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# DENTAL CONSIDERATIONS WITH HEAD & NECK CANCER CARE

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Patient Education Symposium

# FINANCIAL/SPECIAL INTERESTS DISCLOSURES

None



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TUMOR BOARD

appointments

CT

RADIATION

Speech Pathology

SURGERY

CONSULT

work

insurance

MEDICATION

overwhelmed

MRI

PET SCAN

Social Worker

CHEMOTHERAPY

Physical Therapy

Nutrition

Dentistry



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## AGENDA

- Why are we talking about my mouth?
- Oral side effects of cancer care
- Dental treatment recommendations

Oral diseases  
3 474 M



Mental  
disorders  
967 M

Cardiovascular  
diseases  
522 M



Diabetes mellitus  
(type 1 and type 2)  
458 M



Chronic respiratory  
diseases  
453 M



Cancers  
(all malignant  
neoplasms)  
86 M



WHY ARE WE TALKING ABOUT MY MOUTH?

Standard  
of Living

Quality of  
Life

## WHAT DOES DENTAL HAVE TO DO WITH IT

- Feel Better
- Save Teeth and Bones
- Fight Cancer

WHAT DOES  
DENTAL HAVE  
TO DO WITH IT

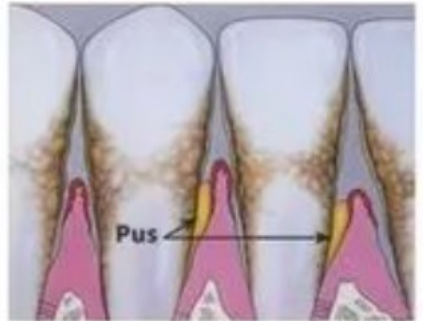
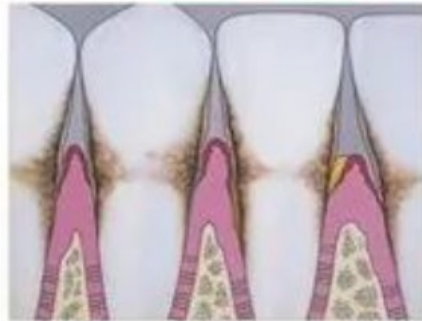
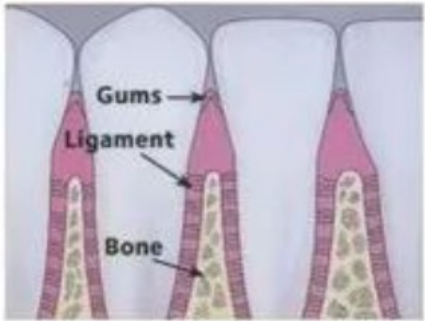
- More than 90% of adults have had a cavity
- One quarter of adults aged 20-64 have untreated caries
- 47.2% of adults aged 30 years and older have some form of gum disease
- **Head and neck cancer therapy increases the chances of acquiring cavities and gum disease. It also limits what dental treatment can be rendered without potential significant side effects.**

# YOUR TEETH





# GUM DISEASE



## NORMAL, HEALTHY GUMS

Healthy gums, periodontal ligament and bone anchor teeth firmly in place.

## GINGIVITIS

The bacteria in plaque irritate the gums, making them red, tender swollen and likely to bleed. If plaque is not removed, it can harden into calculus (tartar).

## PERIODONTITIS

In time, as plaque and calculus build up along the gum line, bacteria in the plaque begin to break down the connection between the supporting soft tissues and the tooth. As the disease progresses, bacteria begin to attack the bone tissue as well.

