CDSBC | College of Dental Surgeons of British Columbia

Save a life: the dentist's role in the early detection of oral cancer

Panel discussion at the VDDS Midwinter Clinic

30 November 2018

Westin Bayshore Vancouver

Overview

Moderator

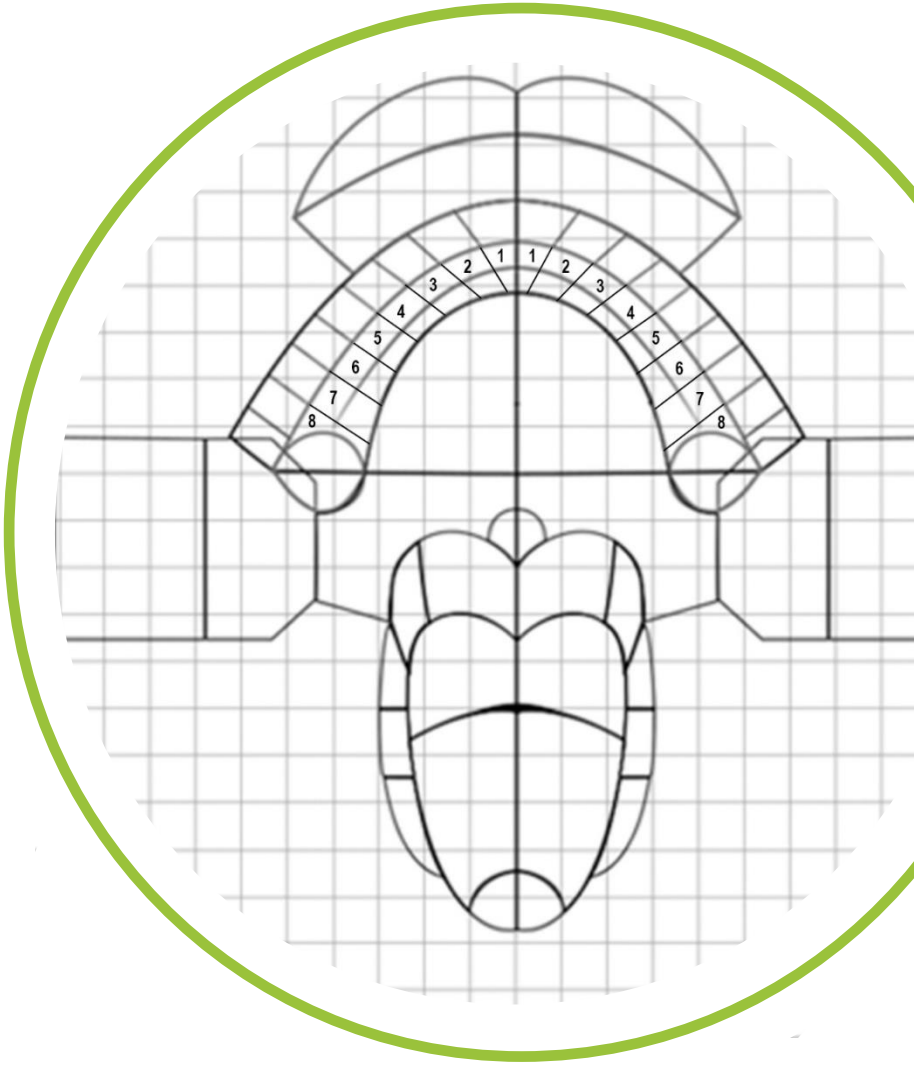
- Dr. Meredith Moores, Acting Director of Professional Practice, CDSBC

Special Guest

- Balvir Dhadda

Panellists (in order of speaking)

- Dr. Alan Bates
- Dr. Ash Varma
- Dr. Catherine Poh
- Dr. Allan Hovan



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Psycho-oncology of Oral Cancer

