

# Oral wellness in cancer: The emergence of onco dentists

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ABSTRACT

"Onco dentist" refers to a dentist who specializes in providing dental care to patients with cancer. This specialization involves understanding the unique oral health challenges that cancer patients may face due to the disease itself or its treatment, such as chemotherapy, radiation therapy, or surgery. Onco dentists work closely with oncologists and other healthcare professionals to manage and prevent oral complications associated with cancer and its therapies, including mucositis, xerostomia (dry mouth), dental caries, periodontal disease, and oral infections. They play a crucial role in maintaining the oral health and quality of life of cancer patients throughout their treatment journey.

**Keywords:** cancer treatment, holistic care, integrated care, onco dentistry, oral health

## INTRODUCTION

The field of onco dentistry has emerged as a vital component of comprehensive cancer care, focusing on oral wellness in patients undergoing cancer treatment. This abstract explores the role of onco dentists in addressing the unique oral health challenges faced by cancer patients, including the impact of cancer therapies on oral tissues and the importance of proactive oral care in improving treatment outcomes and quality of life [1].

Cancer treatment, such as chemotherapy, radiation therapy, and targeted therapies, can have profound effects on oral health, leading to complications such as mucositis, xerostomia, dental caries, periodontal disease, and oral infections. These oral complications not only cause discomfort and pain but can also interfere with cancer treatment, nutrition, speech, and overall well-being. Onco dentists specialize in assessing and managing these oral complications, providing preventive care, supportive therapies, and treatment interventions tailored to the specific needs of cancer patients. Their expertise includes oral health assessments, risk assessments for dental complications, oral hygiene education, nutritional counselling, saliva management strategies, fluoride applications, and management of oral infections [2-4].

Moreover, onco dentists collaborate closely with oncologists, medical teams, and other healthcare professionals to coordinate integrated care plans that address both the cancer and its associated oral health challenges. This multidisciplinary approach ensures comprehensive cancer care that considers the holistic well-being of patients.

The emergence of onco dentistry reflects a paradigm shift towards recognizing the integral role of oral health in cancer treatment and survivorship. By prioritizing oral wellness, onco dentists contribute to improved treatment outcomes, reduced treatment interruptions, enhanced quality of life, and better overall patient experiences during the cancer journey [5].

## LITERATURE REVIEW

### The roles of oncodentist on day to day practice

The day-to-day practice of an onco dentist involves a wide range of roles and responsibilities aimed at providing comprehensive oral health care to cancer patients. These roles encompass preventive measures, treatment interventions, patient education, interdisciplinary collaboration, and continuous monitoring to

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optimize oral health outcomes and enhance the quality of life for cancer patients. Here's an overview of the key roles of an onco dentist in their day-to-day practice:

### Preventive care

Onco dentists emphasize the importance of preventive oral care to minimize the risk of treatment-related complications and maintain oral health during cancer therapy. They conduct regular oral health assessments, monitor for early signs of oral complications, and implement preventive measures such as fluoride treatments, oral hygiene instructions, and dietary counselling to promote oral wellness.

### Risk assessment and treatment planning

Onco dentists assess patient's oral health status, identify potential risk factors for oral complications, and develop personalized treatment plans tailored to each patient's needs and treatment regimen. They consider factors such as cancer type, treatment modalities, systemic health status, dental history, and patient preferences in treatment decision-making.

### Management of oral complications

Onco dentists play a crucial role in managing treatment-related oral complications such as mucositis, xerostomia, dental caries, periodontal disease, and oral infections. They employ supportive therapies, topical agents, pain management strategies, and dental interventions to alleviate symptoms, promote healing, and minimize treatment interruptions.

### Collaboration with oncology teams

Onco dentists collaborate closely with oncologists, medical teams, radiation oncologists, nutritionists, and other specialists involved in cancer care to coordinate integrated treatment plans. They participate in interdisciplinary meetings, discuss patient cases, share treatment updates, and align oral health care goals with overall cancer treatment objectives.

