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Original articles

Teaching, leadership, scholarly productivity, and level of activity in the chiropractic profession: a study of graduates of the Los Angeles College of Chiropractic radiology residency program

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Abstract

Objective: The purpose of this study was to track the graduates of the Los Angeles College of Chiropractic (LACC) radiology residency program, review their scholarly productivity, and report those involved in teaching and leadership positions.

Methods: Former LACC residents' career information was identified through publicly available electronic documents including Web sites and social media. PubMed and the Index to Chiropractic Literature databases were searched for chiropractic graduate job surveys, and proportional comparisons were made between the career paths of LACC radiology residency graduates and those of non-residency-trained chiropractors.

Results: Of 47 former LACC residents, 28 (60%) have or previously had careers in tertiary (chiropractic) education; and 12 (26%) have attained a department chair position or higher at tertiary teaching institutions. Twenty-two (47%) have or previously had private radiology practices, whereas 11 (23%) have or previously had clinical chiropractic practices. Often, residency graduates hold or have held 2 of these positions at once; and one, all 3. Chapters or books were authored by 13 (28%).

Conclusion: Radiology residency LACC graduates are professionally active, particularly in education, and demonstrate scholarly productivity.

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Introduction

In 1999, the authors published an article chronicling the status of graduates of the radiology residency of the Los Angeles College of Chiropractic (LACC) under the

tutelage of Joseph W Howe, DC, DACBR.¹ At that time, the program had produced 34 graduates. Since then, the school has grown and added several programs, changing its primary name to Southern California University of Health Sciences, within which is still housed the LACC; and the total number of radiology residency graduates as of 2009 was 47. Our impression from the earlier study was that a relatively large number of residency graduates seemed to have gone into tertiary teaching, gained leadership positions, and contributed to scholarly literature, although no formal analysis of the data was done.

In 2010, it was decided that a new accounting, with inclusion of the recent graduates, and some career analysis might further clarify the career path of these graduates. We thought it likely that more LACC-trained chiropractic radiologists are in the profession now than 10 years ago because the residency has produced 1 or 2 graduates each year and few have reached retirement age. We also hypothesized that more graduates would have been advancing in their careers for a longer time. Based on this and our impression from the first article, we hypothesized that a higher proportion of chiropractors with the additional training of a radiology residency might attain positions in teaching, academic administration, and international relocation in comparison to non-residency-trained chiropractors. The purpose of this study was to track the radiology graduates of the LACC radiology residency program, review their scholarly productivity, and report those involved in teaching and leadership positions.

Methods

The names of graduates of the LACC radiology residency from 1978 through 2009 were obtained from the school's radiology department. These names were searched for through the publically available Web sites of teaching institutions and private practices. For those whose employment was not known, a search was made using the search engine Google and the social networks Facebook and LinkedIn. If the name alone was not specific enough to generate a result, the name plus *chiro* or *radiology* was searched for. These searches were performed from 20 August 2011 through 23 May 2012.

Career activities were divided into clinical practice, radiology practice, teaching (including educational administration), and nonchiropractic. *Clinical practice*

was defined as primary contact with patients, involving diagnosis and treatment. The type of practice (eg, associate, solo, part of multidisciplinary clinic) was not considered. If the clinical practice predated entrance to the residency, it was not counted in this study. *Radiology practice* was defined as reporting on plain film or advanced imaging as a referral activity. Again, type of practice was not considered. That is, a radiology practice could involve owning an x-ray machine and obtaining and reporting on plain films for referring practitioners, whether chiropractic or medical; it could involve reporting images at an imaging center; or it could mean reporting on images obtained at other facilities. *Teaching (and administration)* was defined as occurring in a chiropractic teaching institution, whether a private school or as part of a university. *Nonchiropractic* was defined as any professional activity not involving the practice of chiropractic or radiology, retirement, or unemployment.

Books and chapters published were discovered or confirmed either on the graduates' professional Web sites or via the online bookshop Amazon by searching for the author's name.

Results were categorized by type of activity, and results were compared with data in the literature regarding employment and professional performance. We searched PubMed and the Index to Chiropractic Literature for the terms *chiropractic* and *job analysis* or *jobs* or *career*.

Graduates were counted in all categories in which they have worked. For instance, if a graduate ran a part-time radiology practice while working full-time as a teacher, (s)he was counted in both categories. If a graduate taught for a time then left teaching to pursue clinical practice, (s)he was also counted in both categories.

Results

The LACC radiology residency reported that it produced 47 graduates from 1978 to 2009. Please see [Table 1](#) for a list. Four (9%) have relocated to other countries to teach. These are listed in alphabetical order by last name ([Appendix A](#)).

Twenty-four (51%) of the residency graduates have or have had jobs in teaching and academic administration and have stayed in the United States, and several have risen to prominent positions; 12 (26%) have been appointed to Chair of department positions or higher ([Appendix B](#)).