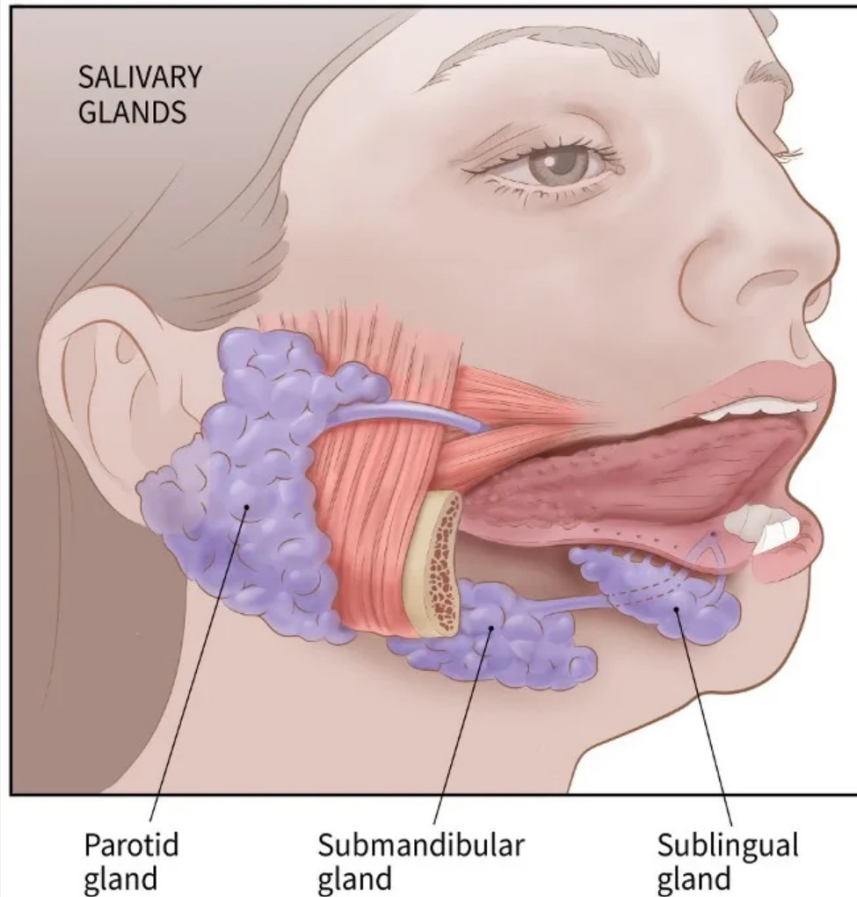
## ADVANCED PERIODONTITIS

The gums can pull away from the teeth as more bone and the periodontal ligament are destroyed. Teeth may become loose and need to be extracted.

## COMMON SIDE EFFECTS OF CANCER CARE

Tissue	Effect
Effect on Salivary Glands	Xerostomia Taste change Caries Infection Malnutrition
Effect on Teeth	Increased caries risk Periodontitis
Effect on Mucosa	Mucositis (direct) Opportunistic infection (indirect)
Effect on Masticatory Muscles	Radiation Fibrosis Trismus Swallowing Difficulty
Effect on Bone	Osteoradionecrosis

# XEROSTOMIA OR DRY MOUTH



Saliva is protective of the teeth and helps reduce bacterial biofilm from forming

Dry mouth affects approximately 80% of patients receiving radiation therapy to head and neck

# XEROSTOMIA OR DRY MOUTH

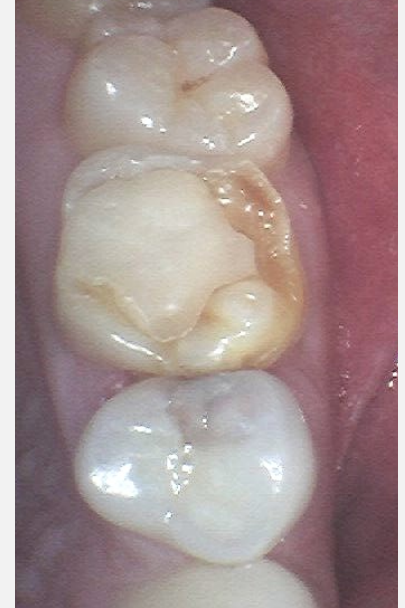
1. Increase oral moistening
2. Avoid alcohol and phenol containing products
3. Systemic medications can be considered





# CARIES OR “CAVITIES”

Caries is a gradual decay or breakdown of tooth hard tissues by bacteria that lead to permanent cavities in the teeth.



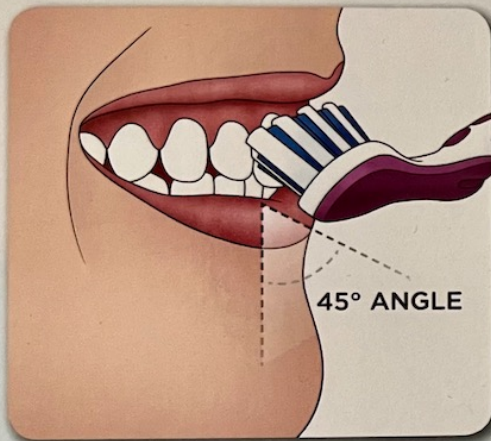
# CARIES OR “CAVITIES”

1. Professional dental exams and cleanings every 3 months, until mutually agreed upon with your dentist
2. Complete recommended dental treatment
3. Brush at least twice daily with soft toothbrush and fluoride toothpaste
4. Floss daily

