

SHORT (2-page) CV: Dr David MacDonald: Professor;
BDS, BSc(Hons.), LLB(Hons.), MSc, DDS(Edin.), DRRRCR, FDSRCPS, FRCD(C)

BACKGROUND (qualifications, expertise, skills and major affiliations)

- Credentialed specialist - Specialist Registrar in *Oral & Maxillofacial Radiology* (OMFR) at King's College Hospital, London, & Royal College of Radiologists. Fellowship in OMFR of the *Royal College of Dentists of Canada* (FRCDC).
- Credentialed twice in adult pedagogy (U.Bergen and UBC); Award for excellence in teaching. (Dentistry) 2017.
- Graduated: Research DDS by thesis (equivalent to a North American PhD dissertation), University of Edinburgh.
- Chair, Division of OMFR at UBC & Consultant, *British Columbia Cancer Agency* (BCCA). (2003- present)
- Senator' to the UBC Senate 2015-20). UBC Senate Representative to Regent College Senate (2017-2021).
- Commission of Dental Accreditation of Canada as Dental Specialties Representative. (2013-2018)
- North American Director; *International Association of Dento-Maxillo-Facial Radiology* (IADMFR) (2017-2023).
- Editorial roles in all four international OMFR journals; Assoc. Ed. (Oral Radiol.) & Ed. Board (DMFR, OOOO & ISD)

LEADERSHIP

- Lead author; AAOMR's Task force: **COVID-19 and OMF imaging; OOOO 2021: 131; 99-110, updated as 'New normal radiology' int Dent J 2022.** ([https://authors.elsevier.com/sd/article/S0020-6539\(22\)00104-6](https://authors.elsevier.com/sd/article/S0020-6539(22)00104-6)).
- Led OMFR in appointments at the Universities of Hong Kong, of Edinburgh and of Bergen and at UBC.
- Radiology Lead at UBC for wholly digital radiography establishment incorporating an electronic patient record based on MacDonald's 'hierarchy for authorization.' This introduced unique QA stages, which enhance patient care.
- Facilitated installation of first Cone-Beam Computed Tomography (CBCT) in a Canadian dental institution in 2004.
- Leads provincially, nationally and internationally in the appropriate use of CBCT.

RESEARCH (CBCT & jaw lesions, systematic review, Barrett's esophagus, oral scleroderma, infection control) (Scopus *h-index* = 30; Google Scholar *h-index* 37; *i10* 63). **TEN MOST IMPORTANT PAPERS out of a TOTAL OF 100 PAPERS PUBLISHED**

1. **MacDonald-Jankowski DS.** Fibro-osseous lesions of the face and jaws. *Clinical Radiology* 2004; 59: 11-25. *This was the 3rd most frequently downloaded article for 2003/2004 and 8th for 2014. Cited 351 times by Google & 159 times by Scopus.*
2. **MacDonald DS.** Maxillofacial fibro-osseous lesions. *Clinical Radiology.* 2015;70:25-36. *Invited by the Editor-In-Chief to update 1. The first paper to cover the role of CBCT in the diagnosis and assessment of an important group of lesions. Cited 83 times by Google & 50 times by Scopus.*
3. Bryant R, **MacDonald-Jankowski DS**, Kim K. Does the type of implant prosthesis affect outcomes for the completely edentulous arch? *International Journal of Oral Maxillofacial Implants* 2007; 22 suppl: 117-139. *The first systematic review to reveal the long-term outcomes of dental implants. Cited 166 times by Google & 85 times by Scopus.*
4. **MacDonald DS** et al. Diagnosis and management of calcified carotid artery atheroma: dental perspectives. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology* 2012: 114: 533-547. *The first report to place the importance of these lesions in a medical context. MacDonald initiated this and led a team of UBC/Vancouver General Hospital medical and US dental radiologists. Cited 74 times by Google & 49 times by Scopus.*
5. Bennett C*, Moayyedi P*,, **MacDonald D**,...,Jankowski J BOB CAT, a large-scale evidence review and consensus statements for management of Barrett's esophagus with no dysplasia, indefinite for, or low grade dysplasia, based on a Delphi Process. *American Journal of Gastroenterology* 2015;110: 662-682. *The impact factor is 11. The largest systematic review ever published, addressing multiple research questions Cited 146 times by Google & 100 times by Scopus.*
6. Gharahkiani P, ..., **MacDonald D**, ..., Jankowski J, Schumacher J. Genome-wide association studies in oesophageal adenocarcinoma and Barrett's oesophagus: a large-scale meta-analysis. *Lancet Oncology.* 2016; 17:1363-1373 *The impact factor is 28. Cited 132 times by Google and 91 times by Scopus.*
7. Palles C, . **MacDonald D**, . Jankowski J. Polymorphisms near TBX5 & GDF7 are associated with increased risk for Barrett's esophagus. *Gastroenterology* 2015;148:367-378. *The impact factor is 18. Cited 96 times by Google & 70 times by Scopus.*
8. **MacDonald-Jankowski DS.** Fibrous dysplasia: a systematic review. *Dentomaxillofacial Radiology* 2009; 38: 198-215. *Revealed the demographic, clinical, radiological and long-30rm outcomes of this important fibro-osseous lesion affecting the four global groups representing humanity. Cited 152 times by Google & 76 times by Scopus.*

9. **MacDonald-Jankowski DS.** Keratocystic odontogenic tumour: systematic review. *Dentomaxillofacial Radiology*. 2011;40:1-23.. Revealed the demographic, clinical, radiological and long-term outcomes of this important lesion affecting the four global groups representing humanity. Cited **111** times by Google & **63** times by Scopus,
10. Baron M, Hudson M, Dagenais M, **MacDonald D**, ..., Gornitsky M. The Canadian Systemic Sclerosis Oral Health Study V: Relationship between disease characteristics and oral radiologic findings in systemic sclerosis *Arthritis Care and Research* (Hoboken) 2015 Sep 28. doi: 10.1002/acr.22739. *The impact factor is 5. This Canadian Institutes of Health Research study is the largest Scleroderma study published. 2nd paper in Oral Surgery etc (2015). Cited 48 times by Google & 30 by Scopus.*

BOOK

'Oral and Maxillofacial Radiology: a Diagnostic Approach' Wiley-Blackwell. 2011. ISBN: 978-0-8138-1414-8. **Reviewed by:-**

1. **Dr. Wenzel** wrote in the Danish Dental Journal (Tandlaegebladet 2011) that
"This is not a traditional textbook in [oral and maxillofacial] radiology since there is an emphasis on description of high-tech imaging techniques such as CT scanning, magnetic resonance, positron emission tomography and ultrasound."
2. **Drs. Danforth and Mah** stated in the Journal of Clinical Orthodontics (2012) that
"As Dr. David MacDonald states in his preface, "The purpose of this textbook is to guide diagnosticians of all skill levels in generating a diagnosis of lesions affecting the face and jaws. This goal is thoroughly accomplished in 18 chapters divided across four major subject areas." "All chapters include high-quality illustrations with concise, readable legends, along with excellent decision-making flow charts to help guide the reader through the interpretive process." "Each topic is well referenced with current evidence-based studies and epidemiological data that can be useful in identifying radiographic lesions and developing differential diagnoses."
3. **Dr. Tong** wrote in the International Journal of Oral and Maxillofacial Surgery (2012)
"Overall, this work presents a large volume of information in 351 easily readable pages. It contains updated information on most aspects of maxillofacial imaging in one text. The different parts of the book can be studied separately, according to the needs of the individual clinician." "The superb image quality and succinct texts make it easy to recommend to dental practitioners, maxillofacial specialist and residents embarking on their careers."

Wiley requested a 2nd Edition of this textbook directed also to medical radiologists. ISBN 9781119218708 Launched Mid-November 2019, with year of publication 2020.

EDUCATION

- Progressive approach to teaching; **wholly evidenced-based and student-centered learning. Textbook was especially written** to complement all OMFR courses at UBC.
- **Creative approach to curriculum development.** The graduate course (DENT 756) class participation is modelled on the **business-school group-presentation format.**
- A creator of the '**Education Track**'(E.T.) in international OMFR (IADMFR) in 2017, launched in 2019.
- **E.T's Inaugural lecture-Webinar** (OMF Lymphomas) under the auspices of the **British Institute of Radiology**, June 2021.

IMPACT

- Clinical Radiology paper (Paper 1.) corrected the longstanding misunderstanding about fibrous dysplasia of the jaw, which was resected although it is not to be a tumour.
- Unique system of SRs has not only been used by others, but also frequently cited.
- MacDonald's **unique division of humanity into global groups** has revealed the **significant differences** that can exist between them. See tables in chapters 9 & 10 in the aforementioned textbook
- MacDonald is the **leading author on CBCT diagnosis** (Chapter 15; nearly 100 pages) in Springer's 2018 "Maxillofacial Cone Beam Computed Tomography Principles, Techniques and Clinical Applications" (Eds Scarfe & Angelopoulos. (31 chapters over 1200 pages); ISBN 978-3-319-62061-9.
- MacDonald is the **lead author** of a report which addressed **CBCT and endodontics in the higher efficacy steps in Fryback & Thornbury's hierarchy** (Int Endo J January 2021;; 54; 26–37. doi: 10.1111/iej.13397).

▪ Curriculum Vitae

1. **SURNAME: MacDONALD FIRST NAME: David MIDDLE NAME: Stanislaw**
(Formerly MacDonald-Jankowski)
2. **DEPARTMENT:** Oral Biological & Medical Sciences
3. **FACULTY:** Dentistry
4. **PRESENT RANK:** Professor (Since 1st July 2013) & Chair, Division of Oral and Maxillofacial Radiology (Since 2003) and clinical consultant at the British Columbia Children's Hospital and at the British Columbia Cancer Agency.
5. **CLINICAL SPECIALTY:** Oral and Maxillofacial Radiology

Professional Registration

College of Dental Surgeons of British Columbia ID No. 6434

6. POST-SECONDARY EDUCATION

Degree	University or Royal College	Subject Area	Dates
BDS, BSc(Hons.)	Glasgow	Dental subjects	1982
FDSRCPS(Glasg.)	Royal College of Physicians & Surgeons, Glasgow	Higher qualification in Clinical Dentistry	1985
MSc (Research)	London	OMF Pathology	1986
DDR (Diploma in Dental Radiology)	Royal College of Radiologists	Completion of specialty training in OMF Radiology	1989
LLB(Hons)	City, London	Law	1996
DDS (Research)	Edinburgh	OMF Radiology	2007
FRCDC(C)	Royal College of Dentists of Canada	= recognition as a credentialed OMF Radiologist in Canada	2008

OMF, oral and maxillofacial

Titles of Dissertations

DDS Fibro-osseous lesions affecting the jaws. My doctorate was based on 7 full papers (Publications 10,20,22,23, 24, 30 and 34). It also led to a further 6 papers (Publications 49, 50, 52,53, 54 and 69).