Table 1 List of LACC radiology residency graduates: 1978-2009

Name	Year
1. Sharon A. Jaeger	1980
2. Dennis Spurgin	1981
3. George King	1981
4. Victor Y.W. Tong	1983
5. Cynthia A. Baum	1984
6. Gary Lindquist	1984
7. Margaret A. Seron	1984
8. Anita L. Manne	1985
9. Michael A. Sladich	1987
10. Phil Shanks	1986
11. Marshall Deltoff	1986
12. William Whittle	1987
13. Larry Wyatt	1987
14. Gary Bustin	1987
15. Tracy Matsumoto	1988
16. Gary Schultz	1988
17. Glynn Rangel	1989
18. Tim Mick	1989
19. Debbie Cherachanko	1990
20. Jeff Cooley	1990
21. John Taylor	1992
22. Tim Hall	1991
23. Tracy Hoyt	1992
24. David Gendreau	1993
25. Todd Knudsen	1993
26. Robyn Mitchell	1994
27. Kathleen Thorn	1995
28. Steven Weiner	1995
29. Curtis Yomtob	1996
30. Sheryl Pressman	1997
31. Michael Mestan	1997
32. John Bassano	1998
33. Jose Serrano	1999
34. James Ma	1999
35. Kenneth Young	2000
36. Jason Vanderford	2000
37. Susan Moreau	2001
38. Laura Gardiner	2002
39. Steve Kulbaba	2002
40. Jamie Kowal-Baietto	2003
41. Cliff Tao	2003
42. Mathew Eurich	2004
43. Chris Watkins	2006
44. Sara Donahue-Mathov	2007
45. Dave Dengler	2008
46. Amanda Satterlee	2009
47. Darlene Vanderford (nee Valdez)	2009

A total of 29 graduates have worked in private clinical or radiology practices: 21 (45%) in private radiology practices and 11 (23%) in clinical practices. Whereas some of these chose these career routes solely, some have both types of practice at once; many of those in education also practiced privately, and one engaged in all 3 activities simultaneously (Appendix C).

LACC's residency graduates participate in the larger organizational aspects of their profession. Nearly all are members of the American Chiropractic College of Radiology (ACCR), and many are also in the American Chiropractic Association's Council on Diagnostic Imaging (CDI) as well as their local state or national chiropractic organizations. In addition to simple membership in various associations, many have held or currently hold executive positions on state or national boards and/or trade organizations. Membership in multiple organizations and officer or board status were considered evidence of higher performance levels, but only in an impressionistic way; quantification was not attempted, nor was comparison with non-radiology-residency-trained chiropractors (Appendix D).

The residency graduates have published articles in peer-reviewed journals, trade newspapers, magazines, newsletters, and blogs. Graduates have also given platform presentations and exhibited posters at conferences, too many to list here. In addition, 13 LACC graduates have either authored or contributed chapters to books (Appendix E).

Six of the LACC residency graduates have augmented their education with either further professional certifications or academic degrees (Appendix F).

No information was found for 1 graduate: James Ma. Another, Darlene Vanderford, did not fit into any of our categories, but is considered here as still in the profession of chiropractic, working in clinical utilization review. As of this writing, 2 graduates, Kathy Thorn and Sheryl Pressman, have left chiropractic practice and academe; but both worked in them after leaving the residency. We found none that did not work in chiropractic at least for a time.

Table 2 shows a summary of what we considered the most significant professional activities.

Discussion

In 1999, many of the LACC graduates who elected to become teachers had stayed at LACC.¹ Although this is still true, the intervening decade has seen internationalization in trade in general as well as in chiropractic. Given these societal forces, it seems inevitable that some LACC radiology residency graduates would have relocated abroad; and this was found to be true. No figures were found for comparison with non-residency-trained chiropractors, although it seems unlikely that nearly 10% of

Table 2 Summary of significant professional activities

	Teaching	Clinical practice	Radiology practice	Books and chapters
1	John Bassano ^a	David Dengler	Gary Bustin	John Bassano
2	Gary Bustin	Laura Gardiner	Jeffrey Cooley	Cindy Baum
3	Jeffrey Cooley ^a	Tracy Hoyt	David Dengler	Jeffrey Cooley
4	Marshall Deltoff ^a	Sharon Jaeger	Mathew Eurich	Marshall Deltoff ^b
5	Mathew Eurich	Jamie Kowal-Baietto	Laura Gardiner	Sharon Jaeger ^b
6	David Gendreau	Tracy Matsumoto	Tracy Hoyt	Gary Lindquist
7	Todd Knudsen	Michael Mestan	Sharon Jaeger	Anita Manne
8	Jamie Kowal-Baietto	Susan Moreau	Todd Knudsen	Tim Mick
9	Stephen Kulbaba	Dennis Spurgin	Jamie Kowal-Baietto	Margaret Seron
10	Anita Manne	Chris Watkins	Stephen Kulbaba	Gary Schultz
11	Sara Mathov	Kenneth Young	Michael Mestan	John Taylor ^b
12	Michael Mestan		Tim Mick	Larry Wyatt ^b
13	Tim Mick		Robyn Mitchell	Kenneth Young
14	Susan Moreau		Gary Schultz	
15	Sheryl Pressman		Cliff Tao	
16	Glynn Rangel		John Taylor	
17	Gary Schultz		Kathleen Thorn	
18	Jose Serrano		Victor Tong	
19	Dennis Spurgin		Jason Vanderford	
20	Cliff Tao		Chris Watkins	
21	John Taylor		Steven Weiner	
22	Victor Tong		Kenneth Young	
23	Jason Vanderford			
24	Chris Watkins			
25	Steven Weiner			
26	Larry Wyatt			
27	Curtis Yomtob			
28	Kenneth Young ^a			

^a Moved internationally.