VDDS 2018 – Oral Cancer Panel

Alan Bates, MD, PhD

Provincial Lead, Psychiatry, BC Cancer

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Disclosures

- **Relationships with commercial interests:**
  - Direct financial support: **None**
  - Clinical trials, studies, research: **Unrestricted research grant from Pfizer through BC Cancer**
  - Speaking or consulting fees: **None**
  - Real or potential gain from a product, information, or service: **None**
  - **Income:** BC Cancer, BC Psychiatric Association, UBC Psychiatry

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Objectives

- Don’t spend too long on the Objectives slide

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Thank you

- Thank you to Dr. Allan Hovan and other panel organizers

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Anxiety

- Incidence up to 44% in cancer patients
- Adjustment disorder with anxiety is the most common diagnosis
- No consistent evidence of site of cancer or stage of illness affecting prevalence
- Long hospitalizations / ICU → PTSD

Levin & Alici, 2010

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Depression

- Incidence in cancer up to 58% depending on the exact population/setting
- Pancreatic cancer (? related to inflammation/immune/cytokine models of depression)
- Head and Neck cancer (link thought to be substance use associated with premorbid mood disorder)
  - Incidence 20-50%

Miller & Massie, 2010; Pessin, Amakawa, & Breitbart, 2010

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Etiologies to rule out

Anxiety	Depression
Pain	Pain
Hypoxia	Anemia
Delirium	Electrolyte imbalances
Sepsis	Vitamin deficiencies (e.g. B1, B12)
Bleeding	Thyroid abnormality
Pulmonary embolus	Adrenal insufficiency
Hypocalcemia	Hypercalcemia
Steroids	Steroids
Hormonal agents	Hormonal agents
Antiemetics	Substance use/abuse
Bronchodilators	
Substance use/abuse	

Levin & Alici, 2010; Miller & Massie, 2010; Pessin, Amakawa, & Breitbart, 2010

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Distress in times of transition

- Loss of “active” treatment
- Loss of contact with doctors and nurses
- Increased uncertainty in living from investigation to investigation
- Some family and friends may not have been supportive through treatments to-date

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Suicide

- 2-3X increased risk for suicide in oncology settings compared to general population
  - May be higher in H&N compared to some other tumor sites

- Prevalence of suicidal ideation ranges from 1-16% depending on specific population/setting

Miller & Massie, 2010; Pessin, Amakawa, & Breitbart, 2010

Suicide

- Risk factors:
  - Depression, hopelessness, loss of control
  - Personal and family history
  - Pain, fatigue, delirium
  - Advanced illness, poor prognosis
  - Premorbid psychiatric illness/addiction
  - Isolation

Miller & Massie, 2010; Pessin, Amakawa, & Breitbart, 2010

Insomnia

- “Are you afraid to close your eyes at night because you’re worried you’ll never wake up?”

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Psychotherapy for Existential Distress

- Breitbart's Meaning Centered Psychotherapy
  - Based on work of Viktor Frankl
  - Sources of meaning:
    - Creativity: work, deeds, causes
    - Experience: nature, art, relationships
    - Attitude: attitude taken towards suffering
    - Legacy: individual, family, community history

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Prevention

- Randomized, double-blind trial of escitalopram (10 → 20mg) vs. placebo in 148 non-depressed patients starting treatment for H&N cancer

- 25% developed depression in the placebo group vs. 10% in the escitalopram group

Lydiatt et al., 2013

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How do you diagnose depression?

- Neurovegetative symptoms likely to be present with or without depression

- Ask the money questions:
  - Hopeless
  - Worthless
  - Guilty
  - Feeling like being punished
  - Suicidal ideation

Miller & Massie, 2010; Pessin, Amakawa, & Breitbart, 2010

How do you diagnose depression?

