

RUSSELL N. LOW, MD

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EDUCATION

- Fellowship: Stanford Univ. Med. Ctr. - Palo Alto, CA, 07/01/90-06/30/91
(MRI/C.T./U.S.)
- Residency: UC San Francisco - San Francisco, CA, 07/01/86-06/30/90
(Diagnostic Radiology)
- Internship: St. Mary's Hospital and Med. Ctr. - San Francisco, CA, 07/01/85-06/30/86 **(Internal Medicine)**
David Carroll Medical Intern of the Year Award
- Medical School: UCLA - Los Angeles, CA, 1975-79
(D.D.S.)
UCSD, San Diego, CA, 1981-85
(M.D.)
- College/University: UC Santa Barbara - Santa Barbara, CA, 1971-75
(B.A.) Major - Biological Sciences

BOARD CERTIFICATION

American Board of Radiology - 06/07/90

HONORS AND AWARDS

Phi Beta Kappa, Magna Cum Laude, Dean's List Scholar, California State Scholarship, University of California Scholarship
California State Fellowship, Graduate Advancement Fellowship
Baird Hastings Society, N.I.H. Research Training Program
Top Doctor Award San Diego County - 5 years, 2004, 2006, 2007, 2008, 2011

PROFESSIONAL EMPLOYMENT

San Diego Imaging Medical Group, Inc. (SDI)
Radiologist, 1991-present
Pacific Presbyterian Medical Center - San Francisco, CA
Radiologist, 1990-91
Sacramento Urban Indian Health Project Sacramento, CA
Director of Dental Services, 1980-81
United Health Centers of the San Joaquin Valley - Orange Cove, CA
Dentist - General Practice, 1979-80

HOSPITAL APPOINTMENTS

Sharp Memorial Hospital (05/20/92 - Present)
Children's Hospital & Health Center (01/28/92 - Present)
Sharp Chula Vista Medical Center (01/18/96 - Present)
Sharp Coronado Hospital (1996 - Present)
Sharp Mary Birch Hospital for Women (07/01/98 - Present)

ADMINISTRATIVE RESPONSIBILITIES

Sharp and Children's MRI Center, Medical Director

PROFESSIONAL MEMBERSHIPS

American College of Radiology
American Medical Association
California Radiological Society
Radiological Society of North America
San Diego Radiological Society
International Society for Magnetic Resonance in Medicine

PUBLICATIONS - selected

1. Low RN, Barone R, Lacey C, et al. MR imaging of peritoneal tumor with diluted barium oral contrast and IV gadolinium, compared with unenhanced MR imaging and CT. *Radiology* 1997; 204:513-520.
2. Low RN, Martinez A, Alzate GA, et al. MR imaging of potential renal donors: Gadolinium-enhanced MR angiography and MR urography. *Radiology* 1998; 207:165-172.