MSc A study of the development of chemically induced hyperplasia on the floor of the mouth of the golden hamster.

Professional Vocational Certification

1. Certificate in Vocational Training in General Dental Practice, London, 1982.
2. Certificate for Completion of Training in Dental Radiology, Royal College of Radiologists, 1990.
3. Registered Dental Surgeon, Ministry of Health, Norway, 2001.

4. Registered Dental & Maxillofacial Radiology Specialist, General Dental Council, 2001
5. Certificate in Nitrous Oxide and Oral Sedation, British Columbia, 2006.

Qualifications in Education

1. Certificate in University Education, Bergen, 2003.
2. UBC Faculty Certificate on Teaching and Learning in Higher Education, 2005.

7. EMPLOYMENT RECORD

(a) Prior to coming to UBC

University/ Health Board	Position	Dates
British Postgraduate Medical Federation, London	Vocational Trainee in General Dental Practice	Feb.82-Feb.83
Charles Clifford Dental School, Sheffield	Lecturer in Restorative Dentistry	Mar.83-Apr.85
Prince Charles Hospital, Merthyr Tydfil, Wales	Senior House Officer in Oral Surgery	May.85-Sep.85
Royal London Hospital Medical School, London	Research Student in Experimental Oral Pathology	Sep.85-Oct.86
Liverpool	General Dental Practitioner	Nov.86-Sep.87
Dental School, Liverpool	Registrar in Dental Radiology	Oct.87-Nov.87
King's College School of Medicine and Dentistry, London	Registrar in Dental Radiology <i>Demonstrator in Anatomy</i>	Nov.87-Dec.90 Oct.90- Dec.90
Faculty of Dentistry & Prince Philip Dental Hospital, Hong Kong	Head of the Oral Radiology Unit	Jan.91-Sep.91
Dental School, Edinburgh & Lothian Health Board	Senior Lecturer and Consultant in Oral Radiology	Oct.91-Oct.94
Faculty of Dentistry, Bergen	Associate Professor in Oral Radiology (Tenured)	Sep.00-Nov.03

- b) At UBC: Associate Professor – on appointment*
*Date of granting of **Tenure** at UBC: July 2005*
*Date of promotion to **Full Professor**: July 2013*
 Chair of the Division of Oral and Maxillofacial Radiology since December 2003
 Acting Head of the Department of Oral, Biological and Medical Sciences July-September 2021.
At British Columbia Children's Hospital: clinical consultant since June 2012
At British Columbia Cancer Agency: clinical consultant since December 2013

8. TEACHING

a) *My development of an unique approach to teaching diagnosis in oral and maxillofacial radiology.*

My overall aim is to instill an active questioning spirit within the student, who will shortly be serving the community as an independent (unsupervised) general dental surgeon or as a dental specialist. This, I believe, is best achieved by student-centered learning. This is facilitated by evidence-based teaching directed to solving the most frequent and/or important diagnostic challenges they are likely to encounter.

As for my teaching materials, upon my arrival in 2003, I introduced a progressive and evidence-based approach to oral and maxillofacial radiology in both the final two undergraduate years (DMD 430 and 440 OMFR) and the dental specialty residents (DENT 756) programs. The approach taken in both programs is unique. Instead of the usual course based on teaching radiological lesions according to their pathological classification, my course presented these lesions as they first present radiologically, namely as radiolucencies or radiopacities. This was supported by student-centered teaching in small seminar groups of students in which each student would present at least one case. This was not enough as the traditional textbooks in oral and maxillofacial radiology were also based on a literature that varied markedly in classification and methodology and generally did not report the radiology in sufficient detail. Fortunately, I encountered systematic review, a then-recently-introduced medical tool. This tool allowed transparent and systematic review of the literature on a particular topic. I uniquely adapted it to oral and maxillofacial radiological diagnosis. This not only allowed me to discuss my own case series, but also reveal differences in the radiological and clinical presentations of a range of lesions as they presented in four global groups based on ethnicity.

My textbook (April 2011, Wiley-Blackwell), based on my life-long research and teaching, has helped to transform my teaching. It provides my students “distilled” knowledge of the field and has been very favorably reviewed by three journals serving different dental communities (general dentists, oral and maxillofacial surgeons and orthodontists.) (Excerpts are on pages 2 & 14). Wiley invited me to write a 2nd edition, which was published in 2020.

To enhance learner-centered learning, I issue my students well in advance of each lecture a list of questions arising from material in my textbook to which responses are expected in class. The small-group seminars keep to the tried-and-tested formula of each student presenting at least one case. Both approaches promote student participation. The graduate classes, which were once conducted as small-group seminars, which at one time became too large. This was a particular problem in graduate course (DENT 756). Eight years ago I adopted the MBA format in which a group of students would be responsible for presenting a topic. The topics are assigned to each group of graduate students based on its relevance to their specialty. Following a discussion with an educational specialist, I required each presentation to include class exercises to enhance participation of the entire class. This enhanced interaction between the various specialties, which is a central tenant of graduate education at UBC Dentistry.

(b) *Areas of special interest and accomplishments*

University of British Columbia

1. Upon my arrival in 2003, there had been no full-time academic radiologist in post for at least 2 years. I was immediately involved in planning the radiology provision

for the state-of-the-art Nobel Biocare Oral Health Centre. My achievements are as follows:-

- a. Increased the number of dental radiographic units from 6 to 12.
 - b. Introduced medical grade grayscale diagnostic monitors.
 - c. Facilitated the installation of cone-beam computed tomography; the first in a dental institution in Canada.
 - d. Improved infection control.
 - e. Created and led a joint weekly OMFR/Technical Service Team (TST) leading up to the 'go-live' of digital radiography in September 2006.
2. I formulated a 'Hierarchy for Authorisation" document which improved clinical student learning and patient safety in the new filmless and paperless Nobel Biocare Oral Health Centre.
3. As Clinical Co-chair for the first year of the DMD program (2004-2009), I facilitated the introduction of many clinical dental subjects into first year dental education, which was hitherto almost wholly medical. Now the DMD students better understand how medicine impacts dental practice.
4. The salient features of my undergraduate (DMD) OMFR curriculum are:-
- a. Wholly student-centered learning. Material and questions are presented to the class in advance. The responses are assessed and contribute to the class grade for each student.
 - b. To make the course as evidence-based as possible. This has relied on the continuing publication of my research in peer-reviewed papers. The senior two clinical years additionally benefit from the publication of my textbook, which was written with them in mind.
 - c. It is fully integrated throughout the four years of the DMD program.
 - d. It is integrated as fully as possible with other DMD programs problem-based learning (PBL) cases and dental-applied learning experience (DALE).
 - e. Cone-beam computed tomographic (CBCT) interpretation was taught and examined since 2013 and a new CBCT module introduced in 2018/2019.
 - f. Student competences were fully assessed:-
 - i. Radiographic technique by OSCE (Objective Structured Clinical Examination).
 - ii. All radiology exams (almost all focus on the interpretation of radiographic images) are taken online.

5. My central role in 'postgraduate' teaching at UBC is teaching and examining dental specialty graduate students in advanced Oral and Maxillofacial Radiology (DENT 756). To date I have taught and examined 185 dental specialty graduate students. The specialties taught are Periodontics/implants, Endodontics, Prosthodontics, Pedodontics, Orthodontics and Oral Medicine and Oral Pathology. The salient features of this course are:-
- The business school group presentation approach. Each specialty group present OMFR topics most relevant to their specialties to their colleagues. I guide them, ensure accuracy and grade them. See oral presentation 16 on Page 28.
 - The other half of their marks are from 2 separate examinations after each block of 8 topics.
 - This course also includes a competency-test program in cone-beam computed tomography (CBCT) clinical prescription, technique and reporting.
6. I prepared the response to the Commission for Dental Accreditation of Canada's (CDAC) Report of 2003, which recommended increased curriculum time devoted to OMFR for CDACs visitation in 2010.

(c) *Courses in oral and maxillofacial radiology taught at UBC (both undergraduate & graduate)*

Session	Course Number	Scheduled Hours	Class Size	Hours of Actual Class-contact Time <small>does not include the time spent on standing in for sick colleagues, preparation, marking exams nor consultations with students and their clinical teachers concerning their patients</small>			
				Lectures	Tutorials	Labs	Other
2003/4 to 2004/5	DMD 440	20 hours & 40 mins	45	2 x 50 mins = 100 mins	2 x 2hr x 4= 16 hours		3 hour exam
2005/6 to 2011/12	DMD 440	26 hours & 40 mins	From 47 to 56	2 x 50 mins = 100 mins	3 x 2hr x 4= 24 hours		3 hour exam
2012/13 to 2021/22	DMD 440	39 hours & 50 mins	60	1 x 50 mins	3 x 2hr x 6= 36 hours		3 hour exam
2003/4 to 2004/5	DMD 430	14 hours & 10 mins	48	5 x 50 mins = 250 mins	1 x 2hr x 4= 8 hours		2 hour exam
2005/6 to 2011/12	DMD 430	25 hours & 30 mins	From 47/48 to 55/56	9 x 50 mins = 450 mins	2 x 2hr x 4= 16 hours		2 hour exam
2012/13 to 2021/22	DMD 430	34 hours & 30 mins	60	9 x 50 mins = 450 mins	2 x 2hr x 6= 24 hours		3 hour exam
2004/5 to 2009/10	DMD 420	5 hours & 30 mins	From 40 to 46	3 x 2 x 50 mins = 10 hours			1 hour exam
2010/1 to 2015/16	DMD 420	3 hours	40-46	3 x 50 mins = 150 mins			30 min exam
2010/22	DMD 420	4 hours		4 x 50 mins = 200 mins			30 min exam
2005/6 to 2008/9	DMD 410	13 hours	40	3 x 4 x 50 min = 10 hours			1 hour exam