^b Full book (may be coauthor or coeditor).

American-trained chiropractors since 1999 have moved to foreign countries.

It has been estimated that between 82% and 96% of chiropractic graduates in the United States take up clinical practice.^{2,3} This leaves approximately 4% to 18% to potentially go into teaching. Given that 5 times that proportion (51%) of LACC radiology residency graduates have chosen teaching, either something is different about people who choose radiology, or the radiology residency changes a significant number of its matriculates.

The LACC radiology residency graduates have also made contributions to the scholarly literature. It is not unreasonable to suggest that these research endeavors are partly as a result of Joseph Howe's academic philosophy; one of the components of the ethic imbued in the radiology training at LACC is the belief that dissemination of scholarly information is essential for the growth and survival of any profession.¹ In addition, the CDI has had small scholarships available for residents who publish.

Six graduates (13%) have also gone on to achieve higher degrees. We did not discover any information for non-residency-trained chiropractors; thus, direct comparisons cannot be made.

What are the reasons for this apparent high level of scholarly activity? Radiology residents may be the type of people who are attracted to the activities involved in the residency itself. Those activities include writing scholarly articles, teaching, and academic logistics (organizing classes, managing student issues, creating and marking examinations). This inherent predisposition would likely result in a higher-than-usual proportion of academicians being generated from this population. It would be interesting to discover if these trends were also true for other chiropractic radiology residencies.

In addition, radiology residents must be strong academic performers. Grades in chiropractic training are considered, and there are film reading and written examination as well as an interview process to enter LACC's residency. After being accepted, residents need to attempt to memorize large quantities of

diagnostic information and develop an advanced level of skill in image interpretation. Residents also must work as radiographers and junior radiologists in the school's outpatient clinics. It is a high level of activity and may attract people who are high achievers, those likely to continue to be active after the residency has been completed.

A study of vascular surgery vs general surgery residents found that vascular residents went on to have a higher percentage of advanced degrees, more publications, and more involvement in cardiovascular research than the general surgery residents.⁴ The vascular surgeons are trained in procedures that require a particularly high degree of skill and specific knowledge, and this may be somewhat analogous to comparing residency-trained chiropractors (DACBRs) to generally trained chiropractors (DCs). Although it is unknown as to whether chiropractic radiologists have a higher proportion of advanced degree holders than non-residency-trained DCs, the amount of publication revealed in this article supports the idea that chiropractic radiologists research and publish as part of their activities. This may be due to the publication encouragement both within the residency and from outside sources (eg, CDI scholarship). Chiropractors in private clinical practice likely have little incentive to publish.

For example, in Australia, chiropractic academicians have a low average output of research.⁵ It is likely that academicians publish more than clinicians because of publication requirements for tenure and promotion in some universities. Given the recent emphasis on evidence-based practice for health care, it may be useful in the future to compare radiology residency-trained chiropractic academicians' research output with that of non-residency-trained chiropractic academicians to help understand how to increase chiropractic research.

A study of emergency medicine in 2000 found that residency-trained physicians had lower malpractice claim payouts than non-residency-trained ones.⁶ It would also be interesting to research this question for chiropractors and chiropractic radiologists in the future.

Limitations

This study was aided by new developments in technology in that information was gleaned on all former residents through Web sites and social media. However, we were limited by outdated or absent information on several of the graduates.

The study was also limited in that only information on the Web sites was included. If information was not

present or low on a list of hits generated by a search engine, it was not included in this study. Thus, some of the findings may not be up to date or complete.

In the future, a stronger study could be completed if qualitative methods were used, including interviews with graduates regarding motivation for professional choices, obtaining full curricula vitae with job histories, professional service, and full publication records. Because graduates were counted in any category in which they had spent any time during their careers, there may be an overreporting of activities. If dates of employment were included, a better understanding could be obtained. Little information was found in the literature for non-residency-trained chiropractors; therefore, informative comparisons are not possible.

In addition, graduates from only one radiology residency were used as the sample; so although trends may be noted, firm conclusions cannot be drawn. Perhaps LACC is anomalous in some way; this could only be determined by a broader sampling of chiropractic radiologists. Larger studies including other radiology residency programs should be considered for the future.

Conclusion

The findings of this study show that LACC radiology residency graduates are active professionally and that many teach at the tertiary level and take positions in school administration. They participate in research; they publish, and a few move internationally. Some who choose a career in academia may simultaneously run clinical or radiology practices, and some do all three.

Funding sources and potential conflicts of interest

No funding sources or conflicts of interest were reported for this study.

