neurologist, Foothills Medical Centre, AB
34. *Dilip Singh* (Aug 2013-) Clinical Instructor, Ohio State University Wexner Medical Center
35. *Tapuwa Musuka* (Aug 2013-Jun 2014) Staff Neurologist, Fiona Stanley Hospital, Perth, AU
36. *Ramana Appireddy* (Jan 2014-) Stroke Fellow, University of Calgary
37. *Sarah Blayney* (Mar 2014-Feb 2015) Consultant Physician in Stroke & Geriatric Medicine, Cheltenham & Gloucester NHS Foundation Trust
38. *Unuigboje Imoukhuede* (Jul 2014-Jun 2015) Attending Neurologist, Red Deer Hospital Centre, Red Deer, AB
39. *Davar Niknesham* (Jul 2014-Jun 2015) Staff Neurologist, St. Catherine's Site, Niagara Health System, St. Catherine's, ON
40. *Amy Yu* (Jul 2014-Jun 2106) Stroke Fellow, University of Calgary
41. *Fahad S. Al-Ajlan* (Sept 2014-Jun 2015) Research Fellow, Calgary Stroke Program
42. *Ruba Baamer* (Jan-Mar 2015) Stroke Fellow, Calgary Stroke Program
43. *Charlotte Zerna* (Jan 2015-Dec 2016) Stroke Fellow, Calgary Stroke Program
44. *Janka Hegedus* (Jul 2015- Jun 2016) Stroke Fellow, Calgary Stroke Program
45. *Prasanna Eswaradass* (Jul 2015-ongoing) Stroke Fellow, Calgary Stroke Program
46. *Carol Tham* (Aug 2015-Jul 2016) Stroke Fellow, Calgary Stroke Program
47. *Sadanand Dey* (Dec 2015-Nov 2016) Stroke Fellow, Calgary Stroke Program
48. *James Evans* (Feb 2016-Jan 2017) Stroke Fellow, Calgary Stroke Program
49. *Amith Sitaram* (Mar 2016-ongoing) Stroke Fellow, Calgary Stroke Program
50. *Erica Teleg* (Apr 2016-ongoing) Stroke Fellow, Calgary Stroke Program
51. *Brett Graham* (Jul 2016-ongoing) Stroke Fellow, Calgary Stroke Program
52. *Stephen Van Gaal* (Jul 2016-ongoing) Stroke Fellow, Calgary Stroke Program

53. *Aimen Moussaddy* (Sept 2016-ongoing) Stroke Fellow, Calgary Stroke Program
54. *Debabrata Chakraborty* (Nov 2016-ongoing) Stroke Fellow, Calgary Stroke Program
55. *Nicolas Maraj* (Jan 2017-ongoing) Stroke Fellow, Calgary Stroke Program
56. Abdulaziz Sulaiman Al Sultan (Jul 2017-ongoing)
57. Shuo Chen (Jul 2017-ongoing)
58. Andrew Lockey (Jul 2017-ongoing)
59. Ravinder Singh (Jul 2017-ongoing)

Post-Doctoral Fellows

68. Albert Jin 2006-2008
69. Jaspreet Kaur 2006-2009
70. Chris d’Esterre May 2014-
71. Kelvin Au (Postgraduate) 2015 Jan-
72. Rani Gupta Sah 2015 Jan-2018 Apr
73. Charlotte Zerna 2015 Jan-2016 Dec
74. Noreen Kamal 2016 Jan-2016 Sept (Co-Supervisor)
75. Amith Sitaram 2016 Mar-ongoing

Graduate Students – Department of Clinical Neurosciences (Primary Supervisor)

76. Lisa Hoyte 2002-2003
77. Pia Crone Christensen 2007-2008
78. Nabeela Nathoo 2009-2010
79. Mohammad (Amlish) Munir 2013 Dec-2015 Dec (MSc Student)
80. Sana Tariq 2016 Jan-2017 May (Master’s MSc Candidate)
81. Moiz Hafeez 2016 Sept-2017 May (Master’s MSc Student)  
*Accepted to UofC MD Program Fall 2018 (under a new supervisor)*
82. Samaneh Nobakht 2016 Sept- (PhD, Neurosciences Program)
83. Meaghan Reid 2017 Sept-(MSc Graduate) Master of Science, Fall 2018 (Co-Supervisor)

Undergraduate Thesis Candidates (Primary Supervisor)

- Brian Cechmanek 2013  
 Kathy Le April 2014  
 Stephen Campeau 2015 Sept-2016 Aug (Honour’s)  
 Gavin Lau Sept 2017 to May 2018 (Honour’s)

### Research Associate

Zonghang Zhao 2006-present

Limei Wang 2009-2011

### Research Assistant

Sana Tariq 2014 Sept-2015 Dec (Graduate MSc, Neuroscience Program;  
PREVENT/REPERFUSE)

### University of Calgary MD Program

Robert Kosior - 2012-2014 (Affiliate member of the Leaders in Medicine Program)

Robert Kosior - 2014-2015 (440 Candidate Program, Mentorship Program)

Omar Danji - 2015-2016 Jun (440 Candidate Program, Mentorship Program)

### iii. **Continuing Medical Education**

- March 1991 - Radiation Protection Course, Sheffield UK
- March 1995 - Advanced Cardiac Life Support, Sheffield UK
- May 1997 - Medical Statistics, Sheffield Statistics Unit, UK
- June 1997 - Botulinum Toxin Workshop, Manchester Royal Eye Hospital UK
- October 1997 - International League Against Epilepsy, Specialist Registrar Training Course, Oxford UK
- November 1997- Edinburgh Stroke Course, Edinburgh UK
- March 1998 - Advanced Neurology Course, Edinburgh UK
- October 1998 - Acute Stroke Symposium, Calgary, Ca
- January 1999 - Neuroradiology Conference, Banff, Canada.
- February 1999 - American Heart (stroke) Association Meeting, Nashville, United States.
- March 1999 - Association of British Neurologists, Parkinson's Disease Symposium. Southampton UK.
- April 17-21 1999 American Academy of Neurology, Toronto, CAN - Attended courses: Treatment of myoclonus, neuroimmunology, ophthalmology, atypical movement disorders, inflammatory muscle
- June 1999 Canadian Congress of Neurosciences, Edmonton, Ca., Attended courses in migraine, neurobehaviour, neurophysiology of radiculopathy and plexopathy
- January 2000 - Millennium Stroke Conference, Banff, Ca
- February 2000 - International Stroke Conference, New Orleans, United States
- May 2000 - American Academy of Neurology, San Diego, United States.
- Attended courses in: ophthalmology, clinical genetics, neuromuscular update, therapeutics of psychiatric disease in neurology, therapeutics of Parkinson's disease.
- May 2000 TIPS Workshop, University of Calgary, Ca
- June 2000 - Canadian Congress of Neurological Science, Ottawa, Ca. Attended Courses in: Mechanisms of Epilepsy, Mechanisms in Neuromuscular disease
- July 2001 - NHS Management Course, Staff Development Department, St. Mary's Hospital, Manchester, UK.



- March 2002 Stroke - Molecular, Cellular, Pharmacological and Development of New Therapeutics, Taos, New Mexico, USA
- April 2002 American Academy of Neurology, Denver USA
- April 2002 5th International Workshop on Maturation Phenomenon in Stroke, Banff, Canada
- Winter Semester 2003: Basics of Inflammation, University of Calgary
- May 2003 International Society of Magnetic Resonance Meeting Workshop: Molecular Imaging Bordeaux France
- January 2005, University of Pennsylvania Neurology Course, Philadelphia, USA
- April 2007 Vascular Biology Meeting Sherrington Hotel, Calgary, Canada
- May 2007 The 23<sup>rd</sup> International Symposium on Cerebral Blood Flow, Metabolism & Function (Brain'07) and the 8<sup>th</sup> International Conference on Quantification of Brain Function with Pet (BrainPET'07)
- June 2008, European Stroke Conference, Nice, France
- June 2010, European Stroke Conference, Barcelona, Spain
- October 2011, Association of British Neurologists Annual General Meeting, Newcastle UK
- May 2012, European Stroke Conference, Lisbon, Portugal
- November 2012, Professionalism and Ethics course (through AHS-Provincial Medical Affairs), Edmonton AB
- March 2013, 3<sup>rd</sup> Annual Therapeutic Hypothermia and Temperature Management: Current and Future, Miami FL
- May 2013, Getting Things Done Through Influence (University of Calgary Continuing Education)
- May 2013, European Stroke Conference, London UK
- June 2013, 6<sup>th</sup> Congress of The International Society for Vascular Behavioural and Cognitive Disorders (VAS-COG), Toronto, ON
- July 2013, Alzheimer's Association International Conference, Boston, MA
- September 2013, Advanced Course in Epidemiological Analysis, London UK
- May 2014, European Stroke Conference, Nice FR
- June 2014, Canadian Neurological Sciences Federation 29<sup>th</sup> Annual Congress, Banff AB
- October 2014, The 9<sup>th</sup> International Conference on Frontotemporal Dementia (FTD)
- February 2015, The International Stroke Conference, Nashville TN
- April 2015, The European Stroke Organization Conference, Glasgow UK
- Sept 2015, How to Get Great Buy-in for Your Projects (University of Calgary-Cumming School of Medicine Leadership Workshop)
- Sept 2015, 7<sup>th</sup> World Congress of the International Society for Vascular Behavioural and Cognitive Disorders (VAS-COG), Tokyo, JAPAN
- February 2016, International Stroke Conference (ISC), Los Angeles CA
- May 2016, European Stroke Organisation Conference (ESOC), Barcelona SPAIN
- May 2016, CCNA - Workshop on Clinical Trials for Vascular Cognitive Impairment, Banff AB
- May 2016, Campus Alberta Neuroscience 2016 International Conference -Promoting Healthy Brain Aging and Preventing Dementia - Research and Translation, Banff AB
- January 2017, HBI Neuro Stroke Team Retreat, Winsport Canada, Calgary AB – Provided by the Calgary Stroke Program

- May 8-9, 2017, 39<sup>th</sup> Int'l Symposium of the GRSNC – Dementia and Cognition: A Vascular Perspective, Montreal, Quebec

## **VI. PROFESSIONAL ACTIVITIES**

### **i. Membership in professional and learned societies**

Alberta Medical Association (since Oct 1998)  
 Association of British Neurologists (since Jan 1995)  
 Canadian Stroke Consortium (since Oct 1998)  
 Canadian Medical Protective Association (since Jul 1 2005)  
 College of Physicians and Surgeons of Alberta (since Jan 2001)  
 General Medical Council, UK (since Jan 1991)  
 Royal College of Physicians of Edinburgh (since Jan 2003)  
 Royal College of Physicians and Surgeons of Canada (since Oct 1998)

### **ii. Professional service**

#### Grant Panels

Member of the Heart and Stroke Foundation of Canada Scientific Review Committee  
 2004-2016  
 University of Calgary MSc Examination Committee 2004-Amber Wong (External  
 Examiner)  
 Member of Canadian Institute of Health Research Health Professional (Fellowship)  
 Review Committee 2005-present  
 University of Calgary Mentorship Committee 2007-present  
 University of Calgary Graduate Studies Advisory Committee, Sanju Lama 2007-2009  
 University of Calgary MSc Examination Committee 2009, Sanju Lama (Examiner)  
 Hotchkiss Brain Institute (HBI) – Robertson Foundation 2009-2011

#### Grant Reviews

Heart and Stroke Foundation of Canada Scientific Review Committee 2005- (external  
 reviewer)  
 Canadian Institute of Health Research 2005- (external reviewer)  
 Heart and Stroke Foundation of Canada Fellowship Awards \_\_\_\_ - (external reviewer)  
 Medical Research Council (UK) 2005- (external reviewer)  
 Wellcome Trust Fellowship (UK) 2005- (external reviewer)

#### Journal Reviewer (journals listed below)

British Medical Journal 2000-  
 Stroke 2000-  
 Canadian Journal of Physiology and Pharmacology 2001-2014  
 Canadian Journal of Neurological Sciences 2003-  
 Lancet Neurology 2004-  
 Brain Research 2004-

Annals of Neurology 2004-  
Journal of Neuroimmunology 2004-  
Neuroscience Letters 2005-  
American Journal of Neuroradiology 2005-  
Journal of Neurology, Neurosurgery and Psychiatry 2005-  
Journal of Contrast Media and Molecular Imaging 2005-  
Neurology 2006-  
Journal of Cerebral Blood Flow Metabolism 2006-  
Brain 2006-  
Journal of Neuroprotection 2006-  
Public Library of Science 2012-

#### Administrative Activity/Committees

Calgary Stroke Program Executive Committee 2001-  
University of Calgary Experimental Imaging Scientific Review Committee 2003-  
Division of Neurology Members Meetings 2003-  
Participant, Thesis Defence and Examination Committees, Neuroscience Programs and  
Psychology 2004  
Experimental Imaging Centre Procedures Committee 2005-  
Patient Incident and Safety Committee 2009-  
Education Director, Calgary Stroke Program Seminar Series 2009-  
Editorial Board Member, Frontiers in Neurology 2012-  
Department of Clinical Neurosciences Standing Committee 2012-  
Neurology Alternative Academic Relationship Plan (NAARP) (*Neurology Management  
Committee*) 2012-  
Poster Adjudicator for the HBI Research Day 2013-  
Alberta Alternative Relation Plan (AARP) Neurology Membership Committee 2013-  
Calgary Health Regional Ethics Board (CHREB) 2013-14  
Director, Calgary Stroke Program Mentorship Program 2014-  
Graduate Student Supervisory Committee 2014-  
Director, Alberta Stroke Program Education Funding Plan (QuICR) 2014-  
Chair, Quality Improvement & Clinical Research (QuICR) Educational Committee, 2014-  
Director, Stroke Prevention Clinic, Foothills Hospital 2015-  
Principal Investigator, Stroke Prevention Clinic Registry 2015-