2010/11 to 2015/16	HYG 410 Intro. OMFR	1 hour & 30 mins	From 20 to 25	1 x 1 hour & 30 mins			No exam
2021/22	HYG 410 Intro. OMFR	1 hour	25	1 hour			No exam
2005/6 to 2009/10	DENT 756	26 hours	From 2 to 9		12 x 2 hrs = 24 hours		2 hour exam
2010/11 to 2011/12		26 hours	From 15 to 18		8 x 2 hrs = 16 hours	4 x 2hrs (CBCT)	2 hour exam
2012/13 to 2019/20	DENT 756	27 hours	15	1 hr +2 x 2 hrs = 5 hours	9 x 2 hrs = 18 hours	(CBCT)	2 x 2 hour exam
2021/22	New DENT755	5 hours	16	4 x 1 hr=4hrs			1 x 1 hr
2021/22	New DENT756	26 hours	16	2 x 2 hours 4 Hours	9 x 2 hrs = 18 hours		2 x 2 hour exam
2018/19 to 2021/22	Consultant session	31.5 hours		21 x 1.5 hrs = 31.5 hours			No exam

Total Hours of Actual Class-contact Teaching per year for years 2004/5 (1st full academic year at UBC), 2018/2019 and **2019/2020**

2004/5	53 hours & 20 mins	NOTE 1: These totals do not include the time spent on, preparation, marking exams nor consultations with students and their clinical teachers concerning their patients. NOTE 2: Each year is redeveloped to reflect new pedagogical & scientific knowledge NOTE 3: All teaching is direct interactive Student/learner-centered learning, requiring maximal student participation. NOTE 4: <i>This year again r"COVID-19 and OMFR" was included in teaching</i>
2018/19	132 hours & 30 mins	
2019/20	156 hours & 30 mins	
2021/22	175 hours & 10 mins	

(d) **Summer students research supervision**

Titles of research	Year	Value	Source of funding
Diagnostic radiology of the face and jaws Systematic review Evaluation of Medline	2004	\$2,000	Canadian Institutes of Health Research (CIHR)
Variants in normal anatomy observed on the Cone-beam CT that may impact patient health	2005	\$2,000	Canadian Institutes of Health Research (CIHR)
Systematic reviews of the literature of a range of less frequently occurring lesions of the jaws	2005	\$2,000	UBC scholarship for the UBC Faculty Certificate Program in Teaching and Learning in Higher Education (FCPTLHE)
The presentation of specific lesions of the face and jaws on cone-beam CT	2006	\$2,000	Canadian Institutes of Health Research (CIHR)
a. The use of medical-grade diagnostic monitors in clinical dentistry b. Ambient lighting in a student teaching clinic c. Dental negligence in Canada	2007	\$2,000	Canadian Institutes of Health Research (CIHR)

(e) **DMD students research supervision**

Publications and conference presentations derived from summer student work

- Full paper – See Publication 40.
- Letter to Editor – See Letter 2.
- Conference proceeding – See Abstract 10-12.

Publications and conference presentations with a dental student (alumnus)

- Full paper – See Publication 86 and 92.

(f) **Postgraduate teaching**

Publications and conference presentations with a dental graduate student and a medical specialty resident

- Full papers – see Publications 63, 65, 66, 81, 82, 85, 93, 94 and 100.
 Conference proceeding – see Abstract 17, 20 to 25, 29 to 34 and 35.

Postgraduate and graduate research Degrees

Program Type Name and subject matter addressed	Year		Supervisory Role (supervisor, committee member)
	Start	Finish	
Dr. Elaine Orpe MSc (UBC): The use of stents	1999	2005	Supervisor to completion. The original supervisor retired in 2001
Dr. Warrick Yu MSc (U.Lond.): Incidental findings on Panoramic tomography	2011	2012	Supervisor with U London to completion (MERIT) <i>Published Reference 92.</i>
Dr. Ella Choi MSc (UBC): Radiation doses to children's heads from cone-beam computed tomography	2012	2014	Committee member to completion. I provided essential clinical direction and close involvement in the writing-up
Dr. Rich Kratz MSc (UBC): Incidental findings on panoramic radiographs of full denture patients	2012	2015	Committee member-to completion. I was intimately involved the study design, collecting and analysing the data. <i>Published Reference 80 & 84</i>
Dr. Meeta Bhatt MSc (UBC): Prescriptive patten and clibnical decision making in complicated endodontic cases using cone-beam computed tomography.	2015	2017	Supervisor.to completion. <i>Published Reference 93</i>
Dr. Yasmine Alawaji MSc (UBC): Cone-beam Computed Tomography and anatomy for implants.	2016	2017	Committee member and radiology lead to completion. <i>Published Reference 86</i>
Dr. Sharifa Alebrahim MSc (UBC): Cone-beam Computed Tomography and impacted teeth	2017	2019	Supervisor to completion.
Dr. Ahmed Ishmail MSc (UBC): Cone-beam Computed Tomography and implants	2018	2020	Committee member and radiology lead to completion. <i>Published Reference 98</i>
Dr.Hans Amandeep MSc (UBC): Cone-beam Computed Tomography and implants	2018	2020	Supervisor to completion
Dr.Zahra Samji MSc (UBC): Taurodontism	2018	2021	Supervisor to completion
Dr. Erika Ridgway MSc (UBC): Panoramic faults	2019	2021	Supervisor to completion
Dr.Shamsher Sandlas MSc (UBC): Cone-beam Computed Tomography and implants	2018	2021	Supervisor to completion
Dr. Akash Patel MSc (UBC) Incidental Findings: Cephalometry	2020	2022	Supervisor to completion

Dr. Neeraja Ramadurai MSc (UBC) Bitewings	2020		Supervisor
Dr. Maher Dadoush MSc (UBC) Artificial Intelligence	2021		Supervisor
Dr. Aneesha Taneja MSc (UBC) Calcified carotid Artery Atheroma on dental panoramic radiographs; statins	2021		Supervisor

(g) *Invited Lectures and Presentations***Invited lectures**

March 1989. King's College Hospital: Medical radiology residents: London. *"Swellings of the neck"*

March 1990. King's College Hospital: Medical radiology residents: London. *"Swellings of the neck"*

March 1991. Royal Hong Kong Police; officers of inspector rank: (I was a member of the Forensic Odontology Group). *"Forensic odontology."*

April 1992. Edinburgh Society for the study of Orthodontics, *"Clearer and Safer Radiology."*

May 1993. British Society of Dental and Maxillofacial Radiology. *"In-house publications for undergraduate teaching."*

May 1993. Edinburgh Royal Infirmary: Medical radiology residents; *"Radiolucencies of the jaws"*,

May 1993. Edinburgh Royal Infirmary: Medical radiology residents; *"Radiopacities of the jaws" and*

May 1993. Edinburgh Royal Infirmary: Medical radiology residents;
"Sialography and swellings of the neck."

May 1994. Edinburgh Royal Infirmary: Medical radiology residents; *"Radiolucencies of the jaws"*,

May 1994. Edinburgh Royal Infirmary: Medical radiology residents; *"Radiopacities of the jaws" and*

May 1994. Edinburgh Royal Infirmary: Medical radiology residents;
"Sialography and swellings of the neck."

August 1995. Warsaw Medical Academy: Postgraduate dental students. *"Radiation protection in dentistry."*

July 2001. Hong Kong Dental Association. *"Systematic Review in Dentistry"*

- October 2001. University of Bergen. Scientific symposium (Joint Oral Radiology, Oral Surgery and Endodontics). *"Fibro-osseous lesions: the development of their classification and nomenclature."*
- July 2002. Hong Kong Dental Association. Hong Kong. *"Systematic review and radiology."*
- December 2003. Haugesund senior dental nurses: Norway. *"Radiology course for dental nurses from Haugesund."*[In Norwegian]
- March 2004. Pacific Dental Conference. Vancouver. *"Fibro-osseous Lesions"*
- November 2004. UBC Dentistry (in-service training for part-time faculty); Vancouver. *"Leading edge dental radiography (covered radiographic quality assurance protocol, cone-beam computed tomography and understanding digital radiography; its benefits and pitfalls)."*
- January 2005. Continuing Dental Education. UBC. *"Advances in digital dental radiography."*
- April-May 2005. Prosthodontic Study Club, Richmond. Three separate presentations *"Up-date on digital radiography", "Radiopacities" and "Radiolucencies"*.
- April-May 2005. CMDS Study Club, Richmond. Three separate presentations *"Up-date on digital radiography", "Radiopacities" and "Radiolucencies"*.
- October 2005. Prosthodontic Study Club, Richmond. *"Advanced radiology (CT, including CBCT, and MRI)"*
- October 2005. CMDS Study Club, Richmond. *"Advanced radiology (CT, including CBCT, and MRI)"*
- January 2006. International Dental Students Conference (iDSC). Vancouver. *"Overview of the specialty of oral and maxillofacial radiology."*
- July 2006. American Academy of Osseointegration's State of the Science on Implant Dentistry (SSID) Workshop. – Chicago. Co-reviewer with Dr R Bryant. *"Does the type of implant prosthesis affect the outcome for the completely edentulous arch?"*(See Publication 46.).
- October 2006. UBC Dentistry; Contemporary Issues in Restorative Dentistry: Vancouver. *"Evidence-based dentistry"*
- June 2007. Iranian Dental Study Club: Vancouver: *"Advances in digital dental radiography"*
- January 2008. The Canadian Dental Association's Teaching Conference. on "Going Digital", Toronto. *"The application of gray-scale medical grade diagnostic monitors in clinical dentistry."*
- January 2008. Trinity College Dublin Dental School. *"Advanced imaging in oral and maxillofacial radiology"*

February 2008. Continuing Dental Education, UBC Dentistry. *“Legal implications of recent developments in radiology to the general practitioner.”*

April 2008. Vancouver General Hospital: Otorhinolaryngology residents-pre-fellowship (FRCSurg.Can.), Vancouver. *“Oral and maxillofacial radiology.”*

April 2008. University of Hong Kong Faculty of Dentistry. *“Advanced imaging in oral and maxillofacial radiology.”*

February 2009. Continuing Dental Education: UBC Dentistry. Vancouver: *“Imaging and Pathology”*

March 2009. University of Manitoba: Dental specialty residents-pre-fellowship (FRCDC): Winnipeg. *“Oral and maxillofacial radiology in preparation for the Fellowship examination by the Royal College of Dentists of Canada.”*

January 2010. UBC Dentistry; Research Day. (3D imaging for assessment and management of the craniofacial complex). Review of fibrous dysplasia (a developmental lesion); *“A systematic review of one developmental anomaly”*