### Dental procedures and interventions

Onco dentists perform various dental procedures and interventions as part of their practice, including dental cleanings, restorations, extractions, oral surgeries, periodontal treatments, and prosthetic reconstructions. They address dental emergencies, manage oral pain, and restore oral function to improve patients' oral health and quality of life.

### Patient education and empowerment

Onco dentists educate patients and caregivers about the importance of oral health in cancer treatment, potential oral complications, preventive measures, self-care practices, and treatment options. They empower patients to actively participate in their oral care, adhere to oral hygiene recommendations, recognize early signs of complications, and seek timely dental attention when needed [6].

### Psychosocial support

Onco dentists provide psychosocial support to patients by addressing their concerns, fears, anxieties, and emotional challenges related to oral health care and cancer treatment. They

offer empathetic listening, clear communication, reassurance, and guidance to help patients cope with oral health issues and maintain a positive outlook during their cancer journey.

### Continued monitoring and follow-Up

Onco dentists conduct regular follow-up appointments, monitor patients' oral health status, evaluate treatment outcomes, and adjust care plans as needed based on evolving clinical conditions. They track changes in oral health, address ongoing concerns, provide long-term survivorship care, and promote continuity of oral health management beyond active cancer treatment.

### Oncodentists and the challenges faced

Onco dentists, while providing specialized care for cancer patients' oral health needs, encounter several challenges unique to their profession. These challenges are inherent in the complex nature of cancer treatment, the demands of interdisciplinary collaboration, and the continuous evolution of dental and oncological practices [7]. Here are some key challenges faced by onco dentists:

#### Specialized knowledge and training

Onco dentistry requires a deep understanding of both oncology and dentistry. Onco dentists must stay updated with the latest advancements in cancer treatments, oral health care protocols for cancer patients, and interdisciplinary management strategies. Continuous learning and professional development are essential to maintain expertise in this rapidly evolving field.

#### Interdisciplinary collaboration

Onco dentists work closely with oncologists, medical teams, radiation oncologists, nutritionists, mental health professionals, and other specialists involved in cancer care. Effective communication, coordination, and collaboration across disciplines are essential for providing comprehensive and integrated care to cancer patients. However, navigating interdisciplinary dynamics and aligning treatment plans can be challenging due to varying priorities, perspectives, and communication styles among team members.

#### Complex treatment planning

Developing personalized treatment plans for cancer patients with oral health needs requires careful consideration of cancer type, stage, treatment modalities, systemic health status, dental history, and patient preferences. Onco dentists must assess risks, benefits, and potential complications of dental interventions in the context of cancer treatment, balancing the need for oral health optimization with minimizing treatment-related delays or complications [8].

#### Managing oral complications

Cancer treatments, such as chemotherapy and radiation therapy, can lead to oral complications such as mucositis, xerostomia, dental caries, and periodontal disease. Onco dentists are tasked with preventing, monitoring, and managing these oral complications through preventive measures, supportive therapies, and timely interventions. However, addressing treatment-related side effects while optimizing oral health and minimizing patient discomfort can be challenging.

## Technology and innovation

Onco dentists benefit from advancements in dental technology, imaging techniques, oral care products, and treatment modalities that enhance patient care and treatment outcomes. However, staying abreast of technological advancements, integrating new technologies into practice, and ensuring patient access to innovative treatments require ongoing investment in education, training, and resources.

## Ethical and psychosocial considerations

Onco dentists face ethical dilemmas related to informed consent, treatment decisions, patient confidentiality, end-of-life care discussions, and balancing the best interests of patients with complex medical and dental needs. They also address psychosocial factors such as patient anxiety, fear, coping challenges, and communication barriers that impact treatment adherence, oral hygiene practices, and overall well-being.

## Workload and time management

Providing comprehensive onco dentistry services, including consultations, assessments, treatment planning, procedures, follow-ups, and patient education, requires efficient time management and prioritization. Onco dentists often manage a high volume of cases, complex patient needs, and competing demands, necessitating effective organizational skills, teamwork, and support staff coordination.

## Patient advocacy and education

Onco dentists advocate for optimal oral health care for cancer patients, raise awareness about the importance of oral health in cancer treatment, and educate patients, caregivers, and healthcare providers about preventive measures, treatment options, and supportive therapies. However, advocating for patient-centered care, promoting adherence to oral hygiene recommendations, and addressing patient misconceptions or fears require empathy, communication skills, and cultural sensitivity.