## **VII. RESEARCH SUPPORT**

### **Experimental Grants**

- 1999-2001 Alberta Foundation for Health Research. “Acute Stroke-CT vs. MR imaging” (co-investigator) -\$500,000
- 1999-2001 Canadian Stroke Consortium/Hoffmann-La Roche “Canadian Activase in Stroke Effectiveness Study” (co-investigator) -\$200,000

- 2000-2003 Heart and Stroke Foundation of Alberta-“Caspase and NF-kB Activation Mediated Inflammation in Cerebral Maturation” (co-investigator)-\$195,000
- 1999-Biochemical Markers in Acute Stroke (BMASS) (co-investigator)
- 2003- FASTER- Heart and Stroke Foundation (Co-Investigator)-\$500,000
- 2003- FASTER- Canadian Institute of Health Research (Co-Investigator) -\$1000,000

**Clinical Trial Funding-NIH and Canadian Stroke Consortium (sub-investigator)**

- 1998-1999 GAIN Americas Stroke Study (Glaxo Wellcome), PI: Drs Sacco, S Phillips-\$172,500
- 1998-1999 ECCO 2000- Citicholine Study-(Interneuron Inc.), PI: Dr A Bellevance-\$106,000
- 1998- SPARCL-Lipitor Study-(Parke-Davis), PI- Dr F Marcoux-\$140,625
- 1998- BRAVO-IIb/IIIa Study-PI- Dr G Klein-\$65,000
- 1999-POST- Bristol Myers Squibb- Acute Stroke Study-\$181,500
- 2000-IMS-National Institutes of Health, USA, PI-Dr J Broderick-\$30,000
- 2000- Headfirst-National Institute of Health, USA, PI Dr J Franks-\$30,000
- 2001- BAYER Stroke Randomized Neuroprotective Study, PI Dr Alastair Buchan-\$100,000
- 2001- Reopro Acute stroke Trial, PI Dr Alastair Buchan-\$30,000
- 2001- ASTIN Stroke Randomized Neuroprotective Study PI Dr Alastair Buchan-\$80,000
- 2001- ATLANTIS CT study Using ASPECTS, PI Michael Hill-\$100,000

**Clinical Trial Funding-NIH and Canadian Stroke Consortium (co-investigator)**

- 2001 -Joint MRC-HSF Partnership program clinical fellowship grant Co-investigator - Validation of the Alberta Stroke Program Acute CT Score using the Canadian Activase for Stroke Effectiveness Study. July 1, 1999 - June 30, 2001 \$44 000.00/y
- 2003-ECASSII CT scan review for ASPECTS Co-investigator – Operating Grant 2003 Boston University \$30 000.00
- 2003-vascular imaging of acute stroke for identifying predictors of clinical outcome and recurrent ischemic events (VISION)

- Co-Investigator – Operating grant  
PI – Andrew Demchuk (University of Calgary)  
2003-2006 CIHR \$117 736 per year
- 2003-Fast Assessment of Stroke and Transient ischemic attack to prevent Early Recurrence (FASTER) - A pilot study for a multicentre randomized controlled, double blind trial of combination anti-platelet therapy versus aspirin and statin therapy to prevent stroke in those at high-risk of early recurrence after transient ischemic attack or mild stroke.  
Co-Investigator – Clinical Trial  
PI – Alastair M. Buchan (University of Calgary)  
2003-2004 CIHR \$408 275.00
- 2003-ONO Pharmaceuticals Inc. – 3T vs. 1.5T MRI comparison in acute ischemic stroke Co-Investigator Investigator – Clinical Trial sub-study 2003-2004 \$30 000.00  
2005-3 Trial Clinical trial grant 2005-2010 NIH-NINDS – US\$24 million
- 2003-Fast Assessment of Stroke and Transient Ischemic Attack to Prevent Early Recurrence (FASTER) Trial Co-Investigator – Clinical Trial Ontario Ministry of Health and Long-Term Care / Canadian Stroke Consortium / Canadian Stroke Network / Merck Inc. / Calgary Health Region 2002-2003 \$1,257,500
- 2005-AS Trial Clinical trial grant 2005-2010 NIH-NINDS – US\$25 million Role – Co-Investigator

#### **PAST Peer Reviewed Grants**

- 2004-2007 (Jul-Jun) Grant-in-Aid (*New Investigator*) - Heart and Stroke Foundation of Alberta, NWT and Nunavut “The Characterisation of the Neuroinflammatory Endothelial Response to Ischemia/Reperfusion by Magnetic Resonance Molecular Imaging” (MRMI) \$49,000 annually for 3 years, totalling \$147,000 (Principal Investigator)
- 2005-2008 Alberta Heritage Foundation for Medical Research Establishment grant \$210,000
- 2005-2008 Alberta Heritage Foundation for Medical Research Equipment Grant \$45,000
- 2006-2009 (Mar-Apr) Operating Grant - Canadian Institute of Health Research “Magnetic Resonance Imaging of Tissue Plasminogen Activator Induced Toxicity Following Ischemic Stroke: Influence of Aging” \$300,000 (Principal Investigator)
- 2007-2010 (Jul-Jun) Grant-in-Aid (Renewal) – Heart and Stroke Foundation of Alberta, NWT and Nunavut, “The Characterisation of the Neuroinflammatory Endothelial Response to Ischemia/Reperfusion by Magnetic Resonance Molecular Imaging” (MRMI) \$54,000 annually for 3 years, totalling \$164,000 (Principal Investigator)

- 2007-2010 (Apr-Mar) Operating Grant - Canadian Institute of Health Research “Resveratrol neuroprotection for stroke recurrence following minor stroke” \$120,000 annually for 3 years, totaling \$360,000 (Co-applicant)

### **CURRENT Peer Reviewed Grants**

2009-2015 (Jun1-Dec31) Operating Grant – Pfizer – “Cognition and brain ATrophy after Cerebrovascular event in High risk patients.” \$50,000 (Co-principal investigator)

2012-2017 (Nov26-Nov30) Operating Grant (Ongoing/Renewed) – Department of Clinical Neurosciences – Acute Quantitated T1 and T2. Stroke Prevention Program, \$25,000; Department of Clinical Neurosciences, 25,000; \$50,000 in total.

2013-2015 (Mar1-Jun30) Studentship Grant – Katthy Taylor Vascular Dementia Research Chair – “Imaging Biomarker Diagnosis of Cognitive Impairment in Mild Stroke and TIA.” \$37,000.00 over 3 years

2011-2016 (Apr-Mar) Operating Grant - Canadian Institute of Health Research “Pathophysiology and treatment of stroke recurrence” \$114,900 annually over 5 years, totaling \$574,500 (Co-applicant)

2014-2019 (Apr-Mar) Operating Grant - Canadian Institute of Health Research. Canadian Consortium on Neurodegeneration in Aging. “Vascular Illness and its Impact on Neurodegenerative Diseases.” \$750,000 over 5 years (clinical) (Co-applicant)

2014-2019 (Jul-Jun) Alberta Innovates–Health Solutions, Collaborative Research & Innovation Opportunities Grant (Dec 2013) - Quality Improvement Clinical Research (QuICR): Alberta Stroke Program. \$5M over 5 years (Co-applicant and Educational Lead)

2014-2017 (Jul-Jun) Grant-in-Aid - Heart and Stroke Foundation of Canada “Recanalization following Endovascular treatment and imaging of PERfusion, Regional InFarction and atrophy to Understand Stroke Evolution (REPERFUSE).” \$197,505.00 over 3 years (Principal Investigator)

2014-2017 (Oct1-Jun30) Operating Grant - The Weston Brain Institute – “A blood test for Alzheimer’s based on fluorescence spectroscopy.” \$150,000 over 3 years (Co-applicant)

2014-2019 (Apr-Mar) Operating Grant - Canadian Institute of Health Research – “Canadian Stroke Trials for Optimized Results (CaSTOR).” \$1.5M over 5 years (Co-applicant)

2016-2019 (Jul-Jun) 2016/17 Grant-in-Aid - Heart and Stroke Foundation of Canada. “Predementia Neuroimaging of Transient Ischemic Attack (TIA) – PREVENT Study” \$293,000 over 3 years (Principal Investigator)

2016-2019 (Jul-Jun) 2016/17 Grant-in-Aid – Heart and Stroke Foundation of Canada.

“TEMPO-2 – A randomized controlled trial of TNK-tPA versus standard of care for minor ischemic stroke with proven occlusion.” \$256,990 over 3 years (Co-Applicant)

2017-2022 (Jul-Jun) Project Scheme Grant – Canadian Institutes of Health Research, Fall 2016. “A Multicentre, Randomized, Double-blinded, Placebo-controlled, Parallel Group, Single- dose Design to Determine the Efficacy and Safety of Intravenous NA-1 in Subjects with Acute Ischemic Stroke Undergoing Endovascular Thrombectomy (ESCAPE-NA1 Trial)” \$2,445,000 over 5 years (Co-Applicant)

2018-2021 Project Scheme Grant- Canadian Institute of Health Research, Fall 2017  
“REPERFUSE NA1” \$467,000 over 3 years (Principal Investigator)

2018-2021 Grant in Aid- Heart and Stroke Foundation of Canada, Fall 2017 “REPERFUSE NA1” \$300,000 over 3 years (Principal Investigator)

2018-2023 Project Scheme Grant-Canadian Institute of Health Research, Fall 2017 “Tempo 2” \$2.1 M, over 5 years (Site PI, Co-investigator).

### **PENDING Peer Reviewed Grants**

- 2018-2021 (Apr-Mar) Project Scheme Grant – Canadian Institutes of Health Research (Fall 2017). “Magnetic Resonance Imaging Evaluation of NA1 Neuroprotection on Infarct Growth Following Endovascular Treatment for Acute ischemic Stroke.” \$610,000 over 3 years (Principal Investigator)
- 2018-2021 (Jul-Jun) Grant-in-aid Heart - Heart and Stroke Foundation of Canada (Fall 2017) “Magnetic Resonance Imaging Evaluation of NA1 Neuroprotection on Infarct Growth Following Endovascular Treatment for Acute Ischemic Stroke.” \$300,000 over 3 years (Principal Investigator)
- 2018-2023 (Apr-Mar) Project Scheme Grant – Canadian Institutes of Health Research (Fall 2017). “TEMPO-2 – A randomized controlled trial of TNK-tPA versus standard of care for minor ischemic stroke with proven occlusion.” \$2,605,000 over 5 years (Co-Applicant)

### **Salary Supported Peer-Reviewed Grants**

- 2001-2003 Canadian Institute of Health Research/ Heart and Stroke Foundation of Canada Postdoctoral Fellowship (Declined)
- 2001-2003 Alberta Heritage Foundation for Medical Research Postdoctoral Fellowship
- 2005-2008 Alberta Heritage Foundation of Medical Research Clinical Investigator
- 2005-2010 Canadian Institute of Health Research New Investigator (declined)
- 2005-2010 Heart Stroke Foundation of Canada New Investigator
- 2005/2006 Henry JM Barnett Research Scholarship award (\$15,000)
- 2006 University of Calgary Young Innovator Award (20,000)
- 2008-2012 Alberta Heritage Foundation of Medical Research Clinical Investigator (Renewed) (\$50,000)

### **Equipment Grant (Non Peer-Reviewed)**

- Western Economic Diversification 2001 (\$221,000)

### **VIII. INVITED LECTURES**

- “Headache in Neurophthalmology”. Neurophthalmology Course. Manchester University. December 1997.
- “Clinical signs and symptoms of acute stroke”. Beverly Care Nursing Home November 1998.
- “Stroke Prevention”. University of Calgary Therapeutics Course May 1999.
- “Symptoms and signs of ischemic stroke”. University of Calgary Neuroscience Course, September 1999.
- “Thresholds of Cerebral Ischemia” Millennium Stroke Conference, Banff, Ca, January 2000.
- “Animal Stroke Models” Imaging Network Ontario Symposium, Toronto Colony Hotel, Toronto, Canada, September 2002.
- “From Animal Stroke Models Towards Molecular Imaging”, University of Calgary, June 2003.
- “The Filament Middle cerebral Artery Occlusion Model in Mice”, Memorial University, Newfoundland, July 2003.
- “Macrobleeds and Microbleeds” Canadian Congress for the Neurosciences, Calgary July 2004.
- Developmental Molecular MRI in Stroke. 4<sup>th</sup> National Research Council Nanotechnology Meeting, Edmonton, Alberta June 2006.
- Molecular Magnetic Resonance Imaging: An Update Cerebral Vascular Conference, Ottawa, Canada, June 2007.
- Trials and Tribulations of Molecular Magnetic Resonance Imaging. Advance Bio-Imaging Technology Conference, Banff, Alberta, Canada, September 16-18, 2009.
- Vascular Cognitive Impairment: An Update. NHNN, Queen Square, UK, December 14, 2011.
- Can we extend the Acute Stroke Treatment Window? Manchester Clinical Neuroscience, Hope Hospital, UK, May 18, 2012.



- Vascular Cognitive Impairment. Short Course in Dementia, NHNN, Queen Square, UK, May 22, 2012.
- Deciphering Vascular Dementia. University of Calgary, Calgary, Alberta. June 14, 2012.
- The Impact of Preventing Recurrent Stroke: Canadian Neurological Sciences Federation (CNSF) 29<sup>th</sup> Annual Congress, June 5, 2014. Banff AB June 3-6, 2014.
- Insights into Reperfusion Injury. Lecture title, “Tight Junction Protein Degradation in Ischemia Reperfusion”. International Stroke Conference, Los Angeles, CA, February 17-19, 2016.
- Canadian Consortium on Neurodegeneration in Aging. Workshop – Banff Springs Conference Centre, Banff AB May 23-27, 2016. Talk entitled, “Neuroimaging surrogates and outcome measures of dementia and predementia.”
- Tight Junctions in Ischemia Reperfusion. International Stroke Conference, Los Angeles CA, Feb 17, 2016.
- Neuroimaging Surrogates and Outcomes in Vascular Cognitive Impairment. 2016 International Conference: Promoting Healthy Brain Aging and Preventing Dementia – Research and Translation, Banff AB, May 23-27, 2016.
- HBI Neuro Stroke Team Retreat, Winsport, Calgary AB “The delayed secondary injury that follows ischemia during cerebral blood flow restoration: a target for human stroke.” January 13, 2017.
- “Modifiable vascular risk factors and biomarkers in vascular cognitive impairment ...”. Dementia and Cognition: A Vascular Perspective (39<sup>th</sup> Int’l Symposium of the GRSNC, Montreal, QC May 8-9, 2017).