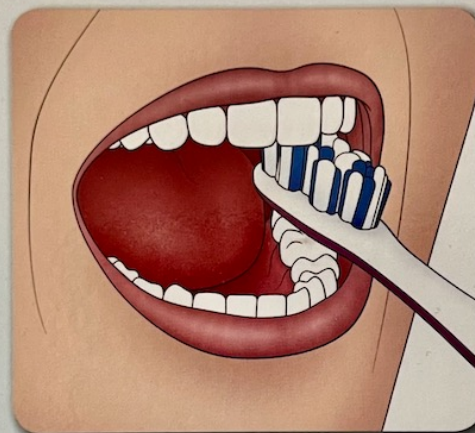
# BRUSHING TECHNIQUE

## The Essentials of Brushing

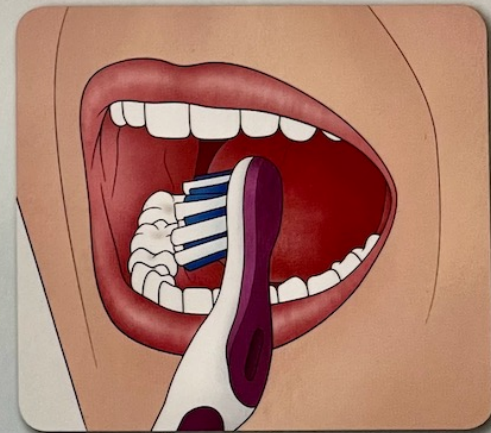
The **ADA** recommends:  
**BRUSH 2x/day**



**Brushing tips:**  
45° angle/teeth & gums



Short, back & forth strokes



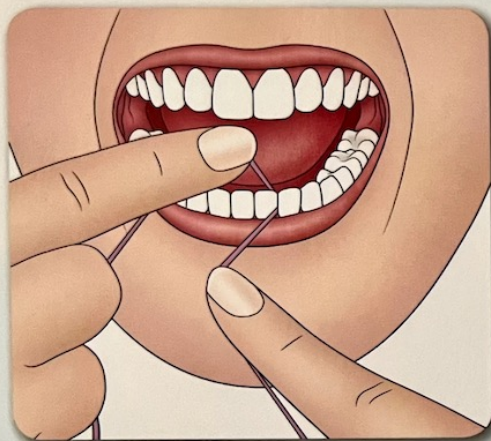
Brush outside, inside, and all  
chewing surfaces of teeth



# FLOSSING TECHNIQUE

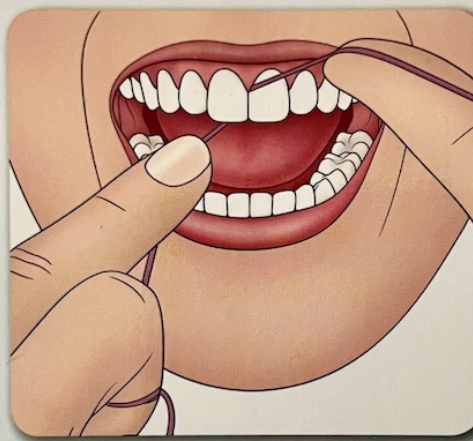
## The Essentials of Flossing

The **ADA** recommends:  
**FLOSS daily** between teeth

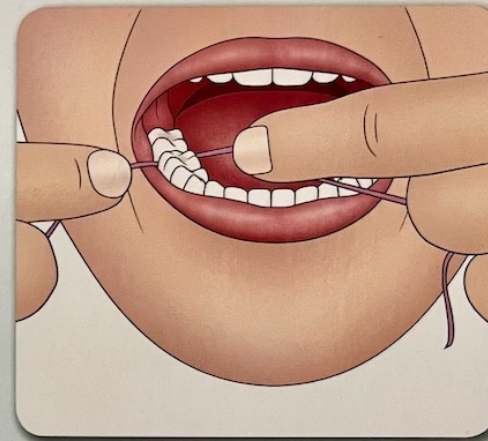


### **Flossing tips:**

Clean between each tooth,  
making a "C" shape



Gently slide floss in between  
teeth and gums



Don't forget your back teeth



# MUCOSITIS OR INFLAMMATION OF MUCOSA

- Mucositis appears as painful sores in the mouth
- Oral mucosa is very sensitive to radiation therapy. Beginning at cumulative dose over 15 Gy and worsening significantly after 60 Gy
- Up to 90% of patients will have mucositis depending on dose, fraction size, and volume of irradiated tissue



# MUCOSITIS OR INFLAMMATION OF MUCOSA

## 1. Rinses

- Neutral rinses (1/2 tsp baking soda in 1 cup of water)
- Topical analgesics (2% viscous lidocaine)