## Artificial intelligence guidance to the onco dentist

**Risk Prediction for Oral Complications:** AI algorithms can analyze patient-specific factors such as cancer type, treatment regimens, systemic health status, and dental history to predict the risk of oral complications during cancer therapy. For example, AI can assess the likelihood of developing mucositis, xerostomia, or dental infections based on treatment protocols and patient characteristics, enabling onco dentists to implement preventive measures proactively [9-11].

## Treatment planning optimization

AI-driven decision support tools tailored for onco dentistry can suggest optimal treatment plans considering the unique challenges of cancer patients. These tools can recommend suitable interventions, dosage adjustments for medications affecting oral health, and scheduling strategies to minimize treatment-related oral complications while ensuring effective cancer therapy.

## Image analysis for oral health monitoring

AI-based image analysis systems can assist onco dentists in

monitoring oral health changes during cancer treatment. By analyzing intraoral images, radiographs, and scans, AI can detect early signs of mucositis, oral lesions, or dental caries, facilitating timely interventions and treatment adjustments to maintain oral wellness.

## Patient-specific education and support

AI-powered patient education platforms can deliver personalized information and guidance to cancer patients regarding oral hygiene, symptom management, and self-care practices. Onco dentists can utilize these tools to educate patients about potential oral complications, encourage adherence to oral care regimens, and address patient concerns effectively.

## Telehealth and remote monitoring solutions

AI-enhanced telehealth platforms can enable onco dentists to conduct virtual consultations, monitor patients' oral health remotely, and provide ongoing support during cancer treatment. AI algorithms can analyze patient-reported symptoms, oral health data, and treatment responses to identify trends, assess treatment efficacy, and intervene promptly when necessary.

## Clinical research and evidence-based practices

AI-driven analytics can support onco dentists in conducting clinical research, analyzing patient outcomes, and identifying best practices for oral health management in cancer patients. By leveraging AI for data analysis, onco dentists can contribute to evidence-based guidelines, treatment protocols, and quality improvement initiatives in onco dentistry [12].

## Real-time decision support

AI-powered clinical decision support systems can offer real-time guidance to onco dentists during patient consultations, treatment planning, and intervention decisions. These systems can provide alerts for potential drug interactions, suggest alternative treatment options, and incorporate the latest research findings and clinical guidelines into decision-making processes [13].

## Oncodentist as one of the successful field in dentistry

Choosing to become an onco dentist can lead to a successful and fulfilling career path characterized by several key factors:

As an onco dentist, you gain specialized knowledge and skills in oral oncology, cancer treatment-related oral health care, and management of oral complications. This expertise positions you as a valuable asset in the healthcare team, allowing you to provide high-quality, specialized care to cancer patients. Onco dentists play a critical role in improving the quality of life for cancer patients by addressing their unique oral health needs. Your interventions can alleviate pain, prevent complications, enhance treatment outcomes, and contribute to overall well-being, making a meaningful difference in patient's lives [14].

Success as an onco dentist hinges on effective collaboration with oncologists, medical teams, and other healthcare professionals. By working collaboratively, you can develop integrated treatment plans, coordinate care, and optimize patient outcomes through a multidisciplinary approach. The field of onco dentistry is dynamic

and constantly evolving with advancements in cancer treatments, oral health technologies, and research findings. Embracing lifelong learning, staying updated with the latest developments, and incorporating innovative practices into your care can lead to continued success and professional growth.

Successful onco dentists prioritize patient-centered care, tailoring treatments to individual patient needs, preferences, and goals. By building trust, fostering open communication, and providing compassionate support, you can create positive patient experiences and earn patient satisfaction and trust. Engaging in clinical research, contributing to scientific knowledge, and advocating for advancements in onco dentistry can enhance your professional reputation and contribute to the advancement of the field. By staying involved in research initiatives, publishing findings, and sharing insights, you can make a broader impact on cancer care and oral health [15].