## **IX. PRESENTATIONS**

- “Myasthenic Myopathy Revisited.” North West Regional Neuromuscular Meeting Queen Elizabeth Hospital Birmingham UK, March 1997.
- “Two Cases of Muscle Hypertrophy”. North West Regional Neuromuscular Meeting, Liverpool UK, March 1998.
- Early CT changes in hyperacute stroke (oral). University of Calgary Clinical Research day, McMahon Stadium March 16 1999.
- The electroencephalogram in Dementia with Lewy bodies (poster). Association of British Neurologists, Southampton, March 22-23 1999.

- Intra-arterial thrombolysis in 5 cases of basilar artery thrombosis (platform). Canadian Congress of Neurological Sciences, Edmonton, Ca, June 16 1999.
- Thrombolysis in acute ischemic stroke: the Calgary experience (platform). Canadian Congress of Neurological Sciences, Edmonton, Ca, June 17 1999.
- The inter-observer reliability of the Alberta Stroke Program CT scoring system (poster). Canadian Congress of Neurological Sciences, Edmonton, Ca, June 17 1999.
- The use and validity of a quantitative CTscore in acute hemispheric stroke in predicting outcome prior to thrombolytic treatment. Association of British Neurologists, London. September 1999. (platform)
- Use and validity of a quantitative score in early cerebral ischemia. American Neurological Association. Seattle October 1999.
- The validity and reliability of a novel quantitative CT Score in predicting outcome prior to thrombolytic treatment. 25<sup>th</sup> International Stroke Conference. New Orleans, United States. February 2000. (platform)
- The hyperdense sylvian fissure branch sign: a marker of thromboembolic stroke. 35<sup>th</sup> Canadian Congress of Neurological Sciences, Ottawa, Ca. June 2000. (platform)
- An analysis of patient eligibility for alteplase in acute ischemic stroke. 35<sup>th</sup> Canadian Congress of Neurological Sciences, Ottawa, Ca June 2000. (platform)
- Why stroke patients don't receive alteplase? An analysis of patient eligibility: Implications of improving clinical impact by increasing future treatment numbers. American Neurological Association, September 2000 Boston, USA.
- A comparison of CT versus MR imaging in acute stroke using ASPECTS: Will the "new" replace the "old" as the preferred imaging modality? American Stroke Association Meeting, Ft Lauderdale, USA February 2001.
- The Role of Repeat CT for predicting fatal outcome following massive middle cerebral artery territory infarction. American Stroke Association Meeting, Ft Lauderdale, USA February 2001.
- Why stroke patients don't receive t-PA? An analysis of patient eligibility: implications for improving clinical impact by increasing future treatment numbers. American Stroke Association Meeting, Ft Lauderdale, USA February 2001.
- The hyperdense sylvian fissure branch sign: a marker of thromboembolic stroke. American Stroke Association Meeting, Ft Lauderdale, USA February 2001.

- A comparison of CT versus MR imaging in acute stroke using a topographical quantitative system (ASPECTS). American Academy of Neurology, Philadelphia, USA, April 2001.
- The Role of Repeat CT for predicting fatal outcome following massive middle cerebral artery territory infarction. Canadian Conference of Neuroscience, Halifax, Canada, June 2001.
- A comparison of Computed Tomography with Diffusion Weighted Imaging in Hyperacute Stroke using a Systematic Quantitative System (ASPECTS). Association of British Neurologists, Durham, UK, September 2001.
- The probability of MRA flow signal abnormality with quantified CT ischemic change: Targets for future therapeutic trials. American Academy of Neurology, Denver, Colorado, USA, April 2002.
- Magnetic Resonance Molecular Imaging (MRMI) of Early Endothelial Activation in Focal Ischemia in Mice. ISMRM Molecular Imaging Workshop, Bordeaux, France 2003.
- Magnetic Resonance Molecular Imaging (MRMI) of Early Endothelial Activation in Focal Ischemia in Mice. American Neurological Association, San Francisco, USA, 2003.
- The Study of Temperature Regulation in a Mouse Model of Focal Ischemia: An Assessment of Behavioral Outcomes and Histological Injury. Neuroscience Meeting, San Diego, USA 2003.
- Magnetic Resonance Molecular Imaging of Activated Endothelium in Acute Stroke Using a Targeted Iron-Oxide Nanoparticle Contrast Agent. Brain 2007, Osaka, Japan.
- Quantified T1 and T2 as useful adjuncts to DWI for early infarct detection in permanent and transient MCAO. Accepted for poster presentation at the Brain '07: 23rd International Symposium on Cerebral Blood Flow and Metabolism at Osaka, Japan, May 20-24th 2007.
- Magnetic Resonance Molecular Imaging of Endothelial Activation in Acute Stroke in Wild Type and P-selectin Deficient Mice. European Stroke Conference, Nice, France, May 15, 2008 (oral presentation).
- Quantitative MRI reveals the elderly ischemic brain is susceptible to increased early blood-brain barrier permeability following tissue plasminogen activator related to claudin 5 and occludin disassembly. European Stroke Conference, Barcelona, Spain, May 7, 2009 (oral presentation).
- Stroke Course Chair Canadian Neurological Society Federation, June 5, 2014.

## X. PUBLICATIONS

1. **Barber PA**, Schady W. A syndrome of lower cranial nerve palsies. *Journal of Neurology, Neurosurgery and Psychiatry* 1998; 65; 133. [Reviewed subject background and wrote manuscript]
2. **Barber PA**, Sieredzan KS, Schady WS. Sagittal sinus obstruction and tuberculosis abscess. *Acta Scandinavica Neurologica* 1999; 99(3): 202-203. [Reviewed subject background and wrote manuscript] (NOT on Web of Science website)
3. **Barber PA**, Varma AR, Lloyd JJ, Haworth B, Snowden JS, Neary D. The electroencephalogram in dementia with Lewy bodies. *Acta Scandinavica Neurologica* 2000; 101(1):53-56. [Reviewed subject background wrote manuscript]
4. Buchan AM, **Barber PA**, Karbalai HG, Demchuk AM, Hoyte KM, Klein GM, Feasby TE. Effectiveness of t-PA in acute ischemic stroke: outcome relates to appropriateness. *Neurology* 2000; 54:679-684. [Major contribution to study design, methodology, data collection, and wrote manuscript]
5. Alexandrov AV, Demchuk AM, Felberg RA, Christou I, **Barber PA**, Burgin WS, Malkoff M, Wosner GW, Grotta JC. Dramatic improvement during intravenous TPA infusion combined with 2MHz transcranial Doppler monitoring is associated with complete recanalization. *Stroke* 2000; 31:610-614. [Contributed to data collection and proof read manuscript]
6. Hill MD, **Barber PA**, Demchuk AM, Newcommon NJ, Green T, Buchan AM. The Calgary Regional Stroke Program: Building a brain attack team for Thrombolytic therapy in acute ischemic stroke. *Can Med Assc J* 2000; 162: 1589-1593. [Major contribution to study design, methodology, data collection, and wrote manuscript]
7. **Barber PA**, Alexandrov AV, Demchuk AM. Transcranial Doppler sonography in acute stroke. *Journal Neurol Neurosurg and Psychiatry* 2000; 68:532. [Major contribution. Reviewed subject background wrote manuscript]
8. **Barber PA**, Demchuk AM, Zhang J, Buchan AM for the ASPECTS Study Group. Validity and reliability of a quantitative CT score in hyperacute stroke predicts outcome before thrombolytic therapy. *Lancet* 2000; 355(9216):1670-1674. [Major contribution to study design, methodology, data collection, and wrote manuscript]
9. Hill MD, **Barber PA**, Demchuk AM, Buchan MD. Thrombolysis in acute stroke works. *BMJ* 2000; 321: 299. [Major contribution to literature search and background and co-wrote]
10. Hill MD, **Barber PA**, Takahashi, Demchuk AM, Feasby TE, Buchan AM. Anaphylactoid reactions during rtPA treatment of acute ischemic stroke. *CMAJ* 2000; 169:1281-1284. [Major contribution to study design, methodology, data collection, and wrote manuscript]

11. **Barber PA**, Demchuk AM, Buchan AM. Intra-arterial therapy in acute stroke. *Lancet* 2000; 356; 1112. [Major contribution. Reviewed subject background wrote manuscript]
12. **Barber PA**, Hill MD, Demchuk AM, Buchan AM. Doubts, fears and misconceptions. What is the future of thrombolysis in acute stroke? *Canadian Journal of Neurological Sciences* 2000; 27:283-287. [Major contribution to literature search and background and wrote manuscript]
13. **Barber PA**, Demchuk AM, Zhang J, Hudon ME, Pexman W, Hill MD, Buchan AM. The hyperdense sylvian fissure MCA “dot” sign. A CT marker of acute cerebral ischemia. *Stroke* 2001; 32:84-88. [Major contribution to study design, methodology, data collection, and wrote manuscript]
14. Demchuk AM, Burgin WS, Christou I, Felberg RA, **Barber PA**, Hill MD, Alexandrov AV. Thrombolysis in brain ischemia (TIBI) TCD flow grades predict clinical severity, clinical recovery and mortality in intravenous TPA treated patients. *Stroke* 2001; 32: 89-93. [Contributed to data collection and proof read manuscript]
15. Hill MD, **Barber PA**, Demchuk AM, Sevick RJ, Frayne R, Buchan AM. Symptomatic hemorrhage after alteplase therapy not due to silent ischemia. *BMC Neurology* 2001; 1: 1. [Contributed to data collection and proof read manuscript]
16. **Barber PA**, Zhang J, Demchuk AM, Hill MD, Buchan AM. Why are stroke patients excluded from TPA treatment? An analysis of patient eligibility. *Neurology* 2001; Apr 24;56(8):1015-20. [Major contribution to study design, methodology, data collection, and wrote manuscript]
17. **Barber PA**, Auer RN, Buchan AM, Sutherland GS. Understanding and managing stroke *Canadian Journal of Physiology and Pharmacology* 2001; 79(3):283-296. [Major contribution. Reviewed subject background wrote manuscript]
18. Pexman WJH, **Barber PA**, Hill MD, Sevick RJ, Demchuk AM, Hudon M, Hu WY, Buchan AM. Use of the Alberta Stroke Program Early CT Score (ASPECTS) for assessing CT scans in patients with acute stroke. *Am J Neuroradiol* 2001 Sep; 22(8):1534-42. [Major contribution to study design, methodology, data collection, and wrote manuscript]
19. Hill MD, **Barber PA**, Demchuk AM, Newcommon NJ, Cole-Haskayne A, Ryckborst K, Sopher L, Button A, Hu W, Hudon ME, Morrish W, Buchan AM. Acute IV-IA Revascularization Therapy for Severe Ischemic Stroke. *Stroke* 33:279-282, 2002. [Major contribution to study design, methodology, data collection, and wrote manuscript]
20. Hill MD, Zhang J, Buchan AM. Methodology for the Canadian Activase for Stroke Effectiveness Study (CASES). CASES Investigators. *Can J Neurol Sci* 2001; Aug;28:232-8. [**PA Barber** collaborator and contributed to data collection]

21. Demchuk AM, Tanne D, Hill MD, Kasner SE, Hanson S, Grond M, Levine SR and the Multicentre tPA Stroke Survey Group. \* Predictors of good outcome after intravenous rt-PA for acute ischemic stroke: The multi-centre tPA acute stroke survey. *Neurology* 2001; 57:474-480. [\***PA Barber** collaborator]
22. Yang JJ, Hill MD, Morrish WF, Hudon ME, **Barber PA**, Demchuk, AM, Sevick RJ, Frayne R. Comparison of Pre- and Post-Contrast 3D TOF MR Angiography for Distal Intra-cranial Branch Occlusion in Acute Ischemic Stroke. *American Journal of Neuro Radiology AJNR* 2002 Apr; 23(4):557-67. [Major contribution to data collection and co-author]
23. Chauhan N, Zhao Z, **Barber PA**, Buchan AM. Experimental Ischemia Lessons in Clinical Stroke Medicine. *Curr Opin Neurol.* 2003 Feb; 16(1):65-71. [Major contribution. Reviewed subject background and co- wrote manuscript]
24. Hill MD, Lye T, Moss H, **Barber PA**, Demchuk, AM, Newcommon NJ, Green TL, Kenney C, Cole-Haskayne A, Buchan AM. Hemi-orolingual Angioedema after Alteplase Treatment of Stroke is Associated with Angiotensin Converting Enzyme Inhibitor Use. *Neurology.* 2003 May 13; 60(9):1525-7. [Major contribution to study design, methodology, data collection, and co-wrote Manuscript]
25. **Barber PA**, Zhang J, Kasner S, Krieger D, Demchuk AM. Computed tomographic parameters predicting fatal outcome in large middle cerebral artery infarction. *Cerebrovascular Disease* 2003; 16:230-235. [Major contribution to study design, methodology, data collection, analysis and wrote manuscript]
26. Coutts SB, Simon JE , Tomanek AI , **Barber PA**, Chan J, Hudon ME, Frayne R, Eliasziw M, Buchan AM, Demchuk AM. Reliability In Assessment of DWI/PWI Mismatch Implications for clinical trial design. *Stroke* 2003; 34: 1681 – 1683. [Major contribution to study design, data collection, and co-wrote]
27. Coutts SB, **Barber PA**, Demchuk AM, Hill MD, Pexman W, Hudon ME, Buchan AM. Mild Neurological Symptoms despite Middle Cerebral Artery Occlusion. *Stroke* 2004; 35:469-471. [Major contribution to study design, methodology, data collection, and co-wrote Manuscript]
28. Pexman JH, Hill MD, Buchan AM, Demchuk AM, **Barber PA**, Simon JE, Coutts SB. Hyperacute stroke: experience essential when reading unenhanced CT scans. *AJNR Am J Neuroradiol.* 2004 Mar;25:516.
29. Hoyte L, **Barber PA**, Hill MD. The rise and fall of NMDA antagonist for ischemic stroke. *Current Molecular Medicine* 2004;4:127-132. [Major contribution to the literature review and manuscript writing]
30. **Barber PA**, Demchuk AM, Hill MD, Pexman W, Hudon M, Frayne R, Buchan AM. The probability of middle cerebral artery MRA flow signal abnormality with quantified CT

ischemic change: Targets for future therapeutic studies. *JNNP* 2004;75:1426-30. [Major contribution to study design, methodology, data collection, and wrote manuscript]