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Appendix A. Teaching and administration: international

John Bassano left his position as Professor and Chair of the Department of Diagnosis after serving for 6 years as Chair of the Department of Diagnostic Imaging and Director of the Diagnostic Imaging Consultation Practice at LACC to become Head of Diagnostic Imaging at the New Zealand College of Chiropractic in 2009.⁷

In May 2001 Jeffrey Cooley left LACC as Chair of the Department of Radiology, which he held from 1997, to become a Senior Lecturer and Director of Chiropractic Studies at the University of Surrey, England. In 2004, the program was ended; and he moved the next year to Murdoch University in Perth, Australia, as a Senior Lecturer on the chiropractic course. In 2010, his application for promotion to Associate Professor was successful.⁸

According to the Universite de Quebec TroisRivieres Web site, Marshall Deltoff is no longer employed there; and repeated attempts to gain further information through other sources were unsuccessful.⁹

In 2000, Kenneth Young took a Senior Lecturer position at the Welsh Institute of Chiropractic at the University of Glamorgan in Pontypridd, Wales, UK, until 2005. He later served a short stint as Director of Diagnostic Imaging at National University of Health Sciences (formerly National College of Chiropractic) and, at the time of this writing, has been a Senior Lecturer at Murdoch University in Perth, Australia, for more than 3 years.¹⁰

Appendix B. Teaching and administration: United States

Gary Bustin maintains his position as Associate Professor at LACC. From 2001 to 2011, he was also an Assistant Professor at Cleveland Chiropractic College, Los Angeles.¹¹

Mathew Eurich is currently the Director of the Diagnostic Imaging Residency at the LACC, a title he was awarded in July of 2010. He had served as Interim Director since November of 2006. Starting in April of 2005, he also worked as an Assistant Professor in the Department of Diagnosis. Mathew also heads the Diagnostic Imaging Consultation Service for the College, a position he has held since September of 2009.¹²

David Gendreau taught for a time at Cleveland Chiropractic College Los Angeles, but further information about his academic career was not found.¹³

After leaving the National University of Health Sciences Director of Diagnostic Imaging and Director of National MRI Center in 2003, Todd Knudsen returned to LACC as Associate Professor in the Department of

Diagnosis. He has since ascended to Chief Academic Officer and Vice President of Academic Affairs.¹⁴

Scant information was available for Jamie Kowal-Baietto. She is listed in a Southern California University of Health Sciences (SCUHS) newsletter in 2007 as an instructor, but is not currently listed on the official Web site.¹⁵

Stephen Kulbaba worked as an Associate Professor at the LACC from September 2002 until April of 2007. Stephen also provided his expertise for the Faculty Radiologic Consultation Service at the LACC from September 2002 until July of 2003.¹⁶

Anita Manne has worked at Northwestern Chiropractic College, now Northwestern Health Sciences University, since 1985. She was Chair of the Department of Radiology from 1988 to 1992 and from 2009 until the time of this writing. She's also worked with the school's radiology consulting service during that entire time.¹⁷

Sara Mathov (nee Donahue) graduated the residency in 2006 and took a post for a short time as an Assistant Professor at SCUHS, but moved to Vancouver, WA, in 2008 to teach at the University of Western States in nearby Oregon.¹⁸

Michael Mestan left Parker College of Chiropractic in 2002 and started as Head of the Department of Diagnosis and Practice at New York Chiropractic College. In 2010, he moved up to the position of Executive Vice President and Provost.¹⁹

From 1991 to 2003, Tim Mick was Chair of the Department of Radiology of Northwestern Chiropractic College, which later became the Northwestern Health Sciences University. From 2003 to 2006, he was Director of Radiological Services there.²⁰

Susan Moreau completed her residency in 2001 and is listed as a part-time Assistant Professor on the LACC Web site,¹² but no other information was found.

Sheryl Pressman took a part-time position as a staff radiologist in the College of Chiropractic at the University of Bridgeport (CT) in 1997, but no longer works as a chiropractor.²¹

Glynn Rangel assisted with radiology laboratory instruction for a time at SCUHS,¹ but is no longer listed on the Web site, and no further information could be found.

Gary Schultz progressed from Chair of the Department of Radiology to Executive Vice President of SCUHS. In 2006, he relocated to Oregon as Vice President of Academic Affairs at Western States Chiropractic College.²²

Jose Serrano moved to the clinical side of the teaching profession when he was offered a position at LACC's Glendale Chiropractic Clinic in 1999,¹ but left after a few years for private radiology practice and worked for TrueMRI until 2010.²³

Although he never completed the DACBR examination after completing the residency in 1982, Dennis

Spurgin did serve LACC in a variety of capacities. Starting in 1980, his positions included Director of Students, Dean of Students, Associate Dean (Academic), Dean of Chiropractic Education, and Dean of Clinical Studies. He finally ended his association with the school as a full-time clinician in 1989.²⁴

In January of 2004, Cliff Tao accepted a position at the SCUHS as an assistant professor of radiology. Apart from his work in the radiology department, Cliff also substitutes as a supervising clinician, where he shepherds chiropractic interns during their clinical rotations. In March of 2004, he was hired as a radiology instructor for the University of California, Irvine Department of Radiological Sciences, continuing in this capacity as of this writing.²⁵

John Taylor left Western States Chiropractic College in 2001 and took up an Associate Professor position at New York Chiropractic College. He was promoted to Professor later that same year. In 2007, he moved to D'Youville College Doctor of Chiropractic Program and since 2009 has also been an Adjunct Professor at Canadian Memorial Chiropractic College.²⁶

