Cancer Treatments & Oral Health

Making the Mouth-Body Connection in Cancer Care

Jill Meyer-Lippert, RDH
What I thought would happen

What really happened
Our Promise...

Side Effect Support LLC is dedicated to improving the oral health and overall wellbeing of those fighting cancer. We are committed to assisting oncology patients and their providers.

Learn More
Take home more resource

Keep your cell phones ready!
Objectives

- Identify oral-systemic links with various types of cancer
- Describe oral side effects of cancer treatments and how they may affect quality of life and tx outcomes.
- Discuss preventive approaches to avoid and manage short-term and long-term oral side effects.
- Develop strategies for the medical team and dental team to work together to improve patient care.
Oral hygiene program reduces infections among young cancer patients at Johns Hopkins

- Johns Hopkins All Children's Hospital
- Implemented an oral care bundle in September 2016
- Brush teeth and lip balm twice a day, mouth rinse three times a day
- Compliance rate is 60%
- 50% reduction in mucosal barrier infections

Using oral care to prevent nonventilator hospital-acquired pneumonia

October 2016 – December 2017

- Non-ventilator, hospital-acquired pneumonia cases fell 92% (avoided 60 NV-HAP cases)
- Saved more than $2.4 million
- With the $117,600 expenditure for our new, higher-quality oral-care supplies, the return on investment (ROI) was $2.28 million.

Oral–Systemic Links

Oral Microbiome Linked to Lung Cancer Risk

Oral Microflora and Its Potential Carcinogenic Effect on Oral Squamous Cell Carcinoma: A Systematic Review and Meta-Analysis
How do oral bacteria make colorectal cancer more aggressive?

The common oral bacterium F. nucleatum hastens the aggressiveness of colorectal cancer by promoting the growth of cells that are already cancerous.

Mouth bacteria linked to esophageal cancer

An analysis of microbes sampled from the mouths of more than 120,000 people has found that two types of bacteria that lead to gum disease are also linked to higher risk of esophageal cancer.

They found that the presence of *Tannerella forsythia* was tied to higher risk of EAC, and that “abundance” of *Porphyromonas gingivalis* was tied to higher risk of ESCC. In contrast, they also identified two types of bacteria — *Streptococcus* and *Neisseria* — that were linked to a lower risk of esophageal cancer.

https://www.medicalnewstoday.com/articles/233308#some-bacteria-nurse-esophageal-cancer-risk

Oral Bacteria Linked With Pancreatic Cancer

April 19, 2016

“We found that *Porphyromonas gingivalis* and *Aggregatibacter actinomycetemcomitans*, two species of bacteria linked to periodontal disease, were associated with a more than 50% increased risk of pancreatic cancer,” said Jiyoung Ahn, PhD, associate professor of population health and associate director of population sciences at the Laura and Isaac Perlmutter Cancer Center at NYU Langone Medical Center in New York, in a press release. “These data do not show a causal relationship, but they are the first steps in understanding a potential new risk factor for pancreatic cancer, which is vital if we are to develop new approaches for pancreatic cancer prevention and early detection in the future.”
Early Intervention and Patient Education are Key

Anticipate potential problems and start treating them before they have a chance to start!
Oral Health Risks

- Hyposalivation/Xerostomia
- Oral Mucositis/Stomatitis
- Caries
- Periodontal Disease
- Enamel Erosion
- Infections (fungal and bacterial)
- Dysgeusia (taste changes)
- Dysphasia (trouble swallowing)
- Osteonecrosis of the Jaw from Radiation to the Head & Neck or from certain medications
- Graft vs. Host Disease after bone marrow transplant
- Growth & development issues with children
Gather/share important information **PRIOR** to dental visit
What The Dental Team Can Do Prior To Treatments

- Accommodate patient by seeing ASAP
- Thorough records (specific to tx risks)
  - Determine immediate needs and documentation for damage that may occur
- Basic level of oral health

In January 2023, CPT code 0792T was published for Silver Diamine Fluoride (SDF) treatment. This Category III code will allow medical offices to track and bill for SDF treatments in medical practices. This new code went into effect in July of 2023.
What The Dental Team Can Do Prior To Treatments

• Treat side effects **BEFORE** they start
• Provide information and resources
  ○ Informing without frightening
• Keep lines of communication open between Oncology team and Dental team