31. Coutts SB, Hill MD, **Barber PA**, Hu WY, Simon JE, Fischer KL, Buchan AM, Demchuk AM for the VISION study group. Interobserver variation of ASPECTS in real time. *Stroke* 2004; 35:e103-105. [Major contribution to study design, methodology, data collection, and co-wrote manuscript]
32. **Barber PA**, Foniok T, Kirk D, Buchan AM, Sébastien Boutry , Muller R, Tuor UI. Magnetic Resonance Molecular Imaging (MRMI) of Early Endothelial Activation in Focal Ischemia in Mice. *Ann Neurol* 2004 56(1):116-20. [Major contribution to study design, methodology, data collection, and wrote manuscript]
33. **Barber PA**, Hoyte L, Colbourne F, Buchan AM. Temperature Regulated Model of Focal Ischemia in the Mouse: A Study with Histopathological and Behavioral Outcomes. *Stroke* 2004; 35: 1720-1725. [Major contribution to study design, methodology, data collection, and wrote manuscript]
34. Gagnon A, **Barber PA**. Hyperacute post-thrombolysis hematoma by MRI. *Neurology* 2004 Oct 26; 63(8):1534. [Major contribution to writing of manuscript and data collection]
35. Buchan AM, **Barber PA**. From Bench to Bedside: Evolving Experimental MRI Technology in Stroke. *Society of Neuroradiologists*. 2004: 133-137. (NOT on Web of Science website)
36. Saqqur M, Demchuk AM, Hill MD, Dean N, Schebel M, Kennedy J, **Barber PA**, Shuaib A. Bedside emergency transcranial Doppler diagnosis of severe carotid disease using orbital window examination. *J Neuroimaging*. 2005 Apr; 15(2): 138-43.
37. Coutts SB, Simon JE, Eliasziw M, Sohn CH, Hill MD, **Barber PA**, Palumbo V, Kennedy J, Roy J, Gagnon A, Scott JN, Buchan AM, Demchuk AM. Triaging transient ischemic attack and minor stroke patients using acute magnetic resonance imaging. *Ann Neurol*. 2005 Jun; 57(6): 848-54. PMID: 15929051.
38. **Barber PA**, Hill MD, Eliasziw M, Demchuk AM, Pexman JH, Hudon ME, Tomanek A, Frayne R, Buchan AM; ASPECTS Study Group. Imaging of the brain in acute ischaemic stroke: comparison of computed tomography and magnetic resonance diffusion-weighted imaging. *J Neurol Neurosurg Psychiatry*. 2005 Nov;76(11):1528-33. [Major contribution to study design, methodology, data collection, and wrote manuscript]
39. Demchuk AM, Hill MD, **Barber PA**, Silver B, Patel S, Levine SR; NINDS rtPA Stroke Study Group, NIH. Importance of early ischemic computed tomography changes using ASPECTS in NINDS rtPA Stroke Study. *Stroke* 2005 Oct;36(10):2110-5. Epub 2005 Sept 15.

40. **Barber PA**, Hoyte L, Foniok T, Kirk D, Buchan AM, Tuor U. Early T1 and T2-weighted MRI signatures of transient and permanent middle cerebral artery occlusion in a murine stroke model studied at 9.4 T. *Neuroscience Letters* 2005 388(1):54-9.
41. Pettersen JA, Hill MD, Demchuk AM, Morrish W, Hudon ME, Hu W, Wong J, **Barber PA**, Buchan AM. Intra-arterial thrombolysis for central retinal artery occlusion. *CJNS* 2005; Nov;32(4):507-11.
42. **Barber PA**, Powers W. MR DWI does not substitute for stroke severity scores in predicting stroke outcome. *Neurology* 2006 Apr 25;66(8):1138-9.
43. Pettersen JA, Pexman JH, **Barber PA**, Demchuk AM, Buchan AM, Hill MD. Insular cortical ischaemia does not independently predict acute hypertension or hyperglycaemia within 3 h of onset. *J Neurol Neurosurg Psychiatry* 2006; 77(7):885-7.
44. Toth C, Schmidt AM, Tuor UI, Francis G, Foniok T, Brussee V, Kaur J, Yan SF, Martinez JA, **Barber PA**, Buchan A, Zochodne DW. Diabetes, leukoencephalopathy and rage. *Neurobiol Dis.* 2006 Jun 29. [Epub ahead of print].
45. **Barber, PA**. Is diffusion-weighted imaging helpful in determining the source of stroke? [Commentary]. *Nature Clinical Practice Neurology* 2006 Aug 01; 2, 424-425.
46. Subramaniam, S, Peutz V, Dwiazlowksi, I, **Barber PA**. Cerebral Microhemorrhages in a patient with a mycotic aneurysm: Relevance of T2\*-GRE in SBE. *Neurology* 2006 Nov 14;67(9):1697.
47. Subramaniam S, Demchuk AM, Watson T, **Barber PA**, Hill MD. Unexpected Post Hemorrhagic Hydrocephalus in Patients Treated with rFVIIa. *Neurology* 2006 26;67(6):1096.
48. Dzialowski I, Pexman JHW, **Barber PA**, Demchuk AM, Buchan AM, Hill MD on behalf of the CASES Investigators. Asymptomatic hemorrhage after thrombolysis may not be benign: Prognosis by hemorrhage type in the CASES registry. *Stroke* 2007; 38:75-79.
49. Hoyte LC, Papadakis M, **Barber PA**, Buchan AM. Improved regional cerebral blood flow is important for the protection seen in a mouse model of late phase ischemia preconditioning. *Brain Research* 2006; 1121(1):231-7.
50. Sun, HS, Feng, ZP, **Barber, PA**, Buchan AM, French RJ. Kir6.2-containing ATP-sensitive potassium channels protect cortical neurons from ischemic/anoxic injury in vitro and in vivo. *Neuroscience* 2007; 144(4):1509-15.
51. Gofton T, **Barber PA**. Anterior Spinal Artery Stroke at the Cervical Medullary Junction. *CJNS* 2006 Nov; 33(4):418-20.



52. Filfil R, Jin A, Tolkmachev D, Tonan K, Gingras R, **Barber PA**, Ni F. Development of Polyvalent Peptide-Conjugated Magnetic Nanoparticles (MNPs) for Targeted In-Vivo Imaging of Micro-Thrombi. *Proceedings for the Society of Peptides* 2007.
53. Puetz V, Sylaja PN, Coutts SB, Hill MD, Dzialowski I, Mueller P, Becker U, Urban G, O'Reilly C, **Barber PA**, Sharma P, Goyal M, Gahn G, von Kummer R, Demchuk AM. Extent of hypoattenuation on CT angiography source images predicts functional outcome in patients with basilar artery occlusion. *Stroke* 2008 Sep;39(9):2485-90.
54. Puetz V, Dzialowski I, Hill MD, Subramaniam S, Sylaja PN, Krol A, O'Reilly C, Hudon ME, Hu WY, Coutts SB, **Barber PA**, Watson T, Roy J, Demchuk AM. Intracranial thrombus extent predicts clinical outcome, final infarct size and hemorrhagic transformation in ischemic stroke: the clot burden score. *Int J Stroke* 2008 Nov; 3(4):230-6.
55. Demchuk AM, Khan, F, Hill MD, **Barber PA**, Silver B, Patel S, Levine SR; NINDS rt-PA Stroke Study Group. Importance of leukoaraiosis on CT for tissue plasminogen activator decision making: evaluation of the NINDS rt-PA Stroke Study. *Cerebrovasc Dis.* 2008; 26(2):120.
56. Zhu HF, Newcommon NN, Cooper ME, Green TL, Seal B, Klein G, Weir NU, Coutts SB, Watson T, **Barber PA**, Demchuk AM, Hill MD. Impact of a stroke unit on length of hospital stay and in-hospital case fatality. *Stroke* 2009 Jan; 40(1):18-23.
57. Filfil R, Jin A, Tolkmachev D, Tonan K, Gingras R, **Barber PA**, Ni F. Development of polyvalent peptide-conjugated magnetic nanoparticles for targeted in-vivo imaging of micro-thrombi. *Adv Exp Med Biol.* 2009; 611:415-6.
58. Kaur J, Tuor UI, Zhao Z, Petersen J, Jin AY, **Barber PA**. Quantified T1 as an adjunct to apparent diffusion coefficient for early infarct detection: a high-field magnetic resonance study in a rat stroke model. *Int J Stroke* 2009; June 4(3):159-68.
59. Jin A.Y, Tuor U.I, Rushforth D, Filfil R, Kaur J, Ni F, Tomanek B, **Barber PA**. Magnetic resonance molecular imaging of post-ischemia neuroinflammation with a P-selectin targeted iron oxide nanoparticle. *Contrast Media Mol Imaging* 2009 Nov-Dec; 4(6):305-11.
60. Qiao M., Zhang Z., **Barber PA**, Foniok T, Sun S, Tuor UI. Development of a model of recurrent stroke consisting of a mild transient stroke followed by a second moderate stroke in rats. *J. Neurosci Methods* 2009 Nov 15;184(2):244-50.
61. Zhao Z, Tuor U, **Barber PA**. Chronic treatment with Losartan and Cerebral Ischemic Tolerance. *J Exp Stroke Transl. Med* 2(2): 32-40, 2009. (NOT on Web of Science website)
62. Jin AY, Tuor UI, Rushforth D, Kaur J, Muller RN, Petterson JL, Boutry S, **Barber PA**. Reduced blood brain barrier breakdown in P-selectin deficient mice following ischemic stroke: a future therapeutic target for treatment of stroke. *BMC Neurosc* 2010 Feb 2;11:12.

63. Shobha N, Bhatia R, **Barber PA**. Dental procedures and stroke: a case of vertebral artery dissection. *J Can Dent Assoc*. 2010; 76:a82.
64. **Barber PA**, Wechsler LR. The ischemic penumbra: from celestial body to imaging technology. *Neurology* 2010 Sep 7;75(10):844-5.
65. Kaur J, Tuor U, Zhoa Z, **Barber PA**. Quantitative MRI reveals the elderly ischemic brain is susceptible to increased early blood-brain barrier permeability following tissue plasminogen activator related to claudin 5 and occludin disassembly. *J Cereb Blood Flow Metab*. 2011 Sep 01;31(9):1874-85. (PMID: 21610723)
66. Bhatia R, Bal SS, Shobha N, Menon BK, Tymchuk S, Puetz V, Dzialowski I, Coutts SB, Goyal M, **Barber PA**, Watson T, Smith EE, Demchuk AM; Calgary CTA Group. CT angiographic source images predict outcome and final infarct volume better than noncontrast CT in proximal vascular occlusions. *Stroke* 2011 Jun;42(6):1575-80.
67. Coutts SB, Hill MD, Eliasziw M, Fischer K, Demchuk AM; for the VISION study group. Final 2 year results of the vascular imaging of acute stroke for identifying predictors of clinical outcome and recurrent ischemic events (VISION) study. *BMC Cardiovasc Disord*. 2011 Apr 23;11:18.
68. Demchuk AM, Dowlatshahi D, Rodriguez-Luna D, Molina CA, Blas YS, Dzialowski I, Kobayashi A, Boulanger JM, Lum C, Gubitz G, Padma V, Roy J, Kase CS, Kosior J, Bhatia R, Tymchuk S, Subramaniam S, Gladstone DJ, Hill MD, Aviv RI; PREDICT/Sunnybrook ICH CTA study group. Prediction of haematoma growth and outcome in patients with intracerebral haemorrhage using the CT-angiography spot sign (PREDICT): a prospective observational study. *Lancet Neurol*. 2012 Apr;11(4):307-14.
69. Clark D, Tuor UI, Thompson R, Institoris A, Kulynych A, Zhang X, Kinniburgh DW, Bari F, Busija DW, **Barber PA**. Protection against recurrent stroke with resveratrol: endothelial protection. *PLoS One*. 2012;7(10):e47792. Epub 2012 Oct 17.
70. **Barber PA**, Rushforth D, Agarwal S, Tuor UI. Infrared optical imaging of matrix metalloproteinases (MMPs) up regulation following ischemia reperfusion is ameliorated by hypothermia. *BMC Neurosci*. 2012 Jun 28; 13:76.
71. Hill MD, Kenney C, Dzialowski I, Boulanger JM, Demchuk AM, **Barber PA**, Watson TW, Weir NU, Buchan AM. Tissue Window in Stroke Thrombolysis study (TWIST): a safety study. *Can J Neurol Sci*. 2013 Jan;40(1):17-20. PubMed PMID: 23250122
72. **Barber PA**. Magnetic resonance imaging of ischemia viability thresholds and the neurovascular unit. *Sensors* 2013 May 27;13(6):6981-7003.
73. Phan TG, Demchuk A, Srikanth V, Silver B, Patel SC, **Barber PA**, Levine SR, Hill MD. The NINDS rt-PA Stroke Study Group. Proof of concept study: relating infarct location to stroke disability in the NINDS rt-PA trial. *Cerebrovasc Dis*. 2013;35(6):560-5.