Victor Tong was a Professor at Cleveland Chiropractic College, Los Angeles. Since the last writing, however, in early 2011, Dr Carl Cleveland announced the closure of the LA campus.²⁷

Jason Vanderford became Assistant Professor at Parker College of Chiropractic in 2002 and was Director of the Diagnostic Imaging residency there from 2002 to 2004. He left academia for private practice in 2005.²⁸

Chris Watkins worked at SCUHS as a part-time instructor from September through December of 2006; he left California in January of 2007 to become a radiology instructor at the NY College of Chiropractic. In May of 2007, he accepted the position of Interim Director of the Masters in Diagnostic Imaging program at NYCC. However, in May of 2008, he returned to California and took the position of assistant professor in radiology for the LACC until August of 2009.²⁹

Steven Weiner left his position as Assistant Professor and a Staff Radiologist at the SCUHS Radiology Department in 2001 to work in private practice for a time, before attending medical school.³⁰

Larry Wyatt is a Professor at Texas Chiropractic College.³¹

Curtis Yomtob became the SCUHS Radiology Department Chair in 2001 but left in 2002 (CV) to supervise set construction for the film and television industry. As of this writing, he has returned to radiology teaching at SCUHS.³²

Appendix C. Private practice

After graduating from LACC in 1981, Gary Bustin went into clinical practice in Los Angeles County as an associate

and sole proprietor from 1982 to 1984. He returned to attend the residency, graduating in 1987, and has owned and run Radiological Consultants of San Dimas since then. In 2004, he started Bustin Seminars, offering continuing education in radiology and technique; and this venture continues as of this writing.^{1,11} Because his clinical practice predates his residency training, Bustin is not counted in the clinical practice category in this study.

Jeffrey Cooley was a consultant for Southland Radiology Consultants from 1990 to 2000. He then bought the practice and owned it until he left for England in 2004.⁸

David Dengler, a 1978 graduate of National College of Chiropractic, set up a clinical practice in Albuquerque, NM, in 1979; then, nearly 3 decades later, he took a hiatus to attend the LACC residency, graduating in 2008 and then returning to clinical practice in Albuquerque.³³

After graduating from Logan College of Chiropractic in 1996, Mathew Eurich owned and operated Brentwood Family Chiropractic in La Vista, NE, from July of 1997 to January of 2000. After completing his residency in 2004, Eurich provided diagnostic imaging consultation services for the 24/7 Radiology Group and Precision Radiology Consultants before returning to academia in 2006.¹² Because his clinical practice predates his residency training, Eurich is not counted in the clinical practice category in this study.

Laura Gardiner had a clinical and radiology practice in Connecticut after graduating, but relocated to Oregon in 2008 and opened practices there.³⁵

David Gendreau is listed as having a clinical practice in Corona, CA; but further information was not found.³⁴

Tracy Hoyt graduated in 1989, opened his own imaging interpretation practice, and then in 1999 added clinical practice to his work regime.³⁶

The first graduate under the residency revamped by Joseph Howe, DC, DACBR, in 1978, Sharon Jaeger maintains a private clinical practice in Valley Village and a radiology practice in Granada Hills, CA.^{1,37}

No recent information was found for George King. As of 1999, he had a private clinical practice.¹

Todd Knudsen was involved in the private practice of radiology from 1993 to 1996 and was an independent contract radiologist for Wasatch Imaging, Sandy, UT (MRI Center).¹⁴

Jamie Kowal-Baietto worked as a staff radiologist at TrueMRI in Southern California and then at its successor Radiology 247,³⁸ but is not currently found on the Radiology 247 Web site. She is listed online as having a clinical practice in Placentia, CA.³⁹

Stephen Kulbaba currently owns and operates Atlas Radiology Consultants, located in Winnipeg, Canada. Before opening his own consulting business, he worked at 24/7 Radiology; he continues to read films

for this firm. Postresidency, Stephen consulted with True Metric Imaging in Bellflower, CA, from May of 2003 until February of 2007.¹⁶

James Ma, a medical radiologist from Shanghai, graduated in 1999¹ and disappeared. Repeated attempts to contact him or find any other information about him over the intervening years have been unsuccessful.

Perhaps the most entrepreneurial of the cohort of LACC graduates, Tracy Matsumoto returned to his native Hawaii after his residency. He is the owner of Chiroplan Hawaii, Inc, a managed services organization established to arrange for the financing and management of chiropractic services in Hawaii.⁴⁰ As of this writing, he owns Kilani Chiropractic Centre, a clinical practice in Wahiawa.⁴¹ Since 2008, Matsumoto has been working to help create electronic health records management systems for the chiropractic profession with E-Telligents, LLC.⁴²

Michael Mestan founded Ozark Radiological Consultation, LLC, in 1997. He continued this service until 2007. In addition, he worked in clinical practice with his father in Missouri at Mestan Chiropractic Clinic from 1998 to 1999.¹