- Or, you know, just ask them:
  - "Have you been depressed most of the time for the past two weeks?"
  - 100% sensitivity, 100% specificity in 197 patients with advanced cancer in a palliative care setting
  - Better than Beck Depression Inventory in the same study

Chochinov et al., 1997

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Treatment

- Correct reversible medical etiologies
- Psychotherapy works in this setting!
  - e.g. CBT, supportive, mindfulness
- Medications work in this setting!
  - CYP450 interactions

Holland et al., 1998; Levin & Alici, 2010

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Treatment - Medications

- Pick medications where side effects are helpful
- SSRIs (e.g. sertraline, escitalopram)
- SNRIs (e.g. venlafaxine, duloxetine)
  - May help with pain
- Mirtazapine
  - May help with sleep, appetite, and nausea

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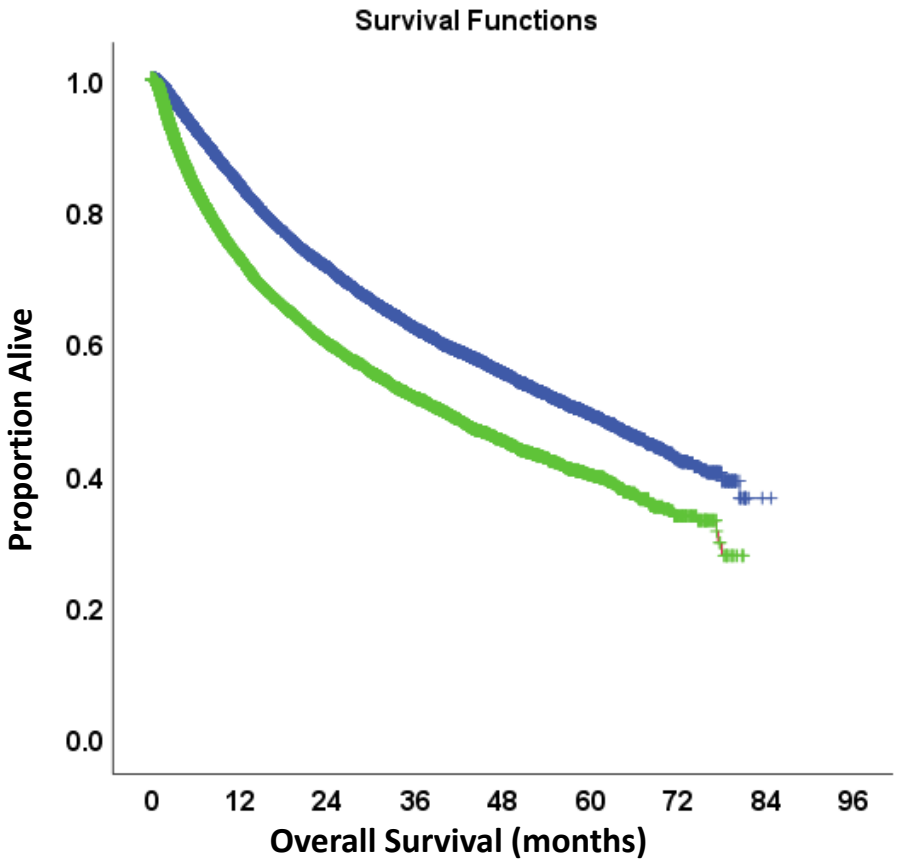
Treatment - Medications

- Atypical antipsychotics
  - e.g. quetiapine or aripiprazole for depression
  - Olanzapine may help with sleep, nausea, and appetite
  - Olanzapine often used to counteract steroids
- PRN lorazepam for e.g. claustrophobia related to face mask for RT
  - Lorazepam can help with nausea
- Stimulant (e.g. methylphenidate) for depression

Depression



No depression

Depression

Median Survival:

57 months

39 months

$p < 0.001$

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Risk factors and barriers in mental illness

- Poor diet
- Smoking and other substance abuse
- Medication side-effects (e.g. dry mouth)
- Poor oral hygiene
- Lack of income and dental insurance
- Mistrust of dental health providers
- Lack of knowledge about available resources
- No phone
- Lack of insight

Slack-Smith et al., 2016

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Complexities of pain

- Pain is a complex experience
  - Affect, cognition, behaviour, neurobiology
- Comorbidities such as psychiatric illness or cognitive impairment can complicate diagnosis
- Strong interaction between emotional state and experience of pain

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Anxiety and dental pain

- Anxious patients may require more time for breaks and extra explanations
- In a study of 62 patients who underwent 3rd molar extractions under IV anesthesia, post-operative pain was slower to resolve in patients with pre-morbid psychological distress