74. Camden MC, Hill MD, Demchuk AM, Poppe AY, Shobha N, **Barber PA**, Coutts SB. Historic stroke motor severity score predicts progression in tia/minor stroke. *Can J Neurol Sci.* 2014 Jan;41(1):19-23.
75. Gladstone DJ, Spring M, Dorian P, Panzov V, Thorpe KE, Hall J, Vaid H, O'Donnell M, Laupacis A, Côté R, Sharma M, Blakely JA, Shuaib A, Hachinski V, Coutts SB, Sahlas DJ, Teal P, Yip S, Spence JD, Buck B, Verreault S, Casaubon LK, Penn A, Selchen D, Jin A, Howse D, Mehdiratta M, Boyle K, Aviv R, Kapral MK, Mamdani M; EMBRACE Investigators and Coordinators. Atrial fibrillation in patients with cryptogenic stroke. *N Engl J Med.* 2014 Jun 26;370(26):2467-77. [**Barber PA** collaborator]
76. Bhatia R, Shobha N, Menon BK, Bal BP, Kochar P, Palumbo V, Wong JH, Morrish WF, Hudon ME, Hu W, Coutts SB, **Barber PA**, Watson T, Goyal M, Demchuk AM, Hill MD. Combined full-dose IV and endovascular thrombolysis in acute ischemic stroke. *Int J Stroke* 2014 Dec;9(8):974-9. (PMID: 23013039)
77. Coutts SB, Dubuc V, Mandzia J, Kenney C, Demchuk AM, Smith EE, Subramaniam S, Goyal M, Patil S, Menon BK, **Barber PA**, Dowlathshahi D, Field T, Asdaghi N, Camden MC, Hill MD; TEMPO-1 Investigators. Tenecteplase-tissue-type plasminogen activator evaluation for minor ischemic stroke with proven occlusion. *Stroke* 2015 Mar 03;46(3):769-74. (PMID: 25677596)
78. Goyal M, Demchuk AM, Menon BK, Eesa M, Rempel JL, Thornton J, Roy D, Jovin TG, Willinsky RA, Sapkota BL, Dowlathshahi D, Frei D, Kamal NR, Montanera WJ, Poppe AY, Ryckborst KJ, Silver FL, Shuaib A, Tampieri D, Williams D, Bang OY, Baxter BW, Burns PA, Choe H, Heo JH, Holmstedt CA, Jankowitz B, Kelly M, Linares G, Mandzia JL, Shankar J, Sohn SI, Swartz RH, **Barber PA**, Coutts SB, Smith EE, Morrish WF, Weill A, Subramaniam S, Mitha AP, Wong JH, Mark Lowerison MW, Sajobi TT, Hill MD; **ESCAPE Trial Investigators**. Randomized assessment of rapid endovascular treatment of ischemic stroke. *N Engl J Med.* 2015 Mar 12;372(11):1019-30. (PMID: 25671798)
79. Demchuk AM, Goyal M, Menon BK, Eesa M, Ryckborst KJ, Kamal N, Patil S, Mishra S, Almekhlafi M, Randhawa PA, Roy D, Willinsky R, Montanera W, Silver FL, Shuaib A, Rempel J, Jovin T, Frei D, Sapkota B, Thornton JM, Poppe A, Tampieri D, Lum C, Weill A, Sajobi TT, Hill MD; **ESCAPE Trial Investigators**. Endovascular treatment for Small Core and Anterior circulation Proximal occlusion with Emphasis on minimizing CT to recanalization times (ESCAPE) trial: methodology. *Int J Stroke.* 2015 Apr;10(3):429-38. doi: 10.1111/ijss.12424. Epub 2014 Dec 25.
80. Gladstone DJ, Dorian P, Spring M, Panzov V, Mamdani M, Healey JS, Thorpe KE; EMBRACE Steering Committee and Investigators; EMBRACE Steering Committee or Operations Committee. Atrial Premature Beats Predict Atrial Fibrillation in Cryptogenic Stroke: Results From the EMBRACE Trial. *Stroke* 2015 Apr;46(4):936-41. PMID: 25700289 [**Barber PA** collaborator]

81. Cechmanek B, Tuor UI, Rushforth D, **Barber PA**. Very mild hypothermia (35°C) post-ischemia reduces infarct volume and blood/brain barrier breakdown following tPA treatment in the mouse. *Ther Hypothermia Temp Manag*. 2015 Dec 03;5(4):203-8. (PMID: 26075540)
82. Ryan NS, Biessels GJ, Kim L, Nicholas JM, **Barber PA**, Walsh P, Gami P, Morris HR, Bastos-Leite AJ, Schott JM, Beck J, Mead S, Chavez-Gutierrez L, de Strooper B, Rossor MN, Revesz T, Lashley T, Fox NC. Genetic determinants of white matter hyperintensities and amyloid angiopathy in familial Alzheimer's disease. *Neurobiol Aging*. 2015 Dec 03;36(12):3140-51. (PMID: 26410308)
83. Au K, Appireddy, R, **Barber PA**. Multifocal cerebral and bilateral middle cerebellar peduncle infarctions in CADASIL. *Can J Neurol Sci*. 2016 Jul; 43(4):574-5 (PMID: 26956688)
84. Kosior RK, Tuor UI, **Barber PA**. Magnetic Resonance Imaging of the Ischemic Core: Systematic Evaluation of Preclinical and Human Data. *J Cerebr Blood F Met* 2015.
85. Mandzia JL, Smith EE, Horton M, Hanly P, **Barber PA**, Godzwon C, Donaldson E, Asdaghi N, Patel S, Coutts SB. Imaging and Baseline Predictors of Cognitive Performance in Minor Ischemic Stroke and patients with transient ischemic attack at 90 days. *Stroke*. 2016 Mar;47(3):726-31. (PMID: 26846862)
86. Al-Ajlan FS, Goyal M, Demchuk A, Minhas P, Sabiq F, Assis Z, Willinsky R, Montanera W, Rempel J, Shuaib A, Thornton J, Williams D, Roy D, Poppe A, Jovin T, Sapkota B, Baxter B, Krings T, Silver F, Frei D, Fanale C, Tampieri D, Teitelbaum J, Lum C, Dowlathshahi D, Shankar J, **Barber PA**, Hill M, and Menon B, ESCAPE Trial Investigators. Intra-arterial therapy and Post-Treatment Infarct Volumes: Insights from the ESCAPE Randomized Controlled Trial. *Stroke* 2016 Mar;47(3):777-81. (PMID: 26892284)
87. Ganesh A, Al-Ajlan F, Sabiq F, Assis Z, Rempel JL, Butcher K, Thornton J, Kelly P, Roy D, Poppe AY, Jovin TG, Devlin T, Baxter BW, Krings T, Casaubon LK, Frei DF, Choe H, Tampieri D, Teitelbaum J, Lum C, Mandzia J, Phillips SJ, Bang OY, Almekhlafi MA, Coutts SB, **Barber PA**, Sajobi T, Demchuk AM, Eesa M, Hill MD, Goyal M, and Menon BK; ESCAPE Trial Investigators. Infarct in a New Territory after Treatment Administration in the ESCAPE Randomized Controlled Trial (Endovascular Treatment for Small Core and Anterior Circulation Proximal Occlusion with Emphasis on Minimizing CT to Recanalization Times). *Stroke* 2016 Dec 03;47(12):2993-2998. (PMID: 27834743)
88. d'Esterre CD, Trivedi A, Pordeli P, Boesen M, Patil S, Ahn SH, Najm M, Fainardi E, Shankar JJS, Rubiera M, Almekhlafi MA, Mandzia J, Khaw AV, **Barber P**, Coutts S, Hill MD, Demchuk AM, Sajobi T, Forkert ND, Goyal M, Lee T-Y, and Menon BK. Regional Comparison of Multi-phase Computed Tomographic Angiography and Computed Tomographic Perfusion for Prediction of Tissue Fate in Ischemic Stroke. *Stroke* 2017 Apr 03;48(4):939-945. (PMID 28292870)

89. Smith EE, Cieslak A, **Barber P**, Chen J, Chen YW, Donnini I, Edwards JD, Elbayoumi H, Frayne R, Field TS, Hagedus J, Hanganu V, Ismail Z, Kanji J, Nakajima M, Noor R, Peca S, Sahlas D, Sharma M, Sposato L, Swartz RH, Zerna C, Black S, Hachinski V. Therapeutic Strategies and Drug Development for Vascular Cognitive Impairment. *J Am Heart Assoc* 2017 May 5;6(5):1-12. (PMID: 28476873)
90. Tariq S, **Barber PA**. Dementia Risk and Prevention by Targeting Modifiable Vascular Risk Factors. *J Neurochem* 2017 Jul 22 (PMID: 28734089)
91. Sheikh F, Ismail Z, Mortb, ME, Barber P, Cieslak A, Fischer K, Granger R, Hogan D B, Mackie A, Maxwell CJ, Menon B, Mueller P, Patry D, Pearson D, Quickfall J, Sajobi T, Tse E, Wang M and Smith EE, for the PROMPT registry investigators. Prevalence of mild behavioral impairment in mild cognitive impairment and subjective cognitive decline, and its association with caregiver burden. *International Psychogeriatrics* (2017 Sept) Cambridge University Press, pp. 1–12. (PMID 28879833)
92. Sah RG, d’Esterre CD, Hill MD, Hafeez M, Tariq S, Forkert ND, Demchuk AM, Goyal M, **Barber PA**. Diffusion-Weighted MRI Stroke Volume Following Recanalization Treatment is Threshold-Dependent. *Clin Neuroradiol* 2017 Oct 19. (PMID: 29051996)
93. Sah RG, d’Esterrre C, Hill M, Hafeez M, Tariq S, Forkert ND, Frayne R, Demchuk A, Goyal M, **Barber P**. Early DWI Infarct Growth Occurs Despite Reperfusion in Acute Ischemic Stroke: Implications for Neuroprotective Trials. *Stroke* 2017 (**Under Revision**)
94. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d’Esterre CD, **Barber PA**. Assessing the lesion heterogeneity using MR diffusion-weighted and quantitative T2 imaging. *Stroke* 2017 (**Submitted**)
95. Reid M, Famuyide A, Sah RG, Evans J, Hafeez M, Najm M, Menon B, Demchuk A, Goyal M, d’Esterre C, **Barber PA**. Can mCTA parenchymal enhancement and mCTA collateral score improve the selection of patients for endovascular therapy? *Stroke* 2017 (**Submitted**)
96. Hill M, Baxter, Krings, Silver, Frei, Fanale, Tampieri, Teitelbaum, Iancu, Shankar, **Barber P**, Demchuk A, Goyal M, and Menon B. Time for a time window extension: insights from late presenters in the ESCAPE trial. *AJNR* (**Accepted** – due to be published in Jan 2018)
97. Munir, AM, Ursenbach J, Wang M, Zamboni G, Griffanti L, Sah RG, Tariq S, Smith EE, Frayne R, Sajobi TT, Coutts SB, **Barber P**. Longitudinal Brain Atrophy Rates in Transient Ischemic Attack and Minor Ischemic Stroke Patients and Cognitive Profiles. *IJS* 2017 (**Submitted**)

#### **Non peer reviewed publications (reviews, book chapters)**

1. Hill MD, **Barber PA**, Demchuk AM, Buchan AM. Time is brain: post marketing experience with Alteplase (tPA) for acute ischemic stroke. *Today’s Therapeutic Trends* 18 (4);285-305, 2000.

2. **Barber PA**, Demchuk AM, Hirt L, Buchan AM. The Biochemistry of Ischemic Stroke. *Advances in Neurology: Ischemia Stroke*, Vol 92, February 2003 Chapter 18:151-164; Publisher – Lippincott Williams & Wilkins).
3. **Barber PA**, Bruederlin B, Buchan AM. Experimental neuroprotection: translation to human stroke trials. *Maturation Phenomenon in Cerebral Ischemia V*, 2004:137-156
4. Pillai, SN, **Barber PA**. Thrombolysis for Acute Ischemic Stroke in the Elderly- a Review. *Geriatrics and Aging* 2006
5. **Barber PA** Neuroprotective Approaches for the Ischemic Cascade: A Good Hiding to Nothing? *Stroke Rounds* April 2008 (Part 1)
6. **Barber PA**, Inflammatory Mediators and Dysfunction of the Neurovascular Unit following Ischaemia Reperfusion. In: *Neuroinflammation and CNS Disorders* published by Wiley Blackwell 2014 April 01.