Tim Mick has held a variety of radiology practice positions, as listed here: 2007-2009, Consulting Radiologist, Center for Diagnostic Imaging (Spine Team); 2006-2009, Consulting Radiologist & President, Imaging Consultants, Inc.; 2006-2007, Research Associate, Northwestern Health Sciences University; 2004-2008, Consulting Radiologist, LifeScan Stand-up MRI, St Louis Park, MN; 2000-2006, Consulting Radiologist, Fort Wayne Radiology/OpenView MRI, Fort Wayne, IN.; 1998-2003, Consulting Radiologist, Regional Diagnostic Radiology/Central Minnesota Open MRI, St Cloud, MN.; 1994-2007, Consulting Radiologist, St Paul Radiology & Duluth Open Scan MRI.; 1989-2006, Consulting Radiologist, NWCC/NWHSU Radiological Consultation Service.²⁰

Robyn Mitchell, a 1993 graduate, moved to Nevada and has worked with a variety of radiology practices. From 1994 to the present, she has worked with Sierra Nevada Radiology Consultants. In 1995 and 1996, she also consulted with Northern Nevada Radiologists on MRI and CT. From 1996 to 1998, she contracted with Mobile Technologies, Inc, in association with Northern Nevada Medical Center, interpreting MRIs. From 2001 to 2003, she was a chiropractic radiological consultant at West Valley Imaging in Reno, also on MRI and CT; and currently, she is owner and staff radiologist at Reno OpenAir MRI, LLC.³²

After finishing the residency program in 2001, Susan Moreau segued into a private chiropractic practice in Lomita, CA.⁴³

Gary Schultz ran a private radiology consulting practice from 1988 until 2000 as well as at faculty radiology practices during his time at LACC.¹

In addition to his time at LACC in the 1980s, Dennis Spurgin has continued the life he started in 1971 as a practicing clinician, today working out of Palm Springs, CA. From 1986 to 1992, he also ran Spurgin Consulting Services, which served several Southern California hospitals. During the same period, he also performed worker's compensation/personal injury evaluations as well as acted as an expert witness on standards of practice for several district attorneys in the region.²⁴

After finishing his radiology residency in December of 2003, Cliff Tao opened his own private radiology practice where he continues to interpret images currently. As part of his practice, Tao also provides expert review and expert witness testimony.²⁵

John Taylor practiced clinically for 10 years starting in 1979 in Vancouver, British Columbia, Canada, before attending the residency. After completing it, as well as the Osteoradiology Fellowship through the University of California, San Diego Medical Center, and Veterans Affairs Medical Center at La Jolla, CA, he consulted for MRI Vancouver from 1995 to 2001.^{1,26} Because his clinical practice was before his residency training, he was not counted in the clinical practice category for the purposes of this study.

Kathleen Thorn closed her private radiology practice in North Carolina in 2006 and changed careers to monitor clinical pharmaceutical trials.⁴⁴

Victor Tong has maintained a private radiology practice in Los Angeles since 1983. He is also an Associate Radiologist for Central Diagnostic Imaging in Glendale, CA. From 1983 to 1986, he worked in clinical practice in La Habra, CA.²⁷

Darlene Vanderford (nee Valdez) has been performing utilization review for Comprehensive Industrial Management since 2009.⁴⁵

Jason Vanderford left Parker College in 2004. He returned to California and private practice; from 2005 to 2008, he was a radiologist at TrueMRI in San Diego. That company folded in 2008, and Vanderford began work as a Clinical Reviewer and Clinical Peer Reviewer for Comprehensive Industrial Disability Management while concurrently working at AIM Medical as a radiologist.²⁸ Although involved in clinically related work, Vanderford is not counted in the clinical practice category because he is in a consulting position and has no primary patient contact.

Chris Watkins started a private practice in April of 2009. He currently operates Watkins Chiropractic and Radiology Center. As well, Chris has provided relicensure seminars in radiology since 2008, working as a lecturer for Inner Calm Seminars and the International Chiropractic Association of California.²⁹

In addition to working at SCUHS, Steven Weiner ran Vision Radiology Consultants in Fullerton, CA, from 1995

to 2006. He also was a Staff Radiologist at Hoyt Radiology Services in Murrieta, CA, from 2000 to 2006.^{1,30}

Curtis Yomtob was a certified phlebotomist and autopsy assistant before attending LACC. During his residency, he maintained a clinical practice.^{1,32} Because there is no evidence he ran a clinical practice after graduating, he was not included in the clinical practice category in this study.

Kenneth Young ran an imaging interpretation service in conjunction with the University of Glamorgan during his time there (2000-2005). He opened Young Radiology in Liverpool, England, in 2006, relocating to Nottingham in early 2007. After immigrating to Australia in 2008, he kept his British chiropractic registration (licensure) and continued the service via teleradiology. Shortly thereafter, he opened a part-time clinical practice at the Cockburn Medical Centre in Spearwood, Western Australia.¹⁰

Appendix D. Service in state and national organizational bodies

John Bassano has been the ad hoc radiograph Committee Chair for the New Zealand Chiropractic Board from 2010 to the present and was named as an examiner for that same board in 2011.⁷