3. Low RN. Gadolinium-enhanced MR imaging of the liver. *Topics in MR Imaging* 1998 (in press)
4. Catanzarite VA, Low RN, Wong DT. Ovarian vein thrombosis during caesarean section. A report of two cases. *Journal of Reproductive Medicine* 1997; 42:315-318.
5. Low RN, Semelka RC, Worawattanakul S, Alzate GD, Sigeti JS. Extrahepatic abdominal imaging in patients with malignancy: comparison of MR imaging and helical CT with surgical correlation. *Radiology* 1999 (in press).
6. Low RN, Saleh F, Song SYT, Shiftan TA, Barone RM, Conley CG, Goldfarb PM. MR imaging of treated ovarian cancer: a longitudinal study with comparison to serum CA 125 level and physical examination. *Radiology* 1999 (accepted for publication)
7. Low RN. Abdominal MR Imaging: Techniques and Clinical Applications in the Oncology Patient. *Oncology* 2000; *Oncology (Williston Park)*. 2000 Jun;146(6Suppl 3):5-14.
8. Low RN. Gadolinium-enhanced MR imaging of the liver. *Topics in MR Imaging* 1998, 6:141-166. Reprinted in supplement to *Applied Radiology*, 2000.
9. Low RN, Francis IR, Politoske D, Bennett M. Crohn's Disease Evaluation: Comparison of Contrast-Enhanced MR Imaging and Single Phase Helical CT Scanning. *JMRI* 2000,11:127-135.
10. Low RN, Semelka RC, Worawattanakul S, Alzate GD. Extrahepatic abdominal imaging in patients with malignancy: Comparison of MR imaging and helical CT in 164 patients. *JMRI* 2000;12:269-277.
11. Runge VM, Armstrong MR, Barr RG, Berger BL, Czervionke LF, Gonzalez CF, Halford HH, Kanal E, Kuhn MJ, Levin JM, Low RN, Tanenbaum LN, Wang AM, Wong W, Yuh WT, Zoarski GH. A clinical comparison of the safety and efficacy of MultiHance (gadobenate dimeglumine) and Omniscan (Gadodiamide) in magnetic resonance imaging in patients with central nervous system pathology. *Invest Radiol*. 2001 Feb;36(2):65-71.
12. Low RN. Gadolinium-Enhanced MRI of the Liver. *MR Clinics of North America*. Nov. 2001.
13. Low RN. MR Imaging of Liver Capsule and Peritoneum. *MR Clinics of North America*. Nov 2001.
14. Runge VM, Armstrong MR, Barr RG, Berger BL, Czervionke LF, Gonzalez CF, Halford HH, Kanal E, Kuhn MJ, Levin JM, Low RN, Tanenbaum LN, Wang AM, Wong W, Yuh WT, Zoarski GH. A clinical comparison of the safety and efficacy of MultiHance (gadobenate dimeglumine) and Omniscan (Gadodiamide) in magnetic

- resonance imaging in patients with central nervous system pathology. *Invest Radiol.* 2000 Feb;36(2):65-71.
15. Low RN, Sebrechts CS, Politoske D, Bennett M, Flores S, Snyder R, Pressman J. Crohn disease with endoscopic correlation: single-shot fast spin-echo and gadolinium-enhanced fat-suppressed spoiled gradient-echo MR imaging. *Radiology.* 2002 Mar;222(3):652-660.
 16. Low RN. MRI of Colon Cancer. *Abdominal Imaging* 2003. 28(6):784-793.
 17. Low RN, Chen SC, Barone R. Distinguishing benign from malignant bowel obstruction in patients with malignancy: Findings on MR Imaging. *Radiology* 2003; 228:157-165.
 18. Low RN. MR Imaging of the gastrointestinal tract and peritoneum. *Applied Radiology* August, 2003.
 19. Low RN, McCue M, Barone R, Saleh F, Song T. MR staging of primary colorectal carcinoma: comparison with surgical and histopathologic findings. *Abdominal Imaging* 2003;28:784-793.
 20. Low RN, Duggan B, Barone R, Saleh F, Song T. Evaluation of patients with treated ovarian cancer: MR imaging surgical reassessment, and Serum CA 125 level compared to clinical outcome at one year. *Radiology* 2005;235:918-926.
 21. Low, RN. MR Imaging in the oncology patient: Evaluation of the extrahepatic abdomen. *Semin Ultrasound CT MR.* 2005 Aug;26(4):224-36.
 22. Low, RN. Chapter: MRI of the Bowel and Peritoneum. *ARRS Categorical Course Body MR Imaging.* 2006.
 23. Diffusion Weighted MRI in the Oncology Patient: Comparison of Breath-hold DWI and Unenhanced and Gadolinium-Enhanced MR Imaging. *Journal Magn Reson Imaging* 2007;25(4):848-858.
 24. Low, RN. MR imaging of the peritoneal spread of malignancy. *Abdominal Imaging* 2007 (in press).
 25. Low, RN. Abdominal MRI advances in the detection of liver tumours and characterization. *Lancet Oncol.* 2007;8::525-535.
 26. Low RN, Barone W, Gurney J, Muller W. Preoperative MR imaging of mucinous appendiceal neoplasm. *Amer J Roent* March 2008.
 27. Low RN, Panchal N, Vu AT, Knowles A, Estkowski L, Slavens Z, Ma J. Three-dimensional fast spoiled gradient-echo dual echo (3D-FSPGR-DE) with water reconstruction: preliminary experience with a novel pulse sequence for gadolinium-enhanced abdominal MR imaging. *J Magn Reson Imaging.* 2008;28:946-956.