## ABSTRACTS – published

1. **Barber PA**, Varma AR, Lloyd JJ, Haworth B, Snowden JS, Neary D. The electroencephalogram in dementia with Lewy bodies. *Journal of Neurology Neurosurgery, and Psychiatry* supplement 1999; 67:267
2. **Barber PA**, Klein GM, Hudon M, Hu W, Newcommon NJ, Buchan AM. Intra-arterial thrombolysis in five patients with basilar artery thrombosis. *Canadian Journal of Neurological Science* 1999; 26; Suppl.1 S10
3. **Barber PA**, Newcommon, Zhang J, Karbalai H, Buchan AM. Thrombolytic treatment in acute stroke: the Calgary experience. *Canadian Journal of Neurological Science* 1999; 26; suppl.1-S26
4. **Barber PA**, Zhang J, Hu W, Newcommon, Buchan AM. The interobserver reliability of the Alberta Stroke Program CT Scoring System. *Canadian Journal of Neurological Science* 1999; 26; suppl.1-S63
5. **Barber PA**, Demchuk AM, Zhang J, Grotta JC, Buchan AM. The use and validity of a quantitative CTscore in acute hemispheric stroke in predicting outcome prior to thrombolytic treatment. *Journal of Neurology, Neurosurgery and Psychiatry* 2000; 68:261
6. **Barber PA**, Zhang J, Buchan AM. Use and validity of a quantitative score in early cerebral ischemia. *Annals of Neurology* 1999
7. **Barber PA**, Demchuk AM, Zhang J, Sevick R, Hu W, Hudon M, Scott J, KuaraD, Grotta JC, Buchan AM. The validity and reliability of a novel quantitative CT Score in predicting outcome prior to thrombolytic treatment. *Stroke* 2000; 31:275
8. Hill MD, **Barber PA**, Buchan AM. Canadian Activase Stroke Effectiveness Study. *Stroke* 2000; 31:315
9. Demchuk AM, Christou I, Felberg RA, **Barber PA**, Malkoff M, Alexandrov AV. Thrombolysis in Brain Ischemia (TIBI) flow grades predict likelihood of recanalization and recovery in intravenous tPA treated patients. *Stroke* 2000; 31:275
10. Demchuk AM, Felberg RA, Christou I, Wein TH, **Barber PA**, Malkoff M, Grotta JC. Combined intravenous and intra-arterial thrombolytic therapy for severe stroke. *Stroke* 2000; 31:283. (platform)
11. Alexandrov AV, Demchuk AM, Felberg RA, Christou I, **Barber PA**, Burgin S, Malkoff M, Wojner AW, Grotta JC. Dramatic improvement during intravenous tPA infusion combined with 2 MHz TCD monitoring is associated with early recanalization. *Stroke* 2000; 31:284. (platform)

12. Frayne R, Sevick RJ, Demchuk AM, **Barber PA**, Hill MD, Cole Haskayne, Curtis S, Buchan AM. Acute stroke imaging at 3T. *Proc. Intl. Soc. Mag. Reson. Med.* 8 (2000). (Poster)
13. Teal P, Hill MD, Buchan AM for the CASES Study Group. Canadian Activase for Stroke Effectiveness Study (CASES). *Neurology* 2000; 54(suppl 3); A390. (Presented at AAN Meeting San Diego, April 2000) (platform)
14. **Barber PA**, Demchuk AM, Hudon ME, Pexman W, Hill MD, Zhang, Buchan AM. The hyperdense sylvian fissure branch sign: a marker of thromboembolic stroke. *Canadian Journal of Neuroscience* 2000; 27: S24. (platform)
15. **Barber PA**, Zhang J, Demchuk, Hill MD, Cole Haskayne A, Newcommon N, Buchan AM. An analysis of patient eligibility for alteplase in acute ischemic stroke. *Canadian Journal of Neuroscience* 2000; 27:S25
16. Canadian Activase Stroke Effectiveness Study (CASES). *Canadian Journal of Neurosciences* 2000; 27:S25
17. Buchan AM, Hill MD for the CASES Investigators. The Canadian Activase for Stroke Effectiveness Study (CASES). *Cerebrovasc Dis* 2000; 10(Suppl 2):81. (Presented at European Stroke Meeting, Vienna 2000)
18. **Barber PA**, Zhang J, Demchuk AM, Hill MD, Cole-Haskayne A, Newcommon N, Virji H, Buchan AM. Why don't stroke patients receive alteplase? An analysis of patient eligibility: implications for improving clinical impact by increasing patient numbers. *Ann Neurol* (suppl) 2000
19. Phillip S, Gubitz G, Hill MD, Buchan AM for the CASES Investigators. The Canadian Activase for Stroke Effectiveness Study (CASES). *Ann Neurol* (suppl) 2000
20. **Barber PA**, Demchuk AM, Hudon ME, Pexman W, Hill MD, Zhang, Buchan AM. The hyperdense sylvian fissure branch sign: a marker of thromboembolic stroke. (World Congress of Stroke, Melbourne Australia)
21. Demchuk AM, Burgin WS, Felberg RA, Christou I, **Barber PA**, Hill MD, Beaupre D, Alexandrov AV. TCD TIBI Classification Correlates with Clinical Severity, Flow Recovery and Short Term Outcome in Intravenous TPA Treated Stroke Patients. (World Congress of Stroke, Melbourne Australia)
22. Hill MD, **Barber PA**, Demchuk AM, Pexman JPW, Buchan AM, for the CASES Investigators. Baseline ASPECT scores predict extent of stroke: interim CT analysis of CASES. *Stroke* 2001; 32: 319



23. **Barber PA**, Demchuk AM, Hill MD, Pexman W, Hudon ME, Tomanek A, Beaupre D, Frayne R, Buchan AM. A comparison of CT versus MR imaging in acute stroke using ASPECTS: Will the “new” replace the “old” as the preferred imaging modality? *Stroke* 2001; 32:325
24. **Barber PA**, Zhang J, Kasner S, Krieger D, Demchuk AM. The Role of Repeat CT for predicting fatal outcome following massive middle cerebral artery territory infarction. *Stroke* 2001; 32:346
25. **Barber PA**, Zhang J, Demchuk AM, Hill MD, Cole Haskayne A, Newcommon N, Virji H, Buchan AM. Why stroke patients don’t receive t-PA? An analysis of patient eligibility: implications for improving clinical impact by increasing future treatment numbers. *Stroke* 2001; 32:372
26. **Barber PA**, Zhang J, Kasner S, Krieger D, Demchuk AM. The Role of Repeat CT for predicting fatal outcome following massive middle cerebral artery territory infarction. *Stroke* 2001; 32:381
27. Demchuk AM, Hill MD, Buchan AM, CASES Study Group. The Canadian Activase for Stroke Effectiveness Study (CASES). *Stroke* 2000; 31:315. (Poster)
28. Hill MD, Newcommon N, **Barber PA**, Demchuk AM, Cole-Haskayne A, Buchan AM. Intra-arterial therapy following intravenous alteplase for acute ischemic stroke. *Stroke* 2001; 32: 382
29. Demchuk AM, Beaupre D, **Barber PA**, Hill MD, Button A, Morrish W, Hudon M. A stroke neurologist/nurse TCD operated acute stroke service can reliably identify MCA occlusion when compared to MRA. *Stroke* 2001; 32:246
30. Burgin WS, Wojner AW, Demchuk AM, Felberg RA, **Barber PA**, Hill MD, Malkoff M, El-Mitwalli A, Piyawat P, Newcommon N, Button A. Validity and Reliability of the Thrombolysis in Brain Infarction (TIBI) Flow Grades. *Stroke* 2001; 32:324
31. Hill MD, Buchan AM for the CASES Investigators. The Canadian Activase for Stroke Effectiveness Study (CASES): Interim results. *Stroke* 2001; 32: 337
32. Frayne R, Sevick RJ, Hudon M, Morrish W, Demchuk AM, **Barber PA**, Hill MD, Buchan AM. Intracranial TOF in Hyper-acute Stroke. XII International Workshop on Magnetic Resonance Angiography, Lyon, France. (platform)
33. Ryder RC, Cole-Haskayne A, Sevick R, Demchuk A, Hill M, **Barber P**, Buchan A, Frayne R. Cerebral Blood Volume: Possible Predictor of Clinical Deficit in Acute Stroke. *Proc ISMRM*

34. **Barber PA**, Hill MD, Demchuk AM, Pexman W, Hudon ME, Buchan AM. A comparison of CT versus MR Imaging in Hyperacute Stroke using a Topographical Quantitative Scoring System (ASPECTS). *Neurology* 2001; 56:A260
35. Sevick RJ, Frayne R, Demchuk AM, **Barber PA**, Hill MD, Buchan AM. Evaluation of acute stroke with high field MR. RSNA 2000, 86<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, 2000
36. Frayne R, Sevick RJ, Hudon M, Morrish W, Demchuk AM, **Barber PA**, Hill MD, Buchan AM "Intracranial TOF in Hyper-Acute Stroke" Proceedings of XII International Workshop on Magnetic Resonance Angiography, Canadian Cardiovascular Meeting, Vancouver, BC, 2000
37. Demchuk AM, Hill MD, Buchan AM, and the CASES Investigators. The Canadian Activase for Stroke Effectiveness Study
38. Ryder RC, Cole-Haskayne A, Sevick RJ, Demchuk AM, Hill MD, **Barber PA**, Newcommon NJ, Buchan AM, Frayne R. Relative Cerebral Blood Volume Changes in Acute Stroke
39. **Barber PA**, Zhang J, Demchuk AM, Hill MD, Buchan AM. Multicentre Experience of Large Middle Cerebral Artery Infarction: The Role of CT for Predicting Fatal Outcome. *CJNS* 2001
40. Tomenek A, Mitchel R, **Barber PA**, Hill MD, Buchan AM. Serial Multimodal Magnetic Resonance Imaging Study of Acute Stroke. *CJNS* 2001
41. **Barber PA**, Hill MD, Demchuk AM, Pexman W, Hudon ME, Buchan AM. A comparison of CT versus Diffusion Weighted Imaging in Hyperacute Stroke Using a Topographical Quantitative Scoring System (ASPECTS). *JNNP* 2001
42. Hill MD, Lye T, Moss H, **Barber PA**, Newcommon N, Green T, Kenney C, Cole- Haskayne A, Buchan AM. Hemi-orolingual Angioedema After Alteplase Treatment of Stroke is Associated with Angiotensin Converting Enzyme Inhibitor Use. *Stroke* 33 2002
43. Hill MD, **Barber PA**, Demchuk AM, Buchan AM, Pexman W, Hu W, Hudon M, Morrish W, Schebel M, Gray S, Resenowsky L. Validation of the ASPECT Score as a predictor of outcome: Analysis of the ATLANTIS–B Study. *Stroke* 33 2002
44. Hill MD, Buchan AM and the CASES Investigators. The Canadian Activase for Stroke Effectiveness Study (CASES): Final Results. *Stroke* 33 2002

45. **Barber PA**, Demchuk AM, Hill MD, Pexman JHW, Hudon M and Buchan AM for the ASPECTS Study Group. What is the Significance of the Hyperdense Middle Cerebral Artery and Sylvian Fissure “Dot” Sign in Acute Stroke Care? A CT study with Magnetic Resonance Angiography correlation. *Stroke* 33 2002
46. Demchuk AM, Schebel M, Beaupre D, Buchan AM, Frayne R, Morrish W, Hudon M, Pexman JHW, **Barber PA**, Hill.M. A Novel Magnetic Resonance Angiographic Scale is Reliable in Detecting ICA/MCA Flow Abnormalities in Acute Stroke. *Stroke* 33 2002
47. Demchuk AM, Saqqur M, Schebel M, Button A, **Barber PA**, Krams M, Shuaib A. Prospective Monitoring for Recanalization in an Acute Stroke Clinical Trial Using Digital Transcranial Power Motion Mode Doppler. *Stroke* 33 2002
48. Mitchell R, Tomanek A, Simon J, Ryder R, Frayne R, Sevick R, **Barber PA**, Demchuk AM Buchan AM. Reliable Computer Assisted Measurement of Stroke Lesion Volumes. *Stroke* 2002
49. Saqqur M, Demchuk AM, Schebel M, Bukhari A, Dean N, Romanchuk H, Button A, Khan K, **Barber PA**, Kennedy J, Shuaib A Reversed ophthalmic artery flow is very specific for critical ICA stenosis or occlusion using Power-M mode Doppler. *Stroke* 33 2002
50. Warren D, **Barber PA**, Zhao Z, Buchan AM. MK 801 Protects Tissue Activator Mediated Neuroexcitotoxicity in Permanent Focal Ischemia. *Stroke* 33 2002
51. Sinclair L, Kenney C, Button A, Ryckborst K, Hu W, Morrish WM, Hudon M, **Barber PA**, Demchuk AM, Buchan AM Hill MD. Complication Rates after Internal Carotid Stenting in High-Risk, Symptomatic Patients. *Stroke* 33 2002
52. **Barber PA**, Demchuk AM, Hill MD, Pexman JHW, Buchan AM. The probability of a MRA flow signal abnormality with quantified CT ischemic change: Targets for future therapeutic trials. *Neurology* 2000
53. Coutts S, **Barber PA**, Demchuk AM, Hill MD, Buchan AM. The persistent ischemic attack: a relapsing resolving syndrome *Neurology* 2002
54. Klein G, **Barber PA**, Warren D, Buchan AM. TPA toxicity may be mediated via L-arginine induced NO neurotoxicity in rodent permanent MCA occlusion. *Neurology* 2002
55. Kennedy J, Morrish W, Hu W, Wong JH, Hudon M, Demchuk AM, Diggle J, **Barber PA**, Hill MD, Buchan AM. A Prolonged Time Window exists for Mechanical Revascularisation guided by Diffusion/ Perfusion Magnetic Resonance Imaging Mismatch. *Neurology* 2002
56. Zhao Z, Chauhan N, **Barber PA**, Buchan AM. Neurogenesis in Hippocampal CA1 neuronal ischemic brain injury. *Stroke* 2003

57. Simon J, Mitchell R, Frayne R, Eliasziw M, Cole-Haskayne A, Hill MD, Tomanek AI, **Barber PA**, Coutts SB, Sevick R, Buchan AM, Demchuk AM. Recanalization, regardless of tPA use, improves clinical outcome and reduces infarct growth on MRI in stroke patients. *Stroke* 2003
58. Coutts S, Simon JE, Tomanek AI, **Barber PA**, Hudon ME, Chan J, Frayne R, Mitchell RJ, Eliasziw M, Buchan AM, Demchuk AM. Reliability in Assessment of DWI-PWI Mismatch. *Stroke* 2003
59. Moss HE, Hill MD, Demchuk AM, **Barber PA**, Kennedy J, Simon JE, Coutts SB, Tomanek AI, Newcommon NJ, Buchan AM. TIA Reference Unit: Rapid Investigation and Management of TIA. *Stroke* 2003
60. Coutts SB, Wong JH, Sutherland JH, Hu W, **Barber, PA**, Hudon ME, Morrish W, Watson T, Demchuk AM, Buchan AM, Hill MD. Hyperperfusion syndrome: more than one disease? *Stroke* 2003
61. **Barber PA**, Hill MD, Demchuk AM, Pexman JHW, Hudon ME, Tomanek AI, Frayne RR, Buchan AM. CT compared with diffusion-weighted imaging in acute middle cerebral artery stroke using a systematic quantitative score (ASPECTS). *Neuroradiology* 2003; 45: 119
62. Coutts SB, Simon JE, Tomanek AI, **Barber PA**, Chan J, Hudon ME, Frayne R, Eliasziw M, Mitchell R, Buchan AM, Demchuk AM. Is assessment of percentage DWI/PWI mismatch reliable? Implications for clinical trial design. *Neurology* 2003; 60:A515
63. **Barber PA**, Hoyte L, Kirk D, Foniok T, Buchan AM, Tour UI. Early T1 and T2 weighted MRI signatures of transient and permanent middle cerebral artery occlusion in a murine stroke model. *Cerebral Blood Flow Metabolism* 2003. (Brain 03 Meeting Calgary)
64. **Barber PA**, Foniok T, Kirk D, Buchan AM, Sébastien Boutry, Muller R, Tuor UI. Magnetic Resonance Molecular Imaging (MRMI) of Early Endothelial Activation in Focal Ischemia in Mice. *J Molecular Imaging* 2003
65. **Barber PA**, Foniok T, Boutry S, Muller R, Tuor UI. Magnetic Resonance Molecular Imaging (MRMI) of Early Endothelial Activation in Focal Ischemia in Mice. *Ann Neurol* 2003
66. Subramaniam S, **Barber PA**, Hoyte L, Buchan AM, Dyck RH. Pre-synaptic Zinc Dynamics in Permanent and Transient Focal Ischemia. *Ann Neurol* 2003
67. **Barber PA**, Hoyte L, Buchan AM. The Study of Temperature Regulation in a Mouse Model of Focal Ischemia: An Assessment of Behavioral Outcomes and Histological Injury. *J Neuroscience* 2003