February 2010. Continuing Dental Education; UBC Dentistry. *“Advanced imaging for dentists”*

April 2011. Okanagan Periodontal Club for Dental Hygienists – Kelowna. *“Oral and maxillofacial radiology”*

May 2012. UBC/ Vancouver General Hospital: Radiation oncology residents in preparation for their fellowship examinations (FRCPhys. C): Vancouver. *“Oral and maxillofacial radiology with the emphasis on CT, CBCT, MRI and PET.”*

June 2012. College of Dental Surgeons of British Columbia Complaints Committee: Vancouver. *“Digital images, their capture and display.”*

September 2012. UBC/ Vancouver General Hospital: medical radiology residents-in preparation for their fellowship examinations (FRCPhys.C): Vancouver. *“An introduction to oral and maxillofacial radiology.”*

March 2013. Pacific Dental Conference , Vancouver. *‘Fibro-osseous lesions coming to a Pan near you.’*

September 2013. British Columbia Society of Pediatric Dentists Study Club. Vancouver. *“Cone-beam computed tomography use on children and adolescents.”*

November 2013. British Columbia Dental Oncology Group: Vancouver. *“Cone-beam computed tomography and the prosthodontist.”*

January 2014. British Columbia Cancer Agency Head and Neck Tumor Retreat: Vancouver. *“Cone-beam computed tomography and the oral cancer patient.”*

- February 2014. (Dental) General Practice Resident Program: Vancouver. *“Cone-beam computed tomography: indications and interpretation.”*
- August 2014. Chinese Dental Students’ Summer Course at UBC. *Imaging of caries and cancer.*
- November 2014. Greater Vancouver Study Club.-Vancouver. *“Introduction to Cone-beam computed tomography (CBCT) for dentists.”*
- November 2014. Continuing Dental Education, UBC Dentistry. *“CBCT: a hands-on approach to technique and interpretation” A three-day course.*
- March 2015. Pacific Dental Conference, Vancouver. ‘
- August 2015. Chinese Dental Students’ Summer Course at UBC. *Imaging of cancer.*
- November 2015. Continuing Dental Education, UBC Dentistry. *“CBCT: a hands-on approach to technique and interpretation” A three-day course.*
- August 2016. Chinese Dental Students’ Summer Course at UBC. *Imaging of cancer.*
- November 2016. University of Victoria, British Columbia. .Annual 4-day Continuing Education for dentists mainly in single-handed practices serving small and/or remote communities in the US (including Alaska) and Western Canada. *“Systematic and Practical Approach to Radiological Diagnosis”.*
- August 2017. Chinese Dental Students’ Summer Course at UBC. *Radiological diagnosis.*
- September 2017. Canadian Academy of Restorative Dentistry and Prosthodontics (CARDP). *Cone-beam computed tomography and the restorative dentist.*
- October 2017.College of Dental Surgeons of British Columbia. *Appropriate use of cone-beam computed tomography and dentistry.*
- November 2017. Vancouver General Hospital (VGH) & British Columbia Cancer Agency (BCCA) radiology residents. *Panoramic radiography.*
- December 2017. Oral Implantology Study club, Vancouver. *Cone-beam computed tomography and the restorative dentist.*
- August 2018. Chinese Dental Students’ Summer Course at UBC. *Cone-beam computed tomography.*
- March 2019. Pacific Dental Conference. *The CBCT of the most frequent and most important lesions affecting the jaws, likely to pass by each dental office at some stage in your professional lifetime.*
- April 2019 Dentists of New Brunswick. *Radiology update for dentists.*
- April 2019 3rd International Congress of Oral Diagnosis and Maxillofacial Radiology Society.

, Antalya, Turkey. *The differential diagnosis of fibro-osseous lesions.*

August 2019. Chinese Dental Students' Summer Course at UBC. *Most frequent and/or important lesions affecting the face and jaws.*

March 2020. Pacific Dental Conference. *Cone-beam computed tomography.*

June 2020. Asian Congress of Oral and Maxillofacial Radiology, Gifu, Japan. *Most frequent and/or important lesions affecting the face and jaws. Postponed to 2022 due to COVID-19*

June 2020. European Congress of Dental and Maxillofacial Radiology, Jerusalem, Israel. *Fibro-osseous lesions. Cancelled due to COVID-19.*

October 2020. College of Dental Surgeons of British Columbia. *False Positives and other current radiographic issues that may impact clinical dentistry.*

April-May 2021. International Congress of Dental and Maxillofacial Radiology. Gwangju, Korea. *How CBCT can enhance diagnosis.*

June 2021. International Association of Dental and Maxillofacial Radiology. Education Track, webinar. *Maxillofacial Lymphomas.* Hosted by the British Institute of Radiology.

October 2021. Okanagan study club. Canada, *Maxillofacial Lymphomas.*

June 2022. Asian Congress of Oral and Maxillofacial Radiology, Gifu, Japan. *Most frequent and/or important lesions affecting the face and jaws.*

(f) mentoring colleagues

Oral & Maxillofacial Radiology & Pathology

Dr. Thomas Li, Now OMFR in private specialist practice, Hong Kong, China.

Dr. David Thomson, Now Associate Dean of Postgraduate Dental Education, NHS Scotland & OMFR, Edinburgh.

Dr. KC Chan. Now Assistant Professor, OMFR, New York U.

Dr, Y Gu Now Assistant Professor, Dalhousie U.

Jodi Ekk, Clinical Assistant Professor, OMFR, UBC.

Sabina Reitzik, Clinical Assistant Professor, OMFR, UBC.

Charlene Thiessen, Clinical Instructor, OMFR, UBC.

Others.

Dr. C Nguyen, Now Associate Professor, UBC.

Dr. KL. Afrashtehfar former Graduate Student: Prosthodontics

Dr. Sharifa Alebrahim, former Graduate Student: Orthodontics UBC & Saudi Arabia

Mentoring for the CDSBC - see 11 (e).

Media

June 1991. The Hong Kong University Forensic Odontology Group's spokesman to the press during the Thai Air Disaster, *Hong Kong Daily News*, June 3 1991.

9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of special interest and accomplishments*

1. TEXTBOOK

David MacDonald. "Oral and maxillofacial radiology; a diagnostic approach." (Wiley-Blackwell)

2nd edition launched November 2019, with publication year 2020

20 chapters: 12 written by MacDonald alone; 2 co-authored with 2 OMFRs and 6 co-authored with medical radiologists and other medical specialists.

1st edition launched 19th April 2011.

18 chapters; 14 by MacDonald alone; 3 by MacDonald and Martin (chief radiologist at the British Columbia Cancer Agency) and 1 by MacDonald and Li (Hong Kong based OMF radiologist).

This book has been reviewed by:

Wenzel A. A fresh innovative diagnostic approach to radiology disorders. *Tandlaeagebladet* 06.10.2011. [in Danish]

Tong A. Book Review. *International Journal of Oral and Maxillofacial Surgery* 2012; 41(11): 1451.

Danforth RA and Mah J. Book reviews. *Journal of Clinical Orthodontics* 2012; 46 (8); 506.

Dr Wenzel wrote that

"This is not a traditional textbook in radiology since there is an emphasis on description of high-tech imaging techniques such as CT scanning, magnetic resonance, positron emission tomography and ultrasound."

Drs Danforth and Mah stated that

"As Dr. David MacDonald states in his preface, "The purpose of this textbook is to guide diagnosticians of all skill levels in generating a diagnosis of lesions affecting the face and jaws. This goal is thoroughly accomplished in 18 chapters divided across four major subject areas. "

"All chapters include high-quality illustrations with concise, readable legends, along with excellent decision-making flow charts to help guide the reader through the interpretive process."

"Each topic is well referenced with current evidence-based studies and epidemiological data that can be useful in identifying radiographic lesions and developing differential diagnoses."

Dr Tong wrote

"Overall, this work presents a large volume of information in 351 easily readable pages. It contains updated information on most aspects of maxillofacial imaging in one text.

The different parts of the book can be studied separately, according to the needs of the individual clinician.“

“The superb image quality and succinct texts make it easy to recommend to dental practitioners, maxillofacial specialist and residents embarking on their careers.”

New edition in preparation: Wiley-Blackwell invited me to submit a proposal for a second edition. Wiley-Blackwell has now authorized me to prepare the second edition on the 28th July 2015. Contract was signed on the 3rd August.

The Commissioning Editor wrote “I met with our publishing team, and they approved the second edition of Oral and Maxillofacial Radiology for publication. Congratulations! There really was not much discussion—everyone liked the suggested changes and felt that it’s a needed book for the market.”

2. **INITIATOR OF SYSTEMATIC REVIEW (SR) AS A TOOL IN DIAGNOSTIC OMFR.**

Unlike the traditional (Cochrane) SR (meta-analysis), my SRs are unique. The most important features of my SRs are:-

- a. Unlike most SRs, which are significantly confined to English literature, The literature search upon which my SRs are based is exhaustive. As I am literate in a wide range of languages, including Chinese and Japanese, I can more effectively scrutinize almost the entire global literature on a particular lesion.
- b. My SRs are based firstly on my in-depth review of consecutive case series of a range of lesions. These case series are rigorously compliant with international histopathological definitions and establish the clinical and radiological bases for almost all my SRs. Furthermore, the cases in my case series have been followed up for considerably longer than other published case series; they reveal the long-term outcomes of treatment. Follow-up time and recurrence postoperatively feature in all my SRs.
- c. Each SR is uniquely exhaustive. I know of no other systematic reviewer who has gone to such lengths to ensure that his/her SR is as inclusive as possible.
- d. I have further enhanced the clinical relevance of my findings by dividing the SR-included reports into all four global ethnic groups. This allows the clinician to determine which lesion and presenting features are more likely to present in his/her particular practice or in a particular patient.
- e. twelve of my SRs are been cited 50 or more times and one other 40 times. Although the paper (Publication 27.) setting out the rational of my approach to SR for OMFR and my methodology has been cited 18 times, other authors have expressly employed my methodology exactly as it appeared in my SRs.

3. **MOST INFLUENTIAL PUBLICATION OVERALL**

Publications 70, 71,79 & 80.

1. **MOST INFLUENTIAL PUBLICATION ON ORAL & MAXILLOFACIAL RADIOLOGY.**

Publication 34.