## 2. Preventive

- Limit use of removable prosthetics
- Eliminate use of alcohol and tobacco
- Soft and bland foods, avoid hot, spicy, acidic, hard, sharp oral intake

## 3. Medical

- Culture non-healing mucositis and treat appropriately
- Systemic analgesics

# OPPORTUNISTIC INFECTION



- Radiation may cause up to a hundred fold increase in fungal populations
- Up to 27% of patients post-radiation get thrush
- Candidiasis is one of the most common lesions occurring in patients during cancer treatment

# OPPORTUNISTIC INFECTION

1. Culture – to determine most effective medication
2. Rinses with baking soda/water or chlorhexidine gluconate
3. Fungal vs. bacterial vs. viral

# TRISMUS OR LIMITED RANGE OF MOTION

- Expected range of motion of mouth is an opening between 40-50mm
- Limited mouth opening incidence ranges from 5-38% of patients who receive radiation therapy

# TRISMUS OR LIMITED RANGE OF MOTION

1. Stretching
  - Properly stabilized to control movement
  - Prolonged, low force stretch produces the greatest amount of permanent elongation
  - Pain tolerance should not be exceeded
2. Active Stretching
  - Tongue Blades
  - TheraBite
3. Passive Stretching
  - Dynasplint



# OSTEORADIONECCROSIS



- Osteoradionecrosis is defined as exposed irradiated bone that fails to heal over a period of 3 months without any evidence of persisting or recurrent tumor.
- Prevalence ranges widely in literature from 0.4% to 56%

# OSTEORADIONECCROSIS

1. Avoid dental surgery such as dental extractions, dental implants, dental orthodontia after head and neck radiation therapy
2. Routine preventative dental care such as exams, cleanings, fillings, crowns, root canals are encouraged to promote lifelong dental health and avoid the need for dental surgery

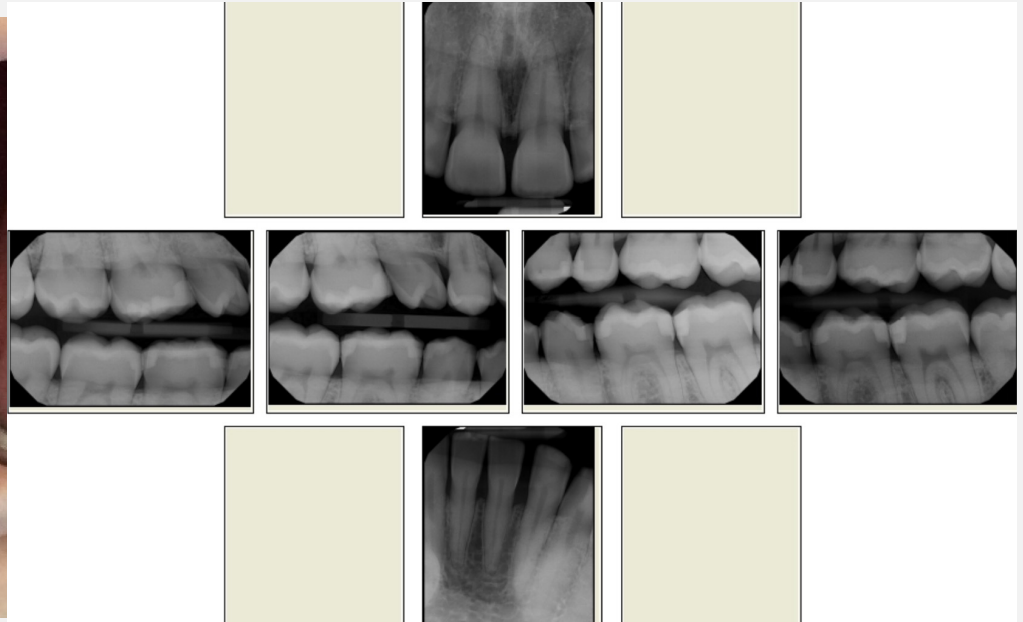


# OSTEORADIONECCROSIS



- Treatment based on staging of osteoradionecrosis
- Can happen at any time after head and neck radiation therapy

# PREVENTATIVE DENTAL CARE IS LIFELONG



- Treat infection and stabilize existing dentition

# PREVENTATIVE DENTAL CARE IS LIFELONG



- Maintain dentition in good, working condition

# WHAT CAN I DO

- Treatment of cancer patients requires a multidisciplinary approach of multiple teams of medical professionals working together to provide the best care
- Dental providers play an important role in the education of oral complications of cancer treatment
- Cancer survivors will require long term oral health care on a regular recall interval with dental professionals



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## QUESTIONS/CONCERNS

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