68. Toth C, Tuor U, Brussee V, Hoyte L, Kaur J, Cunningham S, **Barber P**, Buchan A, Zochodne D. Evidence of Magnetic Resonance Imaging T1- and T2 Weighted Abnormalities in the Experimental Diabetic Mouse Brain. *J Neuroscience* 2003
69. Coutts SB, Hill MD, **Barber PA**, Hu WY, Simon JE, Fischer KL, Buchan AM, Demchuk AM for the VISION study group. (2004) The Alberta Stroke Program Early CT Score (ASPECTS) Performed in Real Time shows good agreement with expert rating. *Stroke*:35, 266-267
70. Hoyte L, **Barber PA**, Buchan AM. Ischemic preconditioning: protection due to an increased local cerebral blood flow? Program No 457.3. *Society for Neuroscience* (2004)
71. Sun HS, Feng ZP, Fu Y, Zhao Z, **Barber P**, Hoyte L, Buchan A, Miki T, Seino S, Lu Y, French RJ. KATP channels protect cortical neurons from ischemic injury both in vitro and in vivo. Program No. 1020.12. *Society for Neuroscience* 2004
72. Demchuk AM, Hill MD, **Barber PA**, Silver B, Patel S, Levine SR. Importance of Early Ischemic CT Changes Using ASPECTS in NINDS rtPA Stroke Study. *Stroke* 2005; 36(2): 448. (Presented at ASA Meeting 2005 New Orleans)
73. Coutts SB, Simon JE, Sohn CH, Eliasziw M, Hill MD, **Barber PA**, Palumbo V, Kennedy J, Roy J, Gagnon A, Scott JN, Buchan AM, Demchuk AM. Presence of DWI Lesion on Acute MRI in Minor Stroke and TIA Patients Predicts Recurrent Stroke and Clinical Outcome. *Stroke* 2005; 36(2): 425. (Presented at ASA Meeting 2005 New Orleans)
74. Dzialowski I, Krol A, Roy J, Hill MD, Subramaniam S, **Barber PA**, Coutts SB, Boulanger JM, Demchuk AM. CT angiography determined intracranial occlusion predicts response to thrombolysis in acute ischemic stroke. *Stroke* 2006; 37: 654. (presented at the ASA meeting Kissimmee, FL 2006)
75. Dzialowski I, Subramaniam S, Krol A, Roy J, Hill MD, **Barber PA**, Boulanger JM, Watson T, Coutts SB, Demchuk AM. Non-contrast CT Early Ischemic Changes Underestimate Ischemic Core in the Presence of an Intracranial Arterial Occlusion. *Cerebrovasc Dis* 2006; (presented at the ESC meeting, Brussels, BG 2006)
76. Dzialowski I, **Barber PA**, Pexman JHW, Demchuk A, Buchan AM, Hill MD for the CASES Investigators. Extent of Hemorrhagic Transformation on CT after Thrombolysis Predicts Outcome in the Canadian Alteplase for Stroke Effectiveness Study (CASES). *Cerebrovasc Dis* 2006. (presented at the ESC meeting, Brussels, BG 2006)
77. Dzialowski I, Krol A, Roy J, Hill MD, **Barber PA**, Boulanger JM, Coutts SB, Subramaniam S, Demchuk AM. Intracranial Occlusion on CT Angiography Predicts Poor Outcome in Acute Ischemic Stroke. *Cerebrovasc Dis* 2006. (presented at the ESC meeting, Brussels, BG 2006)

78. Kaur J, Tuor U, Zhao Z, Assem H, Lee-Petersen JI, Foniok T, and. **Barber PA** Quantified T1 and T2 as useful adjuncts to DWI for early infarct detection in permanent and transient MCAO. Accepted for poster presentation at the Brain '07: 23rd International Symposium on Cerebral Blood Flow, Metabolism and Function and the at Osaka, Japan, May 20-24th 2007
79. Kaur J, Tuor U, Zhao Z, Assem H, Lee-Petersen JI, Foniok T, **Barber PA**. Quantified T1 and T2 as useful adjuncts to DWI for early infarct detection in permanent and transient MCAO. Accepted for oral presentation at the 42nd Congress of the Canadian Neurological Sciences Federation, June 19 - 22, 2007, Edmonton Alberta, Canada
80. Jin AY, Rushforth D, Filfil R, Tuor U, Ni F, Foniok T, Kirk D, Bhambra J, **Barber PA**. Magnetic Resonance Molecular Imaging of Endothelial Activation in Acute Stroke with a Novel Iron-Oxide Nanoparticle Contrast Agent. (Oral presentation). European Stroke Conference 2007, Glasgow, UK
81. Jin AY, Rushforth D, Filfil R, Tuor U, Ni F, Foniok T, Kirk D, Deka K, **Barber PA**. Molecular Imaging of Endothelial Activation in Acute Stroke Using A Targeted Iron-Oxide Nanoparticle Contrast Agent (Electronic poster presentation). ISMRM 2007, Berlin, Germany
82. Jin AY, Rushforth D, Filfil R, Tuor U , Ni F, Foniok T, Kirk D, Deka K, **Barber PA**. Magnetic Resonance Molecular Imaging of Activated Endothelium in Acute Stroke Using a Targeted Iron-Oxide Nanoparticle Contrast Agent. Brain'07, Osaka, Japan
83. Jin AY, Rushforth D, Filfil R, Tuor U, Ni F, Foniok T, Kirk D, Bhambra J, **Barber PA**. Magnetic Resonance Molecular Imaging of Activated Endothelium in Acute Stroke Using a Targeted Iron-Oxide Nanoparticle Contrast Agent. CNSF Congress 2007, Edmonton, Alberta, Canada
84. Jin AY, Rushforth D, Filfil R, Tuor U, Ni F, Foniok T, Kirk D , Bhambra J, **Barber PA**. Molecular Imaging of Endothelial Activation in Acute Stroke Using A Targeted Iron Oxide Nanoparticle Contrast Agent. (Poster presentation). International Stroke Conference 2007, San Francisco, USA
85. **Barber PA**. Molecular MRI for Stroke: An Update (Invited presentation). 7<sup>th</sup> Cerebral Brain Vascular Conference, Ottawa, Canada, June 21<sup>st</sup>-26<sup>th</sup> 2007
86. Kaur J, Lee-Petersen J, Tuor U I, Zhao Z, **Barber PA**. BBB dysfunction following transient MCAO: Exacerbation with tPA therapy. Presented at the 7<sup>th</sup> Cerebral Vascular Biology Conference held in Ottawa from Jun 24-28, 2007
87. Kaur J, Lee-Petersen J, **Barber PA**. Resveratrol pre-treatment ameliorates CA1 neuronal injury associated with transient forebrain ischemia in rats. *J Neuroscience* 2007

88. Tuor UI, Kaur J, Petersen-Lee J, Zhao Z, **Barber PA**. Increased BBB permeability following transient MCAO with tPA therapy. *J Neuroscience* 2007
89. Jin AY, Rushforth D, Fiful R, Kaur J, Lee Petersen J, Foniok T, Deka K, Kirk D, Ni F, Tuor UI, **Barber PA**. Magnetic resonance molecular imaging of endothelial activation in acute stroke with a novel iron oxide nanoparticle contrast agent. Accepted for presentation at the 37<sup>th</sup> annual meeting of the Society for Neuroscience to be held in San Diego from Nov 3-7, 2007
90. Kaur J, Lee-Petersen J, Sunderani ZF, **Barber PA**. Resveratrol pre-treatment and amelioration of CA1 neuronal injury associated with transient forebrain ischemia in rats (submitted for presentation at the international Stroke Meeting, New Orleans February 2007)
91. Kaur J, Tuor UI, Lee-Petersen J, Zhao Z, Sunderani ZF, **Barber PA**. tPA treatment following transient middle cerebral artery occlusion in the rat: Monitoring BBB dysfunction using histological and Magnetic Resonance Imaging methods. (submitted for presentation at the international Stroke Meeting, New Orleans February 2007)
92. Puetz V, Sylaja PN, Hill MD, Coutts SB, Dzialowski I, Mueller P, Becker U, **Barber PA**, Goyal M, Sharma P, Gahn G, von Kummer R, Demchuk AM. CT angiography source images predict functional outcome in basilar artery occlusion: the posterior circulation Acute Stroke Prognosis Early CT Score. (submitted for presentation at the international Stroke Meeting, New Orleans February 2007)
93. Jin AY, Tuor UI, Kaur J, Rushforth D, Boutry S, Foniok T, Muller RN, Tomanek B, **Barber PA**. Magnetic Resonance Molecular imaging of adhesion molecule expression in wild type and p-selectin deficient mice. ISMRM May 3-9, 2008. (Oral Presentation – Toronto ON)
94. Jin AY, Tuor UI, Kaur J, Rushforth D, Boutry S, Foniok T, Muller RN, Tomanek B, **Barber PA**. Magnetic Resonance Molecular imaging of adhesion molecule expression in wild type and p-selectin deficient mice. European Stroke Conference 2008. (Oral Presentation – Nice, France, May 13-16, 2008)
95. Qiao M, Zhang Z, **Barber PA**, Barua D, Foniok T, Kirk D, Sun S, Tuor UI. Development of a Rat Model of Recurrent Stroke Consisting of a Mild Stroke followed by a Second Stroke. *Soc. Neuroscience* 2008
96. Qiao M, Zhao Z, **Barber PA**, Barua D, Foniok T, Kirk D, Sun S, Tuor UI. A model of Recurrent Stroke: MRI and Histological changes in Rats subjected to an initial minor and subsequent moderate insult. *Journal of Cerebral Blood Flow & Metabolism* 2009 (Brain 09, Chicago 2009)

97. Sang JHK, Tuor UI, Muller R, Foniok T, **Barber PA**. In vitro Molecular MRI to determine contrast sensitivity of GD DTPA Slex Binding to P selectin. E poster ISMRM. 2009
98. Kaur J, Tuor U, Zhoa Z, Pedersen J, **Barber PA**. Magnetic Resonance Imaging of Tissue Plasminogen-Activator Induced Toxicity following Ischemic Stroke: Influence of Aging. *J Neuroscience* 2009
99. Kaur J, Tuor U, Zhoa Z, Pedersen J, **Barber PA**. Aging Enhanced Tissue Plasminogen-Activator Induced Toxicity following Ischemic Stroke Detected using Magnetic Resonance Imaging. European Stroke Conference, Barcelona, Spain, May 25-28, 2010 (oral presentation) *Cerebrovascular Disease* 2010
100. Bathia R, Bal SP, Menon BK, Shobha N, Puetz V, Dzialowski I, Steffenhagen N, Tymchuk S, Idris S, Coutts SB, **Barber P**, Watson T, Smith EE, Demchuk AM. "CTASI-ASPECTS is more predictive of Final Aspects and Neurological Outcome than NCCT-ASPECTS in Acute Ischemic Stroke Caused by Proximal Vessel Occlusions" *Cerebrovasc Dis.* 2010; Vol. 29 (Suppl 2). (Platform)
101. Jin AY, Tuor UI, Rushforth D, Kaur J, Muller RN, Petterson JL, Boutry S, **Barber PA**. Reduced blood brain barrier breakdown in P-selectin deficient mice following transient ischemic stroke: a future therapeutic target for treatment of stroke. *BMC Neurosci* 2010 Feb2;11:12.
102. Bal SP, Bhatia R, Shobha N, Menon BK, Puetz V, Dzialowski I, Tymchuk S, Idris S, Coutts SB, **Barber P**, Watson T, Smith EE, Demchuk AM. "CTA-SI Aspects is Superior to NCCT Aspects for Predicting Final Infarct Extent in Patients with CT Scans <90 Minutes from Onset." *Cerebrovasc Dis* 2010; Vol. 29 (Suppl 2). (Poster)
103. S Bal, R.K. Kosior, M.L. Lauzon, R. Frayne, U. Tuor, **P.A. Barber**. Acute Quantitated T1 and T2 MRI of acute ischemic stroke in humans. (presented at Brain 2011)
104. **Barber PA**, Rushforth D, Agrawal S, Tuor UI. Infrared Optical Imaging of matrix metalloproteinases (MMPs) up regulation following Ischemia reperfusion is ameliorated by hypothermia. (presented at Brain 2011) *BMC Neurosci.* 2012; 13:76.
105. Zhao Z, **Barber PA**, Stys P. The alpha 2-adrenergic antagonist atipamezole reduces cerebral ischemic damage, Canadian Stroke Congress 2012.
106. Mandzia J, Smith EE, Horton M, Hanly P, **Barber PA**, Godzwon C, Donaldson E, Asdaghi N, Patel S, Aram H, Coutts SB. Imaging and Baseline Predictors of cognitive performance in minor stroke and TIA patients at 90 days. *Stroke* 2013;44: e182 (4th Canadian Stroke Congress, Montreal, Quebec, Canada. October 2013)