- a. This paper titled “Fibro-osseous lesions of the face and jaws.” was the 3rd most frequently downloaded paper for *Clinical Radiology* (Royal College of Radiologists (UK)) for the years 2003, 2004 and 2005.
- b. It was 12th most downloaded both for 2010 & 2011; 15th for 2012, 13th for 2013 and 8th for 2014 (*ScienceDirect’s* Top 25 Hottest Articles for *Clinical Radiology*). Its best position for 2015 had been 5th. *ScienceDirect* no longer reports annual scores for *Clinical Radiology*.
- c. It has been cited by *Google Scholar* 350 times and by *Scopus* 159 times. This is an exceptional record for a paper written by a dental surgeon in a medical radiology journal.
- d. The Editor-in-chief invited me to update it. The update is *Publication 69* and its best has been 2nd most downloaded for 2015. (*Clinical Radiology*). It has also already been cited by *Google Scholar* 83 times and by *Scopus* 50 times. The additionally important feature is that this is the first publication that substantially addresses the radiological presentation of this important group of lesions on *Cone-Beam Computed Tomography* (CBCT)
- e. This paper compelled the production and publication in the same journal addressing the presentation on CBCT of the most important and frequent lesions affecting the face and jaws which present as radiolucencies on conventional radiography, *Publication 80*. Although to be published in October 2016, it was pre-published online and became the 8th most downloaded *Clinical Radiology* paper at the end of September 2016 and ended 2016 as 6th. It was 7th in March 2017. It has also already been cited by *Google Scholar* 47 times and by *Scopus* 30 times.

(b) *Research or equivalent grants [indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC)]*

Granting Agency	Subject	COMP	\$ Per Year	Year	Role
Hong Kong University	A new panoramic unit with a lateral cephalometric facility	C	\$30,000	1991	Principal Investigator
Hong Kong University	Macintosh Classic computer with Hewlett Packard Deskwriter printer	C	\$2,000	1991	Principal Investigator
TC White Foundation of the Faculty of Dental Surgeons of the Royal College of Physicians and Surgeons of Glasgow,	Research visit to Hong Kong, 1992	C	\$1,200	1992	Principal Investigator
Hong Kong University (Faculty of Dentistry)	Research visit to Hong Kong, 2000	NC	\$2,300	2000	Principal Investigator
Norwegian government Meltzers Høyskole fond (Norwegian research fund),		C	\$2,000	2000	Principal Investigator

Granting Agency	Subject	COMP	\$ Per Year	Year	Role
University of Bergen	Long-term follow-up of root treatment	C	\$2,000	2000	Principal Investigator
University of Bergen	Comparison of the usefulness of different databases in the search for the literature of different dental lesions and topics	C	\$2,000	2001	Principal Investigator
University of Bergen Benkows Fond	To attend General Electric GC computed tomographic course in Oslo	NC	\$1,000	2002	Principal Investigator
Hong Kong University (Faculty of Dentistry)	To lead research in radiology	NC	\$2,300	2002	Principal Investigator
Hong Kong University (Faculty of Dentistry)	To lead research in radiology	NC	\$2,300	2004	Principal Investigator
Canadian Institutes of Health Research funded (MOP-86613)	Canadian Scleroderma Research Group's 'The impact of orofacial manifestation of systemic sclerosis on health-related quality of life.'	C	\$100,000	2007 - 2008	Co-investigator
Canadian Dental Hygienists Association	Feasibility study for systematic review with meta-analysis report of the literature on interdental devices	C	\$2,000	2009	Co-investigator
Canadian Dental Hygienists Association	Systematic review with meta-analysis report of the literature on interdental devices	C	\$5,000	2011	Principal Investigator
UBC Faculty of Dentistry Multi-User Research Equipment Awards	LEEDS SEDENTEXCT CBCT image quality and dosimetry phantoms, dosimeter, and ion chamber	C	\$18,882	2012	Co-investigator
2021 CCS-HLS Atherosclerosis Research Award.	Calcified carotid artery atheroma on standard dental radiographs: A public health opportunity for cardiovascular risk reduction.	C	\$15,000	2022	Co-investigator

Key: C, competitive; CBCT, cone-beam computed tomography; NC, Non-competitive.

10. SERVICE TO THE UNIVERSITY

- (a) *The development of the Oral Health Centre (OHC: new dental clinical teaching space) from December 2003 (my arrival at UBC and BC approval to UBC for the new building)*

State-of-the-art wholly digital radiography facility that facilitates student instruction, but also optimizes easy access of the students and their patients for radiography.

My '**Hierarchy for Authorisation**' was integrated into the Electronic Patient Record (EPR). The most important elements compel:

- i) the students to identify the clinical indications for radiographic exposure to their clinical teachers prior to approval for making the exposures.
- ii) the students to report their images and have them approved by faculty within a 2-week period OR prior to treatment planning.

Together, these not only protect the patient from inappropriate and unnecessary radiation, optimise treatment planning, but also protect UBC medico-legally.

Instituted the appropriate use of and optimal and timely access to cone-beam computed tomography (CBCT).

(b) *Memberships on Committees*

UBC SENATE

2015-2020 Elected Senator

2017-present UBC Senate Representative to the Senate of Regent College.

Faculty Committees

2004 Adviser on OMFR to Curriculum Task Force Committee

2005-2006 Promotion & Tenure Committee

2005-2009 Clinical Co-chair of DENT 410 committee. *Co-led the development of a new clinical dentistry course for 1st year DMD students- achieved by 2008*

2006 Radiology Coordinator: Subject Matter Expertise Group

2006 Admissions Interviewing Panel Intern. Dental Degree Completion Program

2006-2012 Faculty of Dentistry Budget Committee
This reviewed the Faculty's functional budgets. I was elected by the dental faculty in 2005.

2007 Admissions Interviewing Panel DMD Program

2007-present Faculty of Dentistry's representative to the Faculty of Arts

2017-present Curriculum development committee of the new DMD curriculum.

Examination Committee, Faculty of Graduate Studies, PhD

2007 Dentistry (dental public health) (University Examiner)

2018 Dentistry (orthodontics) (University Examiner)

2018 Pharmaceutical sciences (Examination Chair)

2019 Dentistry (prosthodontics) (Examination Chair)

2021 Dentistry (orthodontics) comprehensive (university Examiner)

Examination Committee, Faculty of Graduate Studies, MSc

2013 Dentistry (pedodontics) (University Examiner)

2017 Dentistry (periodontics) (Examination Chair)

2018 Dentistry (prosthodontics) (Examination Chair)

2018 Dentistry (orthodontics) (University Examiner)

2019 Dentistry (public health) (Examination Chair)

2020 Dentistry (periodontics) (University Examiner)

2020 Dentistry (endodontics) (University Examiner)

2020 Dentistry (orthodontics) (University Examiner)

2020 Dentistry (orthodontics) (University Examiner)

2021 Dentistry (prosthodontics) (Examination Chair)

2022 Dentistry (Orthodontics) (University Examiner)

Supervisory Committee, Faculty of Graduate Studies, MSc (See Pages 9 & 10)

2005 Dentistry (Supervisor)

2014 Dentistry (Committee member)

2015 Dentistry (Committee member)

2017 Dentistry (Supervisor)

2017	Dentistry (Committee member)
2019	Dentistry (Supervisor)
2020	Dentistry (Committee member)
2020	Dentistry (Supervisor)
2021	Dentistry (Supervisor)
2021	Dentistry (Supervisor)
2021	Dentistry (Supervisor)
2022	Dentistry (Supervisor)

(c) *Other Service*

Accreditation Visitations Commission for Dental Accreditation of Canada (CDAC)

2010	Doctor of Dental Medicine (DMD) Program
2010	Periodontology Graduate Program
2010	Oral Medicine & Oral Pathology Graduate Program
2011	Endodontics Graduate Program
2013	Prosthodontics Graduate Program
2013	Orthodontics Graduate Program
2013	Pedodontics Graduate Program
2017	All Graduate Programs
2017	Doctor of Dental Medicine (DMD) Program

Peer Review of Teaching

2014	October
2015	January
2020	October

Mentored and trained 2 new faculty in OMFR

2015-present

**Official at Graduation Ceremonies of the Faculties of Dentistry and
Pharmaceutical Sciences**

2011-3, 2018	'Mace-bearer'
2014	'Marshall'

**'Macebearer and Marshall' at the ceremonial installation of Dr. Gupta as
President and Vice-Chancellor of UBC**

2014 12th September.

**'Marshall' at the ceremonial installation of Dr. Ono as President and Vice-
Chancellor of UBC**

2016 22nd November.

11. SERVICE TO THE COMMUNITY

(a) *Memberships on scholarly societies*

1982-2018	General Dental Council
1989-present	Royal College of Radiologists
1989-present	International Association of Dento-Maxillofacial Radiology

- 2004-2006 Canadian Collaboration on Clinical Practice Guidelines
- 2004-present Canadian Academy of Oral and Maxillofacial Radiologists
- 2004-present American Dental Educators Association
- 2008-present Royal College of Dentists of Canada
- 2008-present College of Dental Surgeons of British Columbia
- 2009-present American Academy of Oral and Maxillofacial Radiologists
- 2011-present BC Children’s Hospital; staff
- 2013-present Child & Family Research Institute, BC Children’s Hospital
- 2013-2018 Commission on Dental Accreditation of Canada –Dental Specialties Representative (Canadian Dental Association)
- 2013-present BC Cancer Agency; staff
- 2013-present Head & Neck Tumour Group, BC Cancer Agency
- 2014-2018 The Radiography Working Group of the Quality Assurance Committee of the College of Dental Surgeons of British Columbia.
- <https://www.cdsbc.org/practice-resources/consultations/dental-radiography>
- 2018-present Participation in International CDMFR council and DMFR editorial meetings at the European CDMFR conference in Luzern (June 2018) and again in Philadelphia (August 2019).
- 2019 May Reviewer of abstracts for the International Congress of Dento-Maxillofacial Radiology, Philadelphia, August 2019.

(b) *Editorships*

- 2009-2019 *Associate Editor*; Journal of Investigative and Clinical Dentistry *Wiley*
- 2010-present *Editorial Board*: Oral and Maxillofacial Radiology Section; Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology**Elsevier*
*(official journal of the American Academy of Oral and Maxillofacial Radiology (AAOMR))
- 2002-2011 *Editorial Board*: Asian Journal of Oral and Maxillofacial Surgery
- 2016-present *Associate Editor*: Oral Radiology* (official English-language journal of the Japanese Society of OMFR.) *
- 2018-present *Editorial Board*: Dentomaxillofacial Radiology**British Institute of Radiology (BIR)* (official journal of the International Academy of Dental and Maxillofacial Radiology (IADMFR))
- 2021-present *Editorial Board*: *Imaging Sciences in Dentistry**. (official English-language journal of the Korean Society of OMFR. and the Asian Academy of OMFR)

* I am now an editorial officer for all four major OMFR journals.