Filewich et al., 1981; Locker et al., 2001; Gonzalez-Martinez et al., 2016

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Specific tips

- Ask the patient about anxiety
- Use a screening tool such as the GAD-7, Modified Dental Anxiety Scale, Dental Fear Survey
- Help the patient direct attention away from the pain
- Maintain open communication about symptoms and possible adverse effects
- Refer to Psychiatry, Psychology, Social Work, Counselor

Lin, 2013

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Referral

- Referral to Psychiatry should be done in a thoughtful way
  - Something like “We can’t find anything wrong with you, so it’s probably psychological” won’t help your patient
  - Explaining that the experience of pain is complex and that different specialists can make different contributions to reducing their discomfort is generally a good approach
  - Earlier involvement is better

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Name that syndrome

- Preoccupation with details, order, organization, schedules
- Perfectionism
- Devotion to work
- Overconscientious
- Reluctance to delegate important tasks

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Reality vs. Expectation/Desire

- **Any information/news that creates a strong negative contrast between reality and expectation**

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Support for healthcare providers

- We may experience feelings of sadness, isolation, inadequacy, and hopelessness

- Very important to seek support from colleagues, friends, family, professionals as needed

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Outline

1. How to assess an oral lesion at risk clinically?
2. How to do a proper biopsy?
3. How to submit a biopsy?
4. What is dysplasia?

A systemic approach

1. History of present illness
   - Onset, location, intensity, frequency and duration
   - Aggravating and/or relieving variables
   - Change over time - better, unchanged or worse

Evaluation of a suspicious oral mucosal lesion. JCDA. 2008;74(3):275-80.