Successful onco dentists often take on leadership roles in professional organizations, academic institutions, and healthcare

settings. By advocating for patient needs, promoting best practices, and influencing policy decisions, you can drive positive change, improve access to care, and shape the future of onco dentistry.

## CONCLUSION

Choosing a career as an onco dentist offers a unique and rewarding path characterized by specialized expertise, impactful patient care, interdisciplinary collaboration, continuous learning, innovation, and advocacy. By focusing on patient-centered care, addressing the complex oral health needs of cancer patients, and working collaboratively with healthcare teams, onco dentists play a crucial role in improving treatment outcomes, enhancing quality of life, and making a meaningful difference in patient's lives. Embracing lifelong learning, contributing to research and advancements in the field, and advocating for patient needs can lead to personal fulfillment, professional success, and a lasting legacy of excellence in onco dentistry.

REFERENCES	<ol style="list-style-type: none"> <li>1. Bledsaw K, Prudowsky ZD, Yang E, Harriehausen CX, Robins J, et al. A Novel Oncodental Collaborative Team: Integrating Expertise for Central Line-Associated Bloodstream Infection Prevention in Pediatric Oncology Patients. <i>JCO Oncol Pract.</i> 2023;19:25-32.</li> <li>2. Harris JA, Ottaviani G, Treister NS, Hanna GJ. An Overview of Clinical Oncology and Impact on Oral Health. <i>Front Oral Health.</i> 2022;3:874332.</li> <li>3. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. <i>CA Cancer J Clin.</i> 2021;71:209–249.</li> <li>4. Petrovic I, Rosen EB, Matros E, Huryh JM, Shah JP. Oral rehabilitation of the cancer patient: a formidable challenge. <i>J Surg Oncol.</i> 2018;117:1729–1735.</li> <li>5. Jaquiere C, Rohner D, Kunz C, Bucher P, Peters F, et al. Reconstruction of maxillary and mandibular defects using prefabricated microvascular fibular grafts and osseointegrated dental implants – a prospective study. <i>Clin Oral Implants Res.</i> 2004;15:598–606.</li> <li>6. Farquhar DR, Divaris K, Mazul AL, Weissler MC, Zevallos JP, et al. Poor oral health affects survival in head and neck cancer. <i>Oral Oncol.</i> 2017;73:111-117.</li> <li>7. Meurman JH, Gronroos L. Oral and dental health care of oral cancer patients: hyposalivation, caries and infections. <i>Oral Oncol.</i> 2010;46:464-467.</li> </ol>	<ol style="list-style-type: none"> <li>8. Jones DL, Rankin KV. Management of the oral sequelae of cancer therapy. <i>Tex Dent J.</i> 2012;129:461-468.</li> <li>9. Huber MA, Terezhalmay GT. The head and neck radiation oncology patient. <i>Quintessence Int.</i> 2003;34:693-717.</li> <li>10. Pavlatos J, Gilliam KK. Oral care protocols for patients undergoing cancer therapy. <i>Gen Dent.</i> 2008;56:464-478.</li> <li>11. Kim SY, Lim SA. Factors Associated with Unmet Dental Care Needs among Korean Adult Cancer Survivors: Cross-Sectional Analysis of the 2016-2018 KNHANES. <i>Healthcare (Basel).</i> 2022;10:1563.</li> <li>12. Epstein JB, Guneri P, Barasch A. Appropriate and necessary oral care for people with cancer: guidance to obtain the right oral and dental care at the right time. <i>Support Care Cancer.</i> 2014;22:1981-1988.</li> <li>13. Beacher NG, Sweeney MP. The dental management of a mouth cancer patient. <i>Br Dent J.</i> 2018;225:855-864.</li> <li>14. Sherrell W, Desai B, Sollecito TP. Dental Considerations in Patients with Oral Mucosal Diseases. <i>Dermatol Clin.</i> 2020;38:535-541.</li> <li>15. Kochhar AS, Bhasin R, Kochhar GK, Dadlani H. Provision of continuous dental care for oral oncology patients during &amp; after COVID-19 pandemic. <i>Oral Oncol.</i> 2020;106:104785.</li> </ol>
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