107. Mandzia JL, Smith EE, Horton M, Hanly P, **Barber PA**, Godzwon C, Donaldson E, Asdaghi N, Patel S, Modi J, Aram H, Coutts SB. Imaging and Baseline Predictors of cognitive performance in minor stroke and TIA patients at 90 days. *Cerebrovasc Dis.* 2013; Jul 01;35(S3):416 (Poster presentation – European Stroke Conference London UK May 28, 2013)
108. Mandzia JL, Smith EE, **Barber PA**, Godzwon C, Donaldson E, Aram H, Coutts SB. Detailed Ninety Day Cognitive Performance in Patients with minor stroke and transient ischemic attack (TIA). *Cerebrovasc Dis.* 2013; 35(S3):422 (Poster presentation – European Stroke Conference London UK May 28, 2013)
109. Phan TG, Demchuk A, Srikanth V, Silver B, Patel SC, **Barber PA**, Levine SR, Hill MD. Relating ASPECTS infarct location to stroke disability in the NINDS rt-PA trial: proof of concept study using penalized logistic regression. *Cerebrovasc Dis.* 2013 (European Stroke Conference, London UK May 28, 2013)
110. Mishra S, Kosior RK, Nambia V, Luison L, Frayne R, Tuor U, **Barber PA**. Quantitated T1 and T2 MRI in acute ischemic stroke: A step towards a “Tissue Window” Therapeutic Paradigm. (European Stroke Conference May 28, 2013) (*poster presentation*)
111. Kosior R, Mahajan A, Trivedi A, Frayne R, **Barber PA**. Quantitative T2 Imaging is an Important Addition to Diffusion MRI in Acute Ischemic Stroke. (Accepted for oral presentation at the European Stroke Conference, 2014)
112. Kosior R, Mahajan A, Trivedi A, Frayne R, **Barber PA**. Quantitative T2 Imaging is an Important Addition to Diffusion MRI in Acute Ischemic Stroke. (Accepted for presentation at the Canadian Neurological Sciences Federation meeting Banff, Alberta, June 2014)
113. Cechmanek B, Tuor I, Rushforth D, **Barber PA**. Very mild hypothermia (35°C) reduces infarct volume and blood brain barrier breakdown following tPA treatment during ischemia reperfusion in the mouse. (Accepted for presentation at the Canadian Neurological Sciences Federation meeting, Banff, Alberta, June 2014)
114. Coutts SB, **Barber PA**, Cole-Haskayne A, Demchuk AM, Dubuc V, Engbers J, Hill MD, Kashyap D, Suddes M, for the Calgary Stroke Program. CT angiography (CTA) based triage of TIA patients is safe and reduces hospital admissions. *Int J Stroke* 2014 Oct 01; Vol 9 (Suppl. 3); (Poster presentation at the WSC meeting Oct 2014, Istanbul, Turkey)
115. Coutts SB, **Barber PA**, Cole-Haskayne AL, Kashyap D, Dubuc V, Engbers J, Demchuk AM, Hill MD, Suddes M. CT Angiography(CTA) Based Triage of TIA Patients is Safe and Reduces Hospital Admissions. *Stroke* 2014 Oct 01;45 (12 suppl): e10. (Presented at the Canadian Stroke Congress, Vancouver, BC. Oct 2-6, 2014)

116. Coutts SB, Dubuc V, Mandzia J, Kenney C, Demchuk AM, Smith EE, Subramaniam S, Goyal M, Patil S, Menon BK, **Barber PA**, Dowlatshahi D, Field TS, Asdaghi N, Camden MC, Hill MD. Thrombolysis for minor ischemic stroke with proven acute symptomatic occlusion using TNK-tPA (TEMP-1). (Presented as a poster presentation at the ESOC, Glasgow, Scotland. April 17-19, 2015)
117. Blayney S, Hill MD, **Barber PA**, Demchuk AM, Engbers J, Coutts SB. Triage of TIA clinic referrals using clinical features identifies true vascular events. (Presented as a poster presentation at the ESOC, Glasgow, Scotland. April 17-19, 2015)
118. Munir MA, Zamboni G, Griffanti L, Zhang Y, Tariq S, Smith E, Frayne R, Sajobi T, Coutts S, **Barber PA**. TIA and minor stroke patients experience higher brain atrophy rates than healthy controls. VasCog 2015 Sept 12 (Oral presentation at the International Meeting of the Society of Vascular Cognitive Impairment, Tokyo Sept 12-16, 2015)
119. Munir MA, Zamboni G, Griffanti L, Zhang Y, Tariq S, Smith E, Frayne R, Sajobi T, Coutts S, **Barber PA**. Cognitive Decline at 3 years in TIA and Minor Stroke Patients. (Oral presentation at the International Meeting of the Society of Vascular Cognitive Impairment, Tokyo Sept 12-16, 2015)
120. Tuor UI, Qiao M, Zhao Z, **Barber PA**, Foniok T, and Rushforth D. Brain Injury Following Recurrent Cerebral Ischemia: Effect of Recovery Time Between Ischemic Insults. Brain Vancouver 2015 Sept (Poster presentation) (Oral presentation at the Proceedings of the XXVII International Symposium on Cerebral Blood Flow and Metabolism, Vancouver BC Jun 27-30, 2015)
121. Famuyide AO, d'Esterre CD, Qazi E, Najm M, Khan K, Menon BK, **Barber P**. Delayed Phase Blood Pool Assessment of Multiphase-CTA in Acute Stroke Provides Further Information Beyond Non-Contrast CT. Stroke 2016 Feb 17 (Presented at the International Stroke Conference Feb 17-19, 2016, Los Angeles USA)
122. Sah RG, Khan S, Mahajan A, Forkert ND, Hafeez M, Tsang A, d'Esterre CD, **Barber PA**. Rate of Infarct Growth in Acute Ischemic Stroke is Independent of Apparent Diffusion Coefficient Threshold. (International Stroke Conference Feb 17-19, 2016, Los Angeles USA). (*poster presentation*)
123. Mahajan A, Campeau S, Sah RG, Carlson HL, Khan S, Tsang A, Zhang Y, Kirton A, Coutts S, **Barber PA**. Detecting Diseased Tissue in Normal Appearing White Matter of Transient Ischemic Attack and Minor Stroke Patients Using Texture Analysis. (International Stroke Conference Feb 17-19, 2016, Los Angeles USA). (*poster presentation*)
124. Sah RG, Khan S, Mahajan A, Forkert ND, Tsang A, Hafeez M, Tariq S, d'Esterre CD, **Barber PA**. Assessing acute infarct growth and evolution using apparent diffusion

coefficient and quantitative R2 imaging. Stroke 2016 Feb 17 (International Stroke Conference Feb 17-19, 2016, Los Angeles USA). (*poster presentation*)

125. Tuor UI, Zhao Z, **Barber PA**, Qiao M. Recurrent mild cerebral ischemia: enhanced brain injury following acute compared to subacute recurrence in the rat. *BMC Neurosci* 2016 May 26;17(1):28. doi: 10.1186/s 12868-016-0263-x. (PubMed PMID: 27230275)(Accepted for oral presentation at The 11<sup>th</sup> World Congress on Brain Injury, The Hague, The Netherlands Mar 2016).
126. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d'Esterre CD, **Barber PA**. Growth of ischemic Stroke using DWI and Quantitative R2 Imaging to Characterize Infarct Evolution. ESOC May 10-12, 2016, Barcelona, Spain (poster presentation).
127. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, Santos E, d'Esterre CD, **Barber PA**. Magnetic resonance imaging in acute ischemia: percentage volume change per hour of infarct growth is independent of apparent diffusion coefficient thresholds. ESOC May 10-12, 2016, Barcelona, Spain (poster presentation).
128. Tsutsui S, Roychoudhury S, Ota T, Jones M, Ismail Z, Cieslak A, Poulin MJ, **Barber P**, Smith EE, Stys PK. Novel detection technique of early Alzheimer's disease from blood using fluorescence spectral microscopy. *Prion* 2016, Tokyo, Japan, May 10-13, 2016 (poster presentation).
129. Campeau S, **Barber P**, Carlson H, Zhang Y, Sah RG, Tariq S, Tsang A, Mahajan A, Khan S. Longitudinal analysis of microstructure and tissue homogeneity white matter among patients with TIA and minor stroke. Campus Alberta Neuroscience 2016 International Conference – Promoting Healthy Brain Aging and Preventing Dementia, Research and Translation, Banff AB, May 24-27, 2016 (poster presentation).
130. Tsutsui S, Roychoudhury S, Ota T, Jones M, Ismail Z, Cieslak A, Poulin MJ, **Barber P**, Smith EE, Stys PK. Detection of early Alzheimer's disease from blood using novel microspectroscopy. *Alzheimer's & Dementia, The Journal of the Alzheimer's Association*, 2016 Jul 01;12 (Supplement 7):184-185. Alzheimer's Association International Conference (AAIC), Toronto, ON, Canada, July 24-28, 2016 (oral presentation),
131. Tariq S, Tsang A, Ursenbach J, Dutta NR, Andersen LB, Longman RS, Frayne R, **Barber PA**. "Diffusion Tensor Imaging of White Matter Tracts in Transient Ischemic Attack Patients." International Stroke Conference. Houston, Texas, February 22-24, 2017, ISC Program Booklet (poster presentation).
132. Sah RG, Khan S, Forkert ND, Hafeez M, Tariq S, Tsang A, d'Esterre CD, **Barber PA**. Diffusion-weighted Imaging of Early Secondary Lesion Growth after Endovascular Therapy or Thrombolysis in Patients with Ischemic Stroke. European Stroke Organization Conference. Prague, Czech Republic, May 15-18, 2017 (poster presentation)

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## **XI. RESEARCH**

### **Research Directions of the Research Group and Research Collaborations**

A prerequisite of my clinical and research contributions has been my ability to work with others, and adapt quickly and reflectively with my team at the Calgary Stroke Program. Personal research awards (CIHR, HSFC, and AHFMR Clinician Scientist 2005-2012), and the Henry J.M. Barnett Research Scholarship (HSFC 2005) would not have been possible without this teamwork. My research contributions are summarized as follows:

#### **Acute Stroke Treatment and Imaging**

When Calgary became the first Canadian jurisdiction to provide clot-busting treatment the majority of patients were unable to receive tPA for acute ischemic stroke because they did not reach hospital soon enough (Barber PA, Neurology 2001-407 citations). It was clear that alternative methods of treatment assessment were required independent of time of onset. We developed the Alberta Stroke Program Early CT Score (ASPECTS) (Barber PA, Lancet 2000-599 citations; Pexman et al, AJNR 2001-214 citations; Demchuk, Stroke 2005-130 citations, Barber PA, JNNP 2005-129 Citations); it has become the standard requirement for patient selection in clinical stroke trials (ESCAPE Trials: Goyal et al, N Engl J Med 2015 - 1001 citations).

#### **Quantitated MRI of Ischemia Reperfusion Injury in Animal Models**

We have studied MRI microvascular injury (Barber PA Neuroscience Letters 2005-27 citations, Barber PA International Journal of Stroke 2009- 17 citations) during ischemia reperfusion, and their mechanisms (Hoyte et al, Current Molecular Medicine 2003-89 citations). We have shown that early BBB permeability measured by MRI during ischemic stroke is increased age and tPA, implicating the importance of tight junction dysfunction in reperfusion injury (Kaur J JCBFM 2011-14 citations). Our work revealed that hypothermia is a modifier of ischemia reperfusion injury (Barber PA Stroke 2004-44 citations), and hypothermia reduces inflammation independent of stroke lesion size (Barber et al BMC Neurosci 2012-17 citations). I provided an invited lecture titled “Tight Junctions Proteins in Ischemia Reperfusion” at the International Stroke Conference, Los Angeles, USA February 2016.

#### **Molecular MRI of Neuroinflammation**

At high field MR imaging we studied microvascular injury (Barber PA, Neuroscience Letters 2005; Jin et al, BMC Neurosci 2010-33 citations) during ischemia reperfusion. We explored the causes of reperfusion by imaging the inflammatory response using ligand targeted MRI contrast agents (Barber PA Ann Neurol 2004-54 citations; Jin et al Contrast Media Mol Imaging. 2009-24 citations).

#### **Transient Ischemic Attack (TIA) and Vascular Cognitive Impairment.**

Our research has modified clinical practice with emphasis on rapid clinical and neurovascular imaging of TIA and stroke (Coutts et al, Ann Neurol. 2005-133 citations). We have developed animal models of TIA and have shown resveratrol cytoprotection following recurrent stroke (Clark et al PLoS One 2012-29 citations). TIA patients do manifest cognitive impairment (Mandzia et al, Stroke 2016) which supports the research questions of the PREVENT study. I

have given invited lectures on Vascular Dementia at University College London (June 2012), Chaired the “Stroke Update Session” at the Canadian Federation of Neurological Sciences in Banff June 2014, at which I gave a talk titled “Preventing the Second Stroke”. At the Canadian Consortium of Neurodegenerative and Aging members meeting workshop in Banff, May 2016 I gave a talk “Biomarker Surrogates of Preclinical Dementia”.

## **XII. OTHER EXPERIENCE**

March 1989-May 1989 Medical Student Elective, N.M. Wadia Hospital, Poona, India

April 1990-May 1990 Medical Student Elective, Ngangabe Referral Centre, Francistown, Botswana.

September 1995-October 1995. Expedition doctor for the British Nanda Kot Mountaineering Expedition, Gharwal, India Himalaya

## **XIII. GENERAL INTERESTS**

I am an enthusiastic skier, mountaineer, mountain biker and runner, allowing for rapidly diminishing time.

## **XIV. REFEREES**

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