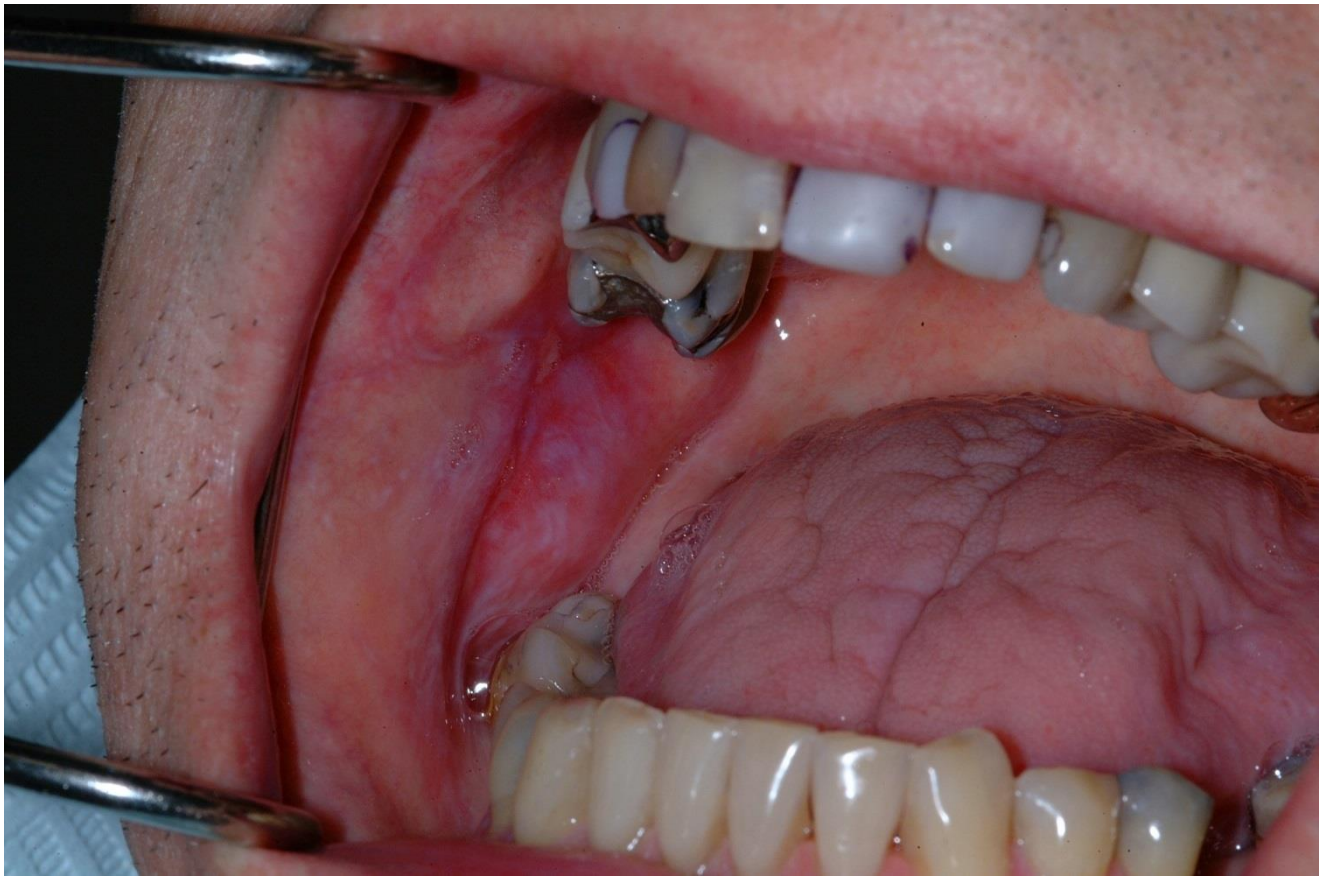
A systemic approach

2. Medical history – a whole person approach

- Medications, including drug allergies
- Review of systems – Skin, GI, Joints
- Medical conditions (hospitalization; chronic conditions)
- Risk factors: smoking/alcohol habits; betel nut or illicit drug usage (type, frequency and duration)
- Family history

Lichenoid lesion - Drug induced lichenoid reaction

Lichenoid lesion – Graft Versus Host Disease



A systemic approach

3. Examination

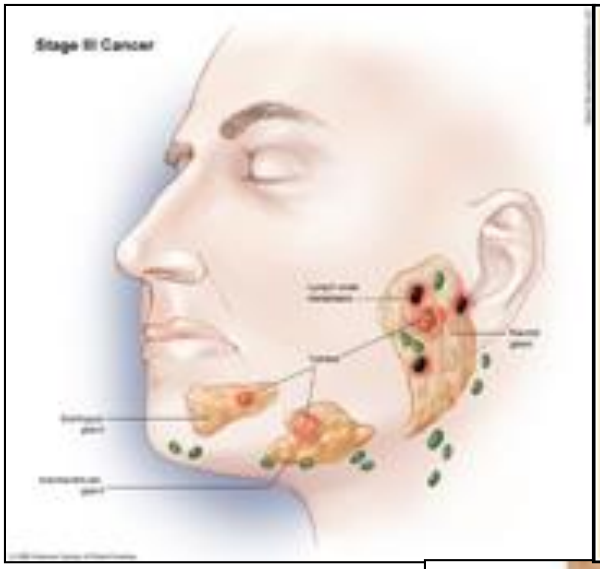
- Extraoral head and neck examination
- Intraoral examination