Jeffrey Cooley was chair of the Academics Committee of the ACCR from 1995 to 1999. In 2004, he was appointed as Award External Examiner to the University of Portsmouth; in 2006, he became the Radiation Safety Officer for Murdoch University and began working as a Delphi committee member on diagnostic clinical imaging guidelines, a collaborative effort led by Dr André Bussi eres, and is active in these pursuits at the time of this writing. In 2008, he was appointed to the Chiropractic Advisory Committee of the WA Radiological Council and remains active in this post.⁸

Sharon Jaeger was Second Vice-President from 1982 to 1983, Education Chairman from 1984 to 1985, and Secretary from 1988 to 1989 of the San Fernando Valley Chiropractic Association. She also held various posts at the American Public Health Association, was on the LACC Board of Regents from 1993 to 1997, was Secretary/Treasurer of the Foundation for Chiropractic Education and Research from 1991 to 1997, was Vice President of the ACCR from 1987 to 1988 and President from 1988 to 1990, and was President and then Treasurer of the American Business Women's Association from 1982 to 1985.^{1,37}

Todd Knudsen was elected Vice-President of the ACCR in 2008 and remains in that position at this time; previous to this, he was Secretary/Treasurer from 1997 to 2008. He was a consultant to the National Board of Chiropractic Examiners (NBCE) from 2000 to 2006, helping create case studies and examination questions;

and he was a consultant to the Examination Committee of the Utah State Board of Chiropractic in 1994.¹⁴

Tracy Matsumoto has been on the Chiropractic Advisory Committee of the State of Hawaii Department of Commerce and Consumer Affairs since 1991. He was also on the executive board of the Hawaii State Chiropractic Association from 1992 to 1996.⁴¹

Michael Mestan gained Fellowship status in the International College of Chiropractors in 2007. He served office for the ACCR from 1999 to 2009, including as President for the last 2 years of that span; is the current Chair of Chief Academic Officers Committee of the Association of Chiropractic Colleges from 2010; and was Vice-Chair from 2009 to 2010.¹⁹

Tim Mick, from 2007 to 2009, was the President of the American Chiropractic Board of Radiology (ACBR) and from 1991 to 1995 was the Department Chairs' Head. From 2006 to 2008, he was Legislative Chair for the ACCR, and previously Vice-President from 2001 to 2003 and President from 2003 to 2005. From 1999 to 2005, he was a Test Committee Member for the NBCE. He also held various executive posts for the American Chiropractic Association's CDI from 1994 to 1999. From 1990 to 2008, Mick was a Reviewer and Expert Witness in Diagnostic Imaging; and from 1990 to 2008, he served as Radiological Consultant of the Minnesota State Board of Chiropractic Examiners on their State Licensure Examination.²⁰

From 1994 to the present, Robyn Mitchell has been Radiological Consultant to the Nevada State Board of Chiropractic Examiners.⁴⁶

Gary Schultz has been heavily involved in service to the profession throughout his career, and was Vice-President and then President of the ACCR from 1992 to 1995. He was an Examiner for the ACBR from 2003 to 2007 and has held various posts for the Council on Chiropractic Education since 2003. He was a member of the Strategic Planning Committee and Chair of the Ethics Committee for the California Chiropractic Association from 2005 to 2006 and was Chair of the Chief Academic Officers Forum for the Association of Chiropractic Colleges from 2003 to 2006. Schultz is also a member of the Oregon Public Health Association (2009 to present) and the American Public Health Association Chiropractic Health Section (2008 to present). In addition, he is part of the Radiology Work Group: A Joint Consortium of the American College of Radiology, the Physician Consortium for Physician Improvement of the American Medical Association, and the National Commission on Quality Assurance (2007 to present).^{1,22}

Margaret (Peggy) Seron is a consultant to the NBCE at their headquarters in Colorado.⁴⁷

Dennis Spurgin served as an expert witness for various California District Attorneys and the California State Board of Chiropractic Examiners from 1986 to 1992. In 1978 and

1979, he was on the Indiana State Political Action Staff; from 1980 to 1987, he was liaison to the State Board of Chiropractic Examiners (which state is unclear); and from 1982 to 1988, was on the Academic Officers Committee of the Association of Chiropractic Colleges. From 1986 to 1987, he served on the Chiropractic Subcommittee for California Department of Industrial Accidents and in 1988 and 1989 worked on the Task Force to establish hospital privileges for chiropractors in California.²⁴

Cliff Tao serves as a Chiropractic Member for the Radiologic Technology Certification Committee in Sacramento, CA, a position he has held since January of 2009. Cliff has also volunteered as a peer reviewer for *Acta Radiologica* since August of 2008.²⁵

Some of John vTaylor's many positions of leadership include having been an Examiner and the Chair of the radiology section of the British Columbia Chiropractic Examining Board from 1980 to 1988; President of the Canadian Memorial Chiropractic College Alumni Association of British Columbia, Canada, in 1980 and 1981; examiner for the Canadian Chiropractic Examining Board in Calgary from 1980 to 1987; vice-president of the Canadian Council on Chiropractic Roentgenology, British Columbia division, from 1980 to 1989; Fellow of the Chiropractic College of Radiologists (Canada); and former president and vice-president of the ACBR. From 1993 to 1995, he was Executive for the ACBR and Vice-President of that Board from 1995 to 1996, then President from 1996 to 1998. In 1995, he was President of the American Board of Chiropractic Specialties. In addition, Taylor joined the Test Committee for the NBCE in 2010.^{1,26}