(c) *Reviewer of manuscripts*

Generally 5 or more reviews per year

- 1988-present Dentomaxillofacial Radiology
- 2001-present International Journal of Oral and Maxillofacial Surgery
- 2005-present Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology

Less than 5 reviews per year

- 2004-2020 Journal of the Canadian Dental Association
- 2006-present International Journal of Oral and Maxillofacial Implants
- 2007-present Oral Radiology
- 2007-2008 International Journal of Pediatric Otorhinolaryngology
- 2008-present British Journal of Radiology
- 2010-2011 Annals of Maxillofacial Surgery
- 2010-2016 Journal of the Irish Dental Association

2012-2019	Gerodontology
2012-2013	Journal of International Oral Surgery
2013-2016	Journal of the American Dental Association
2014-2017	Acta Odontologica Scandinavica
2014-2016	Clinical Medicine and Research
2015-2016	Japanese Dental Research Review
2015-2019	Journal of Oral and Maxillofacial Surgery and Pathology
2015-2016	Oral Surgery
2015-2019	European Journal of Orthodontics
2015-2019	European Radiology
2016-2019	International Dental Journal
2016-2019	Case Reports in Dentistry
2016-2019	British Journal of Radiology Case Reports
2018-2019	Archives of Oral Biology
2019-present	International Journal of Endodontics
2020-present	Journal of Applied Oral Science
2021-present	Imaging Sciences in Dentistry
2021-present	European Journal of Dental Education.
2022-present	International Dental Journal

(d) *External examiner*

Postgraduate Diploma in Oral Surgery (Dental Radiology) University of Hong Kong in 2004 and 2009.

(e) *Other service to the community*

2012-present. College of Dental Surgeons of British Columbia Complaints Committee.

Mentored dentists who were required by the Committee to be reinstructed in one or more OMFR topics.

Year	12	13	14	15	16	17	18	19	21	22	Total
Number mentored	1	1	4	10	5	4	3	2	1	0	31

June 2009. Session chair; 17th International Congress of Dento-Maxillofacial Radiology. Amsterdam.

October 2009-2011. Proctored University of London International MSc examinations for 2 Canadian-based candidates.

May-June 2012. College of Dental Surgeons of British Columbia Complaints Committee Invited me to advise it on several complaint cases.

April & June 2012. College of Dental Surgeons of British Columbia President invited me to inform and update it on Cone-beam Computed Tomography.

Since January 2012. Multidisciplinary Treatment Planning Seminar (about every two months) at the British Columbia Cancer Agency (BCCA). I co-present the radiology with the head of Medical Radiology of BCCA.

Since June 2013. The Canadian Dental Association's Dental Specialties representative to the Board of Directors of the Commission on Dental Accreditation of Canada and by extension to their Dental Education programs Committee.

June 2013. Session chair; 19th International Congress of Dento-Maxillofacial Radiology. Bergen, Norway.

March to October 2013. Centre for Disease Control (CDC) of British Columbia Government. Advised it on Cone-beam Computed Tomography.

2013. Plymouth University's Peninsula Schools of Medicine and Dentistry. Instrumental in the decision of Peninsula Medical, Dental and Biomedical Schools to engage a comprehensive imaging research strategy.

January 2015. Dental Council (An Comhairle Fiacloireachta.) of Ireland. Advise on its Cone-beam Computed Tomography regulations for Irish dentists.

April 2017 to 2021. Regional Director (North America): International Association of Dento-Maxillo-Facial Radiology during which time I led the establishment of a

1. Grant process for OMFR trainees in economically-challenged states to present their research at the international congress.
2. In my capacity as Regional Director of the IADMFR, I am one of the principal originators and chair/secretary of IADMFR's 'Educational Track' (I composed much of its original program) which is available to all IADMFR members, but particularly to the training of those members working in nations without their own certification examinations to a certifiable level as a credentialed OMFR for such nations.

12. AWARDS AND DISTINCTIONS

Awards for Scholarship (indicate name of award, awarding organizations, date)

Monbusho (Japanese Ministry of Education) scholarship, \$60,000, 1991.

This is a very competitive scholarship - only 10 were available to Britons the year I applied.

Award for top 5 reviewers of the Oral and Maxillofacial Radiology section of Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology. 2013.

Certificate for outstanding contribution in reviewing, awarded to the top 10% of reviewers of the journal - Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology [in conjunction with the Academy of Oral and Maxillofacial Radiology], 2015.

Award for top 5 reviewers of the Oral and Maxillofacial Radiology section of Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology. 2016.

Appointed to North American Director of the International Association of Dento-Maxillo-Facial Radiology. 2017

Faculty of Dentistry DMD Faculty Full Time award Teaching Award for 2016-17.

13. OTHER RELEVANT INFORMATION

a. Foreign languages (relevant to expertise in and development of systematic review for diagnostic oral and maxillofacial radiology)

1. Certificate in Advanced French, London, 1995.
2. Certificate in Advanced German, London, 1996.
3. Certificate in Scots Gaelic, Edinburgh, 1998.
4. Certificate in Intermediate Norwegian, Bergen, 2002.
5. Literate in Spanish, Italian, Norwegian (Bokmål and Nynorsk), Swedish, Danish, Chinese and Japanese medical and dental literature

Publications Record

Scopus h-index = 30; Google Scholar h-Index = 37; i10-index = 63.

Journals with the best impact factor (IF) are *Lancet Oncology* (IF=28.2), *Gastroenterology* (IF=18.2), *GUT* (IF=14.9), *American Journal of Gastroenterology* (IF=10.8), *Carcinogenesis* (IF= 5.3), *Arthritis Care and Research* (IF=4.7), *International Endodontics Journal* (IF = 3.8), *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology* (IF=2.6), *Dentomaxillofacial Radiology* (IF=2.4), *International Journal of Oral and Maxillofacial Implants* (IF=2.3), *Journal of Dental Education* (IF = 2.3), *British Journal of Radiology* (IF= 2.2), *Clinical Radiology* (IF=2.2) *Imaging Sciences in Dentistry* (IF = 1.8) and *Journal of Prosthetic Dentistry* (IF=1.8).

14. PUBLICATIONS

(a) ***Refereed Journals***

***Page numbers in bold are publications published since late 2003 when I first took up my appointment at UBC,
For joint authored papers, I am the sole originator of the work as indicated by (1), the sole analyser of the data by (2) and sole generator of the text, tables etc by (3). These numbers appear at the end of each citation.***

1. **MacDonald-Jankowski DS.** An unusual soft tissue artifact on a panoramic radiograph. *Proceedings of the British Society of Dental and Maxillofacial Radiology* 1988; 3:17-19.
2. **MacDonald-Jankowski DS.** A squamous cell papilloma as a cause of vomiting and dysphagia. *British Dental Journal* 1990; 168: 480-481.

3. **MacDonald-Jankowski DS.** The synchondrosis between the greater horn and the body of the hyoid bone: a radiological assessment.
Dentomaxillofacial Radiology 1990; 19: 171-172.
4. **MacDonald-Jankowski DS.** The detection of abnormalities in the jaws: a radiological survey.
British Dental Journal 1991; 170: 215-218.
5. **MacDonald-Jankowski DS, Lawinski CP.** Reduction in radiation dose for intra-oral radiographs by the use of K-edge filters.
British Journal of Radiology 1991; 64: 524-528. **(1)**
6. **MacDonald-Jankowski DS.** Multiple dental developmental anomalies.
Dentomaxillofacial Radiology 1991; 20: 166-168.
7. **MacDonald-Jankowski DS, Cooke DR.** A microdont molar? An unusual artifact on a dental panoramic radiograph.
Dental Update 1991; 18: 308. **(1,2,3)**
8. Li TK, **MacDonald-Jankowski DS.** An unusual presentation of a high-grade non-Hodgkin's lymphoma in the maxilla.
Dentomaxillofacial Radiology 1991; 20: 224-226. **(1,2,3)**
9. **MacDonald-Jankowski DS.** The involvement of the maxillary antrum by odontogenic keratocysts.
Clinical Radiology 1992; 45: 31-33.
10. **MacDonald-Jankowski DS.** Gigantiform cementoma occurring in two populations: London and Hong Kong.
Clinical Radiology 1992; 45: 316-318.
11. **MacDonald-Jankowski DS, Wu PC.** Cementoblastoma in the Hong Kong Chinese: a report of 4 cases.
Oral Surgery, Oral Medicine and Oral Pathology 1992; 73: 760-764. **(1)**
12. **MacDonald-Jankowski DS, Lawinski CP.** The effect of thin K-edge filters on radiation dose in dental radiography.
British Journal of Radiology 1992; 65: 990-995. **(1)**
13. **MacDonald-Jankowski DS.** Taurodontism and the identification of a mass disaster victim.
Dental Update 1993; 20: 39.
14. **MacDonald-Jankowski DS, Li TK.** Taurodontism in a young adult Chinese population.
Dentomaxillofacial Radiology 1993; 22: 140-144. **(1,2,3)**
15. **MacDonald-Jankowski DS.** Mucosal antral cysts in a Chinese population.
Dentomaxillofacial Radiology 1993; 22: 208-210.

16. **MacDonald-Jankowski DS.** Mucosal antral cysts observed within a London inner-city population.
Clinical Radiology 1994; 49: 195-198.
17. Morrell C, **MacDonald-Jankowski DS.** An extra molar? An unusual artifact on a panoramic radiograph.
Proceedings of the British Society of Dental and Maxillofacial Radiology 1994; 6: 50-52. **(1,2, 3)**
18. **MacDonald-Jankowski DS,** Lawinski CP, Payne M. The effect of thin K-edge filters on the image quality of D- and E-speed dental film.
Dentomaxillofacial Radiology 1995; 24: 23-29. **(1)**
19. **MacDonald-Jankowski DS.** Traumatic bone cysts in the jaws of a Hong Kong Chinese population.
Clinical Radiology 1995; 50: 787-791.
20. **MacDonald-Jankowski DS.** Florid osseous dysplasia in the Hong Kong Chinese.
Dentomaxillofacial Radiology 1996; 25: 39-41.
21. **MacDonald-Jankowski DS.** Odontomas in a Chinese population.
Dentomaxillofacial Radiology 1996; 25: 186-192.
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99. **MacDonald D**, Reitzik S. New normal radiology. *International Dental Journal*. 2022. (in press) *Invited by the Editor-In-Chief*.
100. **MacDonald D**, Patel A, Zou B, Yen E, Vora S. A Retrospective Study of Incidental

Findings Occurring in a Consecutive Case Series of Lateral Cephalograms of 12 to 20 year-old Patients Referred for Routine Orthodontic Treatment'
Imaging Science in Dentistry. 2022 (in press) *Invited by the Editor-In-Chief.*

(b) *Published on-line interviews with Editor-in-Chief (EiC) of the Journal of the Canadian Dental Association (JCDA). These were concerned with cone-beam computed tomography (CBCT; sometimes called 'dental CT')*
The following were posted on the JCDA site in May 2014. And published in (e) 5.