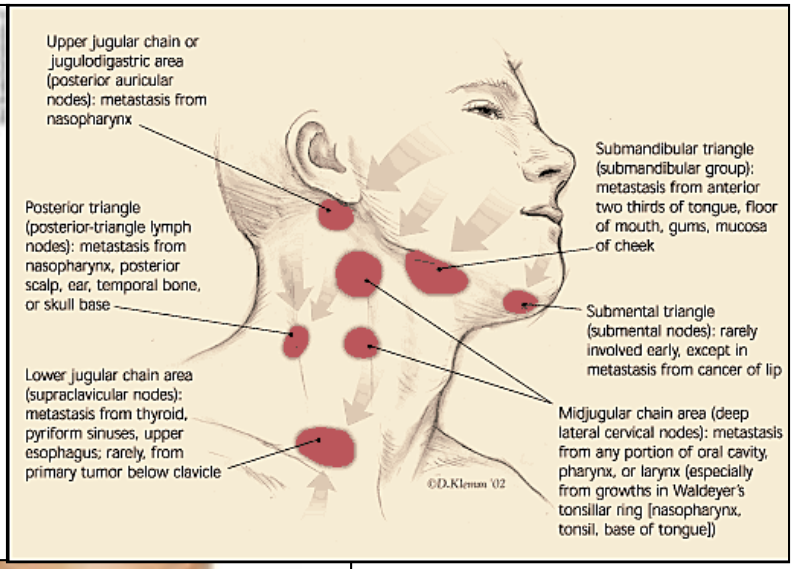
A systemic approach – 3. Examination

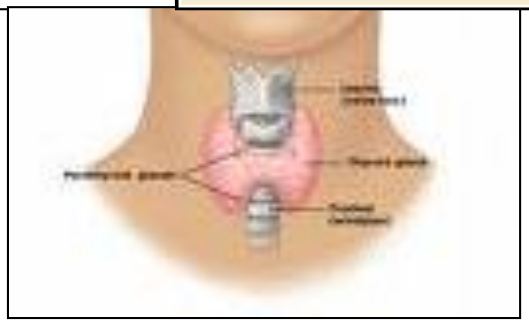
Extraoral head and neck examination –

Visual examination and palpation for swelling, mass, or asymmetry

Importance of anatomy -



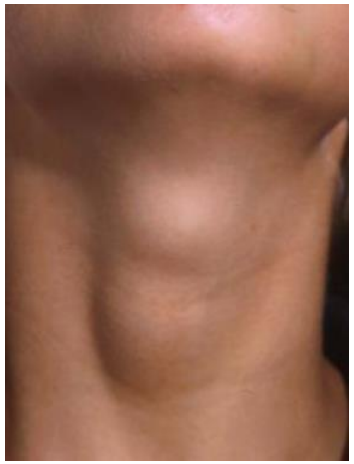




A systemic approach – 3. Examination

Intraoral examination –

Visual examination and palpation for swelling, mass, or asymmetry

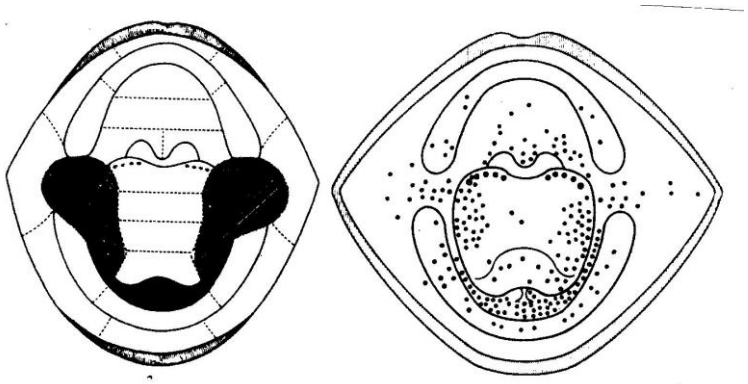




What are the difficult spots during the exam?

- Lingual to retromolar trigone (gutter area)
- Tonsillar area
- Floor of mouth

Techniques:

- Systemic approach
- Tongue pulling
- Bimanual palpation
- Ah….