28. Low RN, Sebrechts C, Barone RM, Muller WD. Diffusion Weighted MR Imaging of Peritoneal Tumor: Comparison with Conventional and Surgical and Histopathologic Findings - a Feasibility Study. *AJR* 2009;193:461-470.
29. Low RN, Ma Jingfei, Panchal N. Fast Spin-Echo Triple Echo Dixon: Initial Clinical Experience with a Novel Pulse Sequence for Fat Suppressed T2-weighted Abdominal MR Imaging. *J Magn Reson Imaging* 2009;30:569-577.
30. Low RN, Bayram E, Panchal N, Estowski L. High Resolution Double Arterial Phase Hepatic MR Imaging Using Adaptive 2D Centric View Ordering: Initial Clinical Experience. *AJR* 2010;194:947-956.
31. Ahmad M, Liu Y, Slavens ZW, Low R, Merkle E, Hwang KP, Vu A, Ma J. A method for automatic identification of water and fat images from a symmetrically sampled dual-echo Dixon technique. *Magn Reson Imaging*. 2010;28:427-33. Epub 2010 Jan 12.
32. Low RN, Austin MJ, Ma J. Fast spin-echo triple echo dixon: Initial clinical experience with a novel pulse sequence for simultaneous fat-suppressed and nonfat-suppressed T2-weighted spine magnetic resonance imaging. *JMRI* 2011;33:390-400.
33. Kaining Shi, Russell Low, Ken-Pin Hwang, Shanglian Bao, Jingfei Ma. Flow compensation for the fast spin echo triple-echo Dixon sequence. *Magn Reson Imaging*. 2011;29:293-299.
34. Low, RN, Fuller DB, Muradyan N. Use of Dynamic Gadolinium-Enhanced Perfusion MRI of Prostate Cancer to Assess Response to Hypofractionated CyberKnife Robotic Stereotactic Body Radiotherapy. *AJR* 2011;197:907-915.
35. Low RN, Barone RM. Combined Diffusion-Weighted and Gadolinium-Enhanced MR Imaging Can Accurately Predict the Peritoneal Cancer Index (PCI) Preoperatively in Patients Being Considered for Cytoreductive Surgical Procedures. *J. Surgical Oncology*. 2012;19:1394-1401.
36. Low RN, Barone RM, Lee, MJ. Surveillance MR imaging is superior to serum tumor markers for detecting early tumor recurrence in patients with appendiceal cancer treated with surgical cytoreduction and HIPEC. *J. Surgical Oncology* 2013 (in press).

Book Chapters:

- A. Low, Russell N. MR Imaging of the Gastrointestinal Tract and Peritoneum. **Clinical Magnetic Resonance Imaging** 2005. Editor: Edelman.
- B. Low, Russell N. MR Imaging of the Gastrointestinal Tract. **Gore & Levine: Textbook of Gastrointestinal Radiology 3rd Edition**. Edited by Gore and Levine.