1. What will be the likely impact of regulatory and other dental professional bodies on CBCT use?
2. Which CBCT unit is right for my dental office?
3. What radiation dose does CBCT impart?
4. What are the clinical indications for CBCT?
5. What is likely to happen once my CBCT has been installed and I am ready to scan my first patient?

A recent interview with the EIC of JCDA concerning the dentist's decisions with regards *acquiring digital dental radiography.*

(c) *Journal Correspondence (Letters to Editors)*

1. **MacDonald-Jankowski DS.** Cone beam CT; High resolution, low dose: A first for UBC Dentistry.
Journal of the Canadian Dental Association 2005; 71: 151-152.
2. Chan KC, **MacDonald DS.** Dental Indexing on MEDLINE needs revision.
Journal of the Canadian Dental Association 2006: 71: 806. **(1,3)**
3. **MacDonald DS.** Funding available for systematic reviews.
Journal of the Canadian Dental Association 2006: 72; 16.
4. **MacDonald DS,** Chan A, Harris A, Vertinsky T, Farman AG, Scarfe WC.
In Reply (*to a letter to the editor with regards to Reference 65*)
Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology 2013; 115: 700 – 701. **(1)**
5. **MacDonald DS,** Poh C. In Reply *to a letter to the editor regarding Reference 66*)
Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology 2014; 117: 259.

(d) *Book review.*

1. Kavas Thunthy. *Dental Radiographic Diagnosis.* Charles Thomson, Springfield, Illinois, 1988, 542 pages.
Proceedings of the British Society of Dental and Maxillofacial Radiology 1990:4:30-31.

(e) *Other Publications*

1. **MacDonald D.** Beam me up. *Good impressions* (UBC Dentistry's Faculty journal) 2005; 41 (Winter): 1.
 2. **MacDonald D.** Teaching the teachers. *Good impressions* (UBC Dentistry's Faculty journal) 2005; 43(Fall): 5.
 3. **MacDonald D,** Orpe E. Medico-legal aspects of Cone-beam CT. *Good Impressions.* (UBC Dentistry's Faculty journal) 2006; 44(Winter):1.
 4. **MacDonald D,** Bunting N, Ford N. CBCT: training and patient selection. *The Bridge,* 2013; Nov/Dec: 18-20. *bcdental.org*
 5. **MacDonald D.** Cone-beam computed tomography use in children and adolescents. *Oral Health.* 2014; January (Pediatric Dentistry) issue: 18-20.
 6. **MacDonald D.** Cone-beam computed tomography (CBCT). How can CBCT enhance patient care? *CDA Essentials* 2014: 1(6): 37.
- (f) *Conference proceeding*

Presentations .(NOTE: Presenter's name is underlined.)

- 1, **MacDonald-Jankowski DS.** The detection of abnormalities in the jaws: a radiological survey.
British Dental Conference. London 1989. (poster presentation).
2. **MacDonald-Jankowski DS,** Lawinski CP. Reduction in radiation dose for intra-oral radiographs by the use of K-edge filters.
United Kingdom Radiology Conference. Glasgow 1989 (oral presentation).
3. **MacDonald-Jankowski DS.** The detection of abnormalities in the jaws in an adult Southern Chinese population on dental panoramic radiographs.
Journal of the International Association of Dentomaxillofacial Radiology 1991; 11: 77. (oral presentation).
4. **MacDonald-Jankowski DS.** Lawinski C. The effect of eight filter/film systems on radiographic image quality.
International Association of Dental Research and the 12th International Conference on Oral Biology (ICOB). Edinburgh. 1992 (poster presentation) #P-27. **(1)**
5. Dhaif G, Malden N, **MacDonald-Jankowski DS.** Radiological assessment of unerupted maxillary canines.
Journal of Dental Research 1993; 72: 736. (poster presentation) #400.**(1,2,3)**
6. **MacDonald-Jankowski DS,** Wu PC. Florid Osseous Dysplasia in the Hong Kong Chinese.
Journal of Dental Research 1993; 72: 737. (poster presentation) #401. **(1,2,3)**

7. **MacDonald-Jankowski DS**, Lillywhite G, Wu PC. Odontomas in a Chinese population. *Journal of Dental Research* 1994; 73: 806. (poster presentation) #159. **(1,2,3)**
8. **MacDonald-Jankowski DS**, Yeung R, Lee KM, Li TK. Odontogenic myxomas in the Hong Kong Chinese: Clinico-radiological presentation and systematic review. *The 13th International Association of Dentomaxillofacial Radiology*, Glasgow. 2001. (poster presentation) #P-12. **(1,2,3)**
9. **MacDonald-Jankowski DS**. Interactive WebCT in Radiology Teaching in Dentistry. *UBC: Town hall 2004 "UBC's e-strategy: enabling people to excel."* (poster presentation.).
10. Chan KC, **MacDonald-Jankowski DS**. Systematic review of lesions of the face and jaws. *UBC Dentistry's Deans Night*. Vancouver 2004. (poster presentation) **(1,2,3) (Commended)**
11. Chan W, **MacDonald-Jankowski DS**. Incidental findings on Cone-beam Computed tomography. *UBC Dentistry's Deans Night*. Vancouver 2006. (poster presentation) **(1,2,3)**
12. Moore B, **MacDonald D**. Dental negligence across Canada. *UBC Dentistry's Research Day*. Vancouver. 2008. (poster presentation) #26. **(1,2,3)**
13. **MacDonald DS**. Keratocystic odontogenic tumours.. *UBC Dentistry's Research Day*. Vancouver. 2009. (poster presentation) #39.
14. **MacDonald-Jankowski DS**, Li TK. General profile of cases of ameloblastoma referred for computed tomography in an East Asian community. *Congress of International Association of Dental and Maxillofacial Radiology*. Amsterdam. 2009. (oral presentation) #O-48 **(1,2,3)**
15. **MacDonald-Jankowski DS**, Li TK. The effect of indeterminate histopathology on follow-up. *International Association of Dental Research*. Barcelona. 2010 (poster presentation). **(1,2,3)**
16. **MacDonald DS**, Li TK, Mok WH. Syndromic keratocystic odontogenic tumours. *UBC Dentistry's Research Day*. Vancouver. 2012. (poster presentation) #21**(1,2,3)**
17. Gu Y, **MacDonald DS**. Poh C, Zhang L. Can radiographic features predict the recurrence of keratocystic odontogenic tumours? *UBC Dentistry's Research Day*. 2012. Vancouver. (poster presentation) #13. **(1)**
18. **MacDonald D**, Von Bergmann HC. An approach to learner-centred teaching in Oral and Maxillofacial Radiology. *International Congress of Dento-Maxillofacial Radiology, Bergen June 2013*. (oral presentation) #O-073. **(1)**
19. **MacDonald D**, Li T, Lee J, Yeung A, Goto T. A profile of intravenous contrast use in computed tomographic investigations of ameloblastomas. *International Congress of*

- Dento-Maxillofacial Radiology, Bergen June 2013.* (poster presentation) #P-049. (1,2,3)
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 30. **MacDonald D**, Yu W. Incidental findings observed on digital panoramic radiographs from a Canadian general dental practice. *International Congress of Dento-Maxillo-Facial Radiology*. Philadelphia. August 2019. (poster presentation).

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32. Samji Z, Manso A, Richman J, **MacDonald D**. Investigating Taurodontism in an Adolescent Population Using Dental Panoramic Radiographs. *UBC Dentistry's Research Day*. January 2021. (poster presentation).
33. Patel A, Yen E, Zou B, **MacDonald D**. Prevalence of incidental findings in lateral cephalograms of orthodontic patients. *UBC Dentistry's Research Day*. January 2022. (poster presentation).
34. Taneja A, Mai V, Larjava H, Chehroudi B, Luong C, **MacDonald D**. Calcified carotid artery atheroma on standard dental radiographs; retrospective study. *UBC Dentistry's Research Day*. January 2022. (poster presentation).
35. Taneja A, Mai V, , Luong C, **MacDonald D**. Calcified carotid artery atheroma on standard dental radiographs; retrospective study. *American College of Cardiology* April 2022. (poster presentation).
36. Dadoush M, Chehroudi B, Zou B, **MacDonald D**. Artificial Intelligence Technology for The Detection and Tracing of The Mandibular Canal During Pre-Implant Planning on CBCT Images. *Canadian Academy of Periodontology*. June 2022. (Oral presentation)

15. BOOKS

- 1*. **David MacDonald**. "Oral and maxillofacial radiology: a diagnostic approach": Wiley-Blackwell 19th April 2011. (351 pages and over 600 figures) ISBN: 978-0-8138-1414-8. **Expected publication date of the second edition is May 2019.**
2. **David MacDonald**. "Oral and maxillofacial radiology: a diagnostic approach": SECOND Edition; Wiley-Blackwell ISBN 9781119218708 (print), ISBN: 978-1-119-21872-2 (ebook). *Two new chapters; 1st addressing calcification of the soft tissues and the 2nd vascular anomalies. Seven new co-authors, five medical radiologists, one UK-based oral and maxillofacial radiologist and one radiation oncologist; who specialists in their fields. Publication month and year was January 2020.*
3. **David MacDonald**. "Flora MacDonald" (part of the 'Wee Guide' series on Scottish history):Goblinshead, Musselburgh, Scotland. 2003 ISBN: 1 899874 38 0. **(1,2,3)**

(b) **Chapters**

1. **David MacDonald..**" Oral and maxillofacial radiology Chapter 5. In: "Diagnosis and treatment in Prosthodontics." Eds, Lamey WR, Salinas TJ, Carr AB, Kola S, Eckert SE, 2nd edition Quintessence. 2011 pp 51-70. ISBN: 978-0-86715-4047.