Professional Resources

Download/Print the Side Effect Support Patient Brochures

English Adult Version:
Dry Mouth Patient Education
More than a comfort issue

- Tissue lubrication
- Wound Healing
- Infection prevention
- Buffers oral pH
- Remineralized teeth
- First step in food digestion
- Plays a role in taste
Dry Mouth - Simple Tips

- Stay hydrated
- Diet changes
  - Avoid caffeine & alcohol
  - Avoid dry, crusty foods
  - Use sauces & gravies
- Breathe through nose
- Use humidifier
Rx and OTC Dry Mouth products

- No “one size fits all”
- Think long-term effects vs. just masking symptoms
Oral pH and oral diseases

“Critical pH”

Demineralization/Remineralization

1 2 3 4 5 6 7 8 9 10 11 12 13 14
Critical pH


“...the critical pH below which enamel dissolves is not constant but rather is inversely proportional to the concentrations of calcium and phosphate in the saliva and plaque fluid”
Florida study evaluates acidity levels in oral lozenges


• DenTek OraMoist, pH 2.9
• Cotton Mouth Lozenges, pH 3.1
• MedActive Oral Relief Lozenges, pH 3.2
• Hager Pharma Dry Mouth Drops, pH 4.44
• Rite Aid Dry Mouth Discs, pH 5.1
• CVS Dry Mouth Discs, pH 5.3
• ACT Dry Mouth Lozenges, pH 5.7
• TheraBreath Dry Mouth Lozenges, pH 5.82
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Image credit for product pH list: CariFree
The Scoop On Sugars

Xylitol & Erythritol

- Improve oral microbiome
- Buffers oral pH
- Exposure/dosage
- Introduce slowly into diet
- Safe for diabetics
- Keep away from pets
Consider Xylitol and Erythritol for dry mouth and improving the microbiome.
Oral Mucositis

Treatment and prevention are primarily aimed at reducing modifiable RISK FACTORS:

- Dry Mouth
- Existing Dental Issues
- Poor Oral Hygiene
“Our study suggests that the oral microbiome plays an important role in the longitudinal patterns of OM and the potential interaction between the oral microenvironment and the development of OM in patients with HNC,”

American Academy of Nursing - Choosing Wisely

“Don’t use mixed medication mouthwash, commonly termed “magic mouthwash, to prevent or manage cancer treatment-induced oral mucositis.”

http://www.aannet.org/initiatives/choosing-wisely/choosing-wisely---magic-mouthwash
MOUTH RINSE BLAND RECIPE

1 level teaspoon (5 mL) of salt
1 level teaspoon (5 mL) of baking soda
4 cups (1 L) of water

HOW TO MAKE YOUR MOUTH RINSE

1. Mix 1 teaspoon of baking soda and 1 teaspoon of salt with 4 cups of water.
2. Put the mouthwash in a container with a lid.
3. The mouthwash should be kept at room temperature.
4. Discard at the end of each day and make a new batch.

HOW TO USE YOUR MOUTH RINSE

- Shake well before using.
- Rinse and gargle with one tablespoon (15 mL) and then spit out.
- Repeat 2 or 3 times at each use.
- Use mouthwash every 2 hours during the day.

ISOO How To Care For Your Mouth During Active Chemotherapy
https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:0f0c7317-0815-34d2-9419-622ba947727a
Toothbrush Basics

- Size/shape of brush
- Softness of bristles
- When to replace
- Protecting from germs
  - How is brush stored
  - Sharing is not caring
Detergents

Sodium Lauryl Sulfate (SLS)
• Known to penetrate skin and cause cutaneous irritation

Cocamidopropyl betaine
• Allergy to CAPB is most commonly seen in a head and neck distribution, although other patterns have been identified.”
  American Journal of Contact Dermatitis 2001
• American Contact Dermatitis Society Allergen of the Year 2004
Drying & Irritating Ingredients

- Alcohol
- Phenol
- Whitening
- Tartar Control
Consider flavors

- Mint/Cinnamon
- Strength of flavoring
- Unflavored
- Children's flavors
Cleaning between teeth

- Proper technique is a must!
- Consider blood counts

Images courtesy of Waterpik and Sunstar Butler
Fluoride

- Topical vs. systemic
- OTC vs Rx
- Tray fabrication
- Tolerability
- Recommended vs. reality
- Check for potentially irritating detergents
Additional considerations

- 10% Nanohydroxyapatite
- Prebiotics
  - Arginine
- Probiotics
“my hair will grow back; my teeth won’t”