- C. Low, Russell N. MR Imaging of Liver Capsule and Peritoneum. **MR Clinics of North America**. Editor: Semelka. November 2001.
- D. Russell N. Low Advances in Prostate Imaging, Diagnosis, and Treatment **Robotic Radiosurgery Treating Prostate Cancer and Related Genitourinary Applications**. Editor Ponsky. Springer Publishing. 2011
- E. Russell N. Low. Diffusion Weighted MRI of the Abdomen. **MRI Clinics or North America**. Editor: Reeder. 2009
- F. Russell N. Low. MR Imaging of the Peritoneum. **MRI of the Gastrointestinal Tract**
Editor J. Stocker. 2009
- G. Russell N. Low. Magnetic Resonance Imaging of the Gastrointestinal Tract **Current Protocols in Magnetic Resonance Imaging**. Editor Haacke. John Wiley and Sons Inc.2004
- H. Russell N. Low. Gadolinium-Enhanced MRI of the Liver. **MR Clinics of North America**. November 2001.
- I. Russell N. Low. MR Imaging of the GI Tract and Peritoneum. **MRI of the Abdomen and Pelvis: A Text Atlas**. Wiley-Liss. Editors Reinhold, Ascher and Semelka 1997

PRESENTATIONS – selected recent presentations

- 1. Liver MR Imaging 2011 – New Techniques. ICPME Webinar Educational Program. January 2011
- 2. Use of Dynamic Contrast Enhanced MRI of Prostate Cancer to Assess Response to CyberKnife Robotic Stereotactic Body Radiotherapy -2 year Follow Up Report. CyberKnife Robotic Radiosurgery Summit. San Francisco, CA. February 10- 12, 2011
- 3. Low RN, Barone R. Combined Diffusion-Weighted and Gadolinium-Enhanced MR Imaging Can Accurately Predict the Peritoneal Cancer Index (PCI) Preoperatively in Patients Being Considered for Cytoreductive Surgical Procedures. Sixth International Symposium on Regional Cancer Therapies, Incline Village, Nevada. February 19-21, 2011
- 4. 28th Annual MRI National Symposium. Invited Faculty. Las Vegas, NV April 2011
- 5. Faculty UCSD 34 Annual San Diego Postgraduate Assembly in Surgery. MRI of Rectal Cancer: The Superior Modality. Mach 17-19, 2011
- 6. GE Experience. Sao Paulo, Brazil. April 2011. Invited Faculty
- 7. Toshiba National Sales Meeting. Invited speaker. Advances in Body MRI Palm Springs, CA

April 2011

8. ESTRO. London, UK. DCE Prostate Cancer Monitoring Response to CyberKnife SBR. May 2011 – invited speaker.
9. Abstract Presentation: MR Elastography. ISMRM Meeting. Montreal, CA. May 2011
10. Faculty Speaker. CMRS Annual Meeting. Orlando, FL. June 2011
11. RSNA 2011. Faculty Refresher Course: MRI of GI and Peritoneal Disease: The safe and effective alternative. November 2011
12. ISMRM. Fat-Water Separation: Insights, Applications & Progress in MRI. Long Beach, CA. February 2012.
13. MRI & CT Symposium. Invited Faculty. Snowmass, CO. February 2012
14. 29th Annual MRI National Symposium. Invited Faculty. Las Vegas, NV. May 2012
15. 7th International Regional Cancer Therapies Program at Captiva, Florida. Poster Presentation.
Preoperative and Surveillance MR Imaging in Patients with Appendiceal Cancer Treated with Surgical Cytoreduction and HIPEC. February 2012.
16. Advanced MRI Course. Graz, Austria. Invited faculty. May 2012.
17. MR Imaging Lecture Series. Body MRI 2012: Visionary Imaging Techniques. Los Angeles, CA September 2012.
18. RSNA 2012. Faculty Refresher Course: MRI of GI and Peritoneal Disease: The safe and effective alternative. November 2012. Scientific presentation: MRI of Appendiceal Cancer: Preoperative evaluation and Surveillance.

RESEARCH INTERESTS

1. Abdominal MR imaging with particular emphasis on contrast-enhanced breathhold imaging of hepatic and extra hepatic disease.
2. Ovarian cancer imaging with Gadolinium-enhanced MRI.
3. Assessment of tumor response to therapy with functional MRI
4. MR imaging of inflammatory bowel disease
5. MR imaging of appendiceal cancer.