Victor Tong was appointed Testing Committee Member of NBCE in 1980, 1993, 1994, 1995, 1996, and 2005.²⁷

Chris Watkins currently serves on the ACCR Communications and Advocacy Committee, which he joined in October of 2008.²⁹

Curtis Yomtob was Vice-President of the ACBR from 2000 to 2001 and has been Web page administrator for the ACCR/ACBR since 1997.^{1,32}

Kenneth Young was an examiner for the General Chiropractic Council's (United Kingdom) Test of Competence for foreign graduates from 2001 to 2005 and has been an examiner for the Council on Chiropractic Education Australasia since 2009. He was also the Secretary and Webmaster for the Association for the History of Chiropractic from 2001 to 2011.¹⁰

Appendix E. Books and contributions to books

Books (LACC authors in bold)

Deltoff MN, Kogon PL. *The Portable Skeletal X-Ray*. Mosby; 1998.

Jaeger, S. *Atlas of Radiologic Positioning, Normal Anatomy and Developmental Variants*. Appleton and Lange; 1988.

Jaeger S, Pate D. *Case Studies in Chiropractic Radiology*. Rockville, MD: Aspen; 1990.

Taylor JAM, Resnick D. *Skeletal Imaging: Atlas of the Spine and Extremities*. Philadelphia, PA: WB Saunders Co; June, 2000. 1064 pages.

Taylor JAM, Hughes T, Resnick D. *Skeletal Imaging: Atlas of the Spine and Extremities*. 2nd ed. Philadelphia, PA: WB Saunders Co; 2010. 1188 pages.

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Taylor JAM, Resnick D. *Aparato Locomotor Diagnostico Radiologico. Spanish Translation of Skeletal Imaging*. Marban, SL; 2004. 1064 pages.

Wyatt L. *Handbook of Clinical Chiropractic*. Aspen Publishers; 1992.

Wyatt L. *Differential Diagnosis of Neuromusculoskeletal Disorders*. Aspen Publishers; 1994.

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Bassano J. Radiology sections of *Mosby's Review Questions for the NBCE Examination: Parts One and Two*. Claire Johnson, MEd, DC, ed. Elsevier; 2006.

Cooley J, Schultz G. Radiology of the Head and Spine. In: Greenstein G, ed. *Clinical Assessment of Neuromusculoskeletal Disorders*. St Louis, MO: Mosby; 1997.

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Mick, TJ. Congenital Diseases. In: Marchiori, D, ed. *Clinical Imaging With Skeletal, Chest & Abdomen Pattern Differentials*. 1st & 2nd eds. Mosby/Elsevier; 1999 & 2005.

Mick TJ. Anatomical Variants, Chapter 4 & Congenital Diseases, Chapter 10. In: Marchiori DM and McLean ID, eds. *Clinical Imaging: With Skeletal, Chest and Abdomen Pattern Differentials*. 1st & 2nd eds. Mosby/Elsevier; 1999 & 2005.

Schultz G. Chapter 13; Vascular Conditions of Bone. In: Marchiori D, ed. *Imaging of the Chest, Abdomen and Skeleton: A Pattern Approach*. 2nd ed. St Louis, MO: Mosby Publishers; 2005.

Mootz R, Coulter I, **Schultz G.** Ethics and Professionalism in Chiropractic. In: Haldeman S, ed. *Principles and Practice of Chiropractic*. 3rd ed. McGraw Hill Publishers; 2004.

Schultz G, Glenn W, Foreman S. Chapter 5: Magnetic Resonance/Computed Tomography

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Young KJ. Joseph W. Howe and the Development of Modern Chiropractic Radiology. In: Keating JC, Phillips RB, eds. *History of the Los Angeles College of Chiropractic*. Whittier, CA: Southern California University of Health Sciences; 2001.

Appendix F. Education beyond the DC and DACBR

Tracy Matsumoto achieved an MBA through Phoenix University at Honolulu in 2002.⁴⁰ Michael Mestan completed a Master of Science in Higher Education Leadership at the Margaret Warner Graduate School of Education and Human Development at the University of Rochester and, at the time of this writing, is about to embark on the thesis for his EdD.¹⁹ Dennis Spurgin studied on the Master of Science Program for Health Care Education at the College of Osteopathic Medicine of the Pacific, a division of Western University of Health Sciences.²⁴ John Taylor completed the postdoctoral research fellowship in musculoskeletal radiology at the University of California, San Diego; before that, he received a certificate in Athletic Injury Management through the Canadian Memorial Chiropractic College and an Instructor's Certificate in Cardiopulmonary Resuscitation from the Ontario Heart Foundation in Canada.²⁶ Steven Weiner became a medical doctor through Ross University and is currently studying Nuclear Medicine at the Medical College of Wisconsin.³⁰ Kenneth Young was awarded a Master of Applied Science in Medical Imaging through Charles Sturt University, Wagga Wagga, Australia, in 2009.¹⁰