2. **David MacDonald**, William Scarfe, Christos Angelopoulos. "Cone Beam Computed Tomography and Maxillofacial Diagnosis.". In: "Maxillofacial Cone Beam Computed Tomography" Eds, Scarfe & Angelopoulos. Springer.Nature 2018 pp 469-551. Print ISBN 978-3-319-62059-6 & eBook ISBN 978-3-319-62061-9.
3. Keith Horner and David **MacDonald**. "Conventional radiography in TMJ imaging" (Chapter 5) in 'Imaging of the Temporomandibular Joint.'" Eds, Różyło-Kalinowska & Orhan. Springer Nature 2018 pp 79-90. Print ISBN 978-3-319-99467-3 & Online ISBN 978-3-319-99468-0
4. David **MacDonald** and Keith Horner. "Conventional radiographic findings of TMJ disorders" (Chapter 6) in ".Imaging of the Temporomandibular Joint" Eds, Różyło- Kalinowska & Orhan. Springer Nature 2018. pp 91-114. Print ISBN 978-3-319- 99467-3 & Online ISBN 978-3-319-99468-0

(c) **Contribution**

1. Langlais RP, Langland OE, Nortjé CJ. Diagnostic imaging of the jaws. Williams & Wilkins, Philadelphia,1995, page 431.

(d) **Manuals produced in BERGEN**

1. '**En introduksjon til oral røntgenologisk diagnostisering for tannpleier.**' A 86 page manual to accompany the teaching of radiology to dental hygiene students. It covered the principles of radiology, radiation physics and hygiene, radiographic techniques and film faults. 2001.
2. '**Diagnostic Radiology in Dentistry**' is the master text from which half of the preceding text was derived. It was an expanded version of the "Oral radiology" handbook I wrote for the final year Edinburgh dental students. It was written to complement the teaching and seminar work and recommended text for the final 3 of the 5-year Bergen dental course. This manual covered radiography and radiology, which covered image production, radiography, radiological interpretation and radiation protection. 2001.
3. '**Basic principles of computed tomography**' for the specialist training program in oral and maxillofacial radiology in Bergen. 2001
4. '**Beskrivelse**' (Radiology report) Standard Bokmål Norwegian phrases used for reporting radiographs in oral and maxillofacial radiology. It was produced as an introduction to oral radiology reporting for new radiology staff. 2001.
5. '**Evidence based surgical endodontics**' for all residents in response to inappropriate requests for radiographs. This document was effective in putting an end to that practice. 2000.
6. '**Røntgenkurs for Tannlegesekretærer fra Haugesund**' for Senior dental nurses Haugesund, Norway. A 40 slide PowerPoint manual (in Bokmål Norwegian) which covered assessment of unerupted third molar (Wisdom) teeth, radiation hygiene, paralleling technique and panoramic radiography. 2002.

16. WORK IN PROGRESS

1. **New Learning Environment.** The foundation course for the new radiology program has been operating successfully for 3 years as the radiology course for the first-year postgraduate dental specialty residents. The recent publication of my textbook and its use as the course textbook has created the opportunity to redevelop this course to include a more student-centered approach. To this end I have consulted with a pedagogist. I presented our work in June 2013 to my international OMFR colleagues in Bergen and it was very well received. I will continue to work closely with such educational specialists to improve my teaching.
My persistent petitions over the last 13 years (since I took up post at UBC) that the introduction to diagnostic OMFR in 3rd year should be supported by the introduction the histopathology of the most frequent and/or important lesions prior to OMFR teaching is being achieved. This is now taking place in the 2nd year of the new DMD curriculum.
2. **Optimising the use of the CBCTs** by students (DMD and specialty graduate) and faculty and by the community. (Publications 46, 81, 88, 93 and 98.)
 - a. Facilitated upgrade of the existing Carestream (formerly Kodak) 9000 to a 9300 late 2012 and early 2013 and then to a Morita Accuitomo 170 in 2021. A retrospective study on its use has already been partly reported (Publications 69, 77, 83 and 94; Abstracts 20. and 22 to 24, 29, 30.).
 - b. Publicised the correct indications for CBCT use by provincial and national dental journals and by oral presentations to a range of dental and medical organisations in Vancouver.
 - c. Advising College of Dental Surgeons of British Columbia, the provincial dental regulatory in the development of their regulations for the use of CBCT, particularly by general dental practitioners.
3. **Wiley-Blackwell** has published the second edition of my textbook. As this will include not only CBCT of important lesions, but also much more on functional imaging (PET scans and Nuclear Medicine). These innovations address not only the needs dentist and dental specialists, but also the needs of medical colleagues who also work in the area of the face and jaws. Preparation of the 2nd edition revealed further areas that require address, such as malignancies; already resulted in publications 91 & 95.
4. **Barrett's Esophagus.** As a member of the BOB CAT (**B**enign **B**arrett's and **C**Ancer Taskforce) Consortium, due to my expertise in systematic reviews I have contributed to the development of the consensus recommendations for the management of this common premalignant condition affecting the oesophagus. (Publications 70, 71, 78, 79 and 97)

17 SUMMARY OF CAREER

Following completion of a UK dental fellowship (which examined a wide range of dental subjects to a higher level), I pursued a career in clinical diagnosis. My MSc in Oral Pathology furnished me with a firm histopathological base upon which I based my subsequent career as a radiologist. In addition, my extensive postgraduate training and experience revealed that the vast majority of clinical diagnoses are resolved by clinical and radiological criteria alone. All these together directed me to a career in radiology.

Many radiologists pursuing clinical research in radiology will start with a case series. When formulating the discussion, I discovered that many published reports used different methodologies and lesion classifications. At that time I discovered systematic review, the newly developed medical strategy for analyzing the literature in a systematic and transparent way. Nevertheless, it was clear that a new unique approach to lesions of the jaws was required. My earlier focus on consecutive case series of patients presenting to dental hospitals and clinics in the UK and Hong Kong revealed that lesions and features observed in the jaws can display significant differences depending on ethnicity. A unique feature of my systematic reviews was that a systematic review for each particular lesion was based upon my detailed analysis of a continuous case series of a specific ethnic group, the ethnic Chinese (Han) of Hong Kong. The result was that the findings of my systematic reviews of the most frequent and/or important lesions were presented in four global ethnic groups, displaying some significant differences in clinical and radiological presentations between them. I, therefore, extended and modified the traditional systematic review and created my unique form of systematic review as a research tool in the diagnostic radiology of the jaws.

My approach to systematic review for the benefit of radiologists and other clinicians has been successful. Twelve of them have been cited over 50 times. This is evidence that my systematic reviews are highly valued by my colleagues.

These systematic reviews formed the backbone of my successful textbook, the 1st published by Wiley-Blackwell in 2011. It was completely up-to-date, cross-referenced and evidence based throughout with extensive use of decision trees and tables to assist the busy clinician. Other unique features are the scale of severity of clinical outcomes of the lesions affecting the jaws, inspired by the Richter scale and the different prevalence of clinical and radiological features affecting the 4 global groups of humanity. Many of the features differed significantly between these groups. This book received 3 outstanding reviews. Wiley invited me to write a second edition this time directed towards medical radiologists in addition to dental and maxillofacial clinicians. This was published in 2020.

Although digital radiography is widespread in dentistry, two key components have been neglected, optimal display and infection control. When planning the set-up of a completely digital facility, I ensured that these issues were taken into account and have established a digital radiological facility that could very well be unique.

I have been proactive and creative in both developing unique and rigorous research to enhance our knowledge and the training of dental professionals in an optimal practice of radiography and radiology of the jaws. In addition to the diagnosis of important lesions and infection control another such area has been the diagnosis and management of calcified carotid artery atheroma as it presents on panoramic radiographs.

My immediate goal is to enhance the proper use of the CBCT, locally, nationally and globally. One important area neglected in the literature is its application to the diagnosis the most frequent and/or important lesions of the jaws. The recently published update displayed their proper use in diagnosis and further evaluation of fibro-osseous lesions of the jaws. In the same medical radiology journal I published on the manifestations on CBCT of the most

frequent and or important lesions presenting as radiolucencies on conventional radiography. This was extended to malignant lesions.(Publications

I have participated in the largest systematic review so far published. “BOB CAT, a Large-Scale Review and Delphi Consensus for Management of Barrett’s Esophagus With No Dysplasia, Indefinite for, or Low-Grade Dysplasia.” (Publication 70). Other Barrett’s Esophagus publications are (Publications 71, 78, 79 and 97). In addition I have participated as the radiology lead in the largest study so far published concerning the CIHR-funded “Oral Manifestations of Scleroderma.” (Publications 72 and 76)

My decades long striving to make the difficult subject of OMFR evidence-based and also more easily comprehensible by a wide range of students so that their approach to diagnosis in the community will be more accurate was rewarded in 2017 with the UBC Dentistry DMD Full Time Faculty Teaching Award.

International recognition is represented by appointment as the Regional Director (North America): International Association of Dento-Maxillo-Facial Radiology and as lead chapter author of ‘Diagnostic radiology’ in Springer Nature’s 2018 edition of ‘Maxillofacial cone-beam computed tomography.’ Springer Nature in late 2018 also published ‘Imaging of the temporomandibular joint’ to which I co-contributed two chapters. I am also Associate Editor of one of the three international OMFR journals (Oral Radiology, *Springer*) and on the editorial boards of the other two (OOOO, *Elsevier* & *Dentomaxillofacial Radiology, British Institute of Radiology*).

Work from one of my MSc student, which first applied the ‘Hierarchy of Efficacy,’ widely used in medical radiology, to higher levels of efficacy in the use CBCT in endodontics, was published as Publication 93.

As Regional Director (IADMFR) I was a leader in the development of its ‘Educational Track’ for the training of OMFRs in countries which do not yet have a formal training program (Much of the world outside North America, UK, Scandinavia & Japan.). I was the inaugural presenter of the British Institute of Radiology hosted webinar in June 2021.

At the beginning of the COVID-19 pandemic I realised that my long-standing fears that such a pandemic would sharply impact the use of intra-oral digital radiography, due to infection control being its Achille’s heel. My response to the SARS pandemic of 2003/04 led to Publication 61, which upheld the ‘bagging’ of PSPs as effective. Early in 2020 I canvassed my international colleagues, leading to me becoming lead author of the AAOMR’s task Force on COVID-19 and OMR Imaging, which was published as Publication 94.