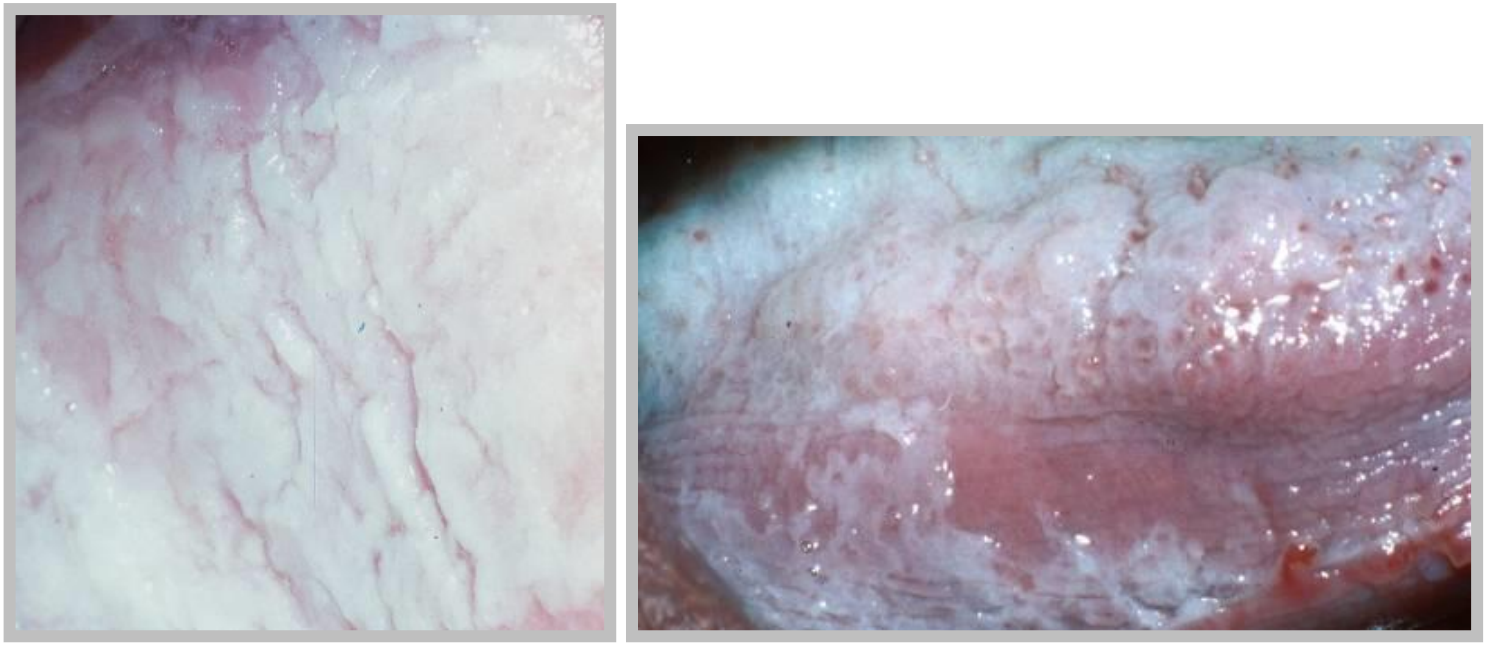
A systemic approach

4. Differential Diagnosis

Differential diagnosis oral mucosal lesions (5 I's)

1. Inherited or congenital
2. Infectious – bacteria, viral, fungal
3. Inflammatory
4. Iatrogenic
5. Idiopathic

1. Inherited, congenital, hereditary



White spongy nevus

2. Infectious - bacteria

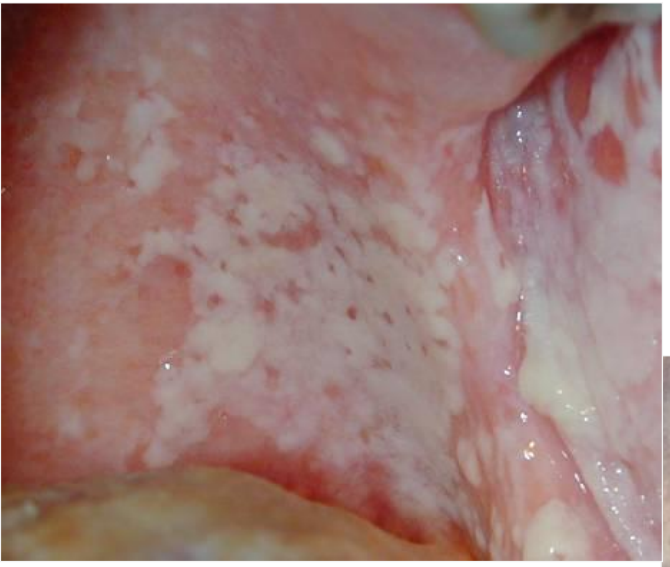
Parulis or gum boil – tooth related

2. Infectious – low-risk human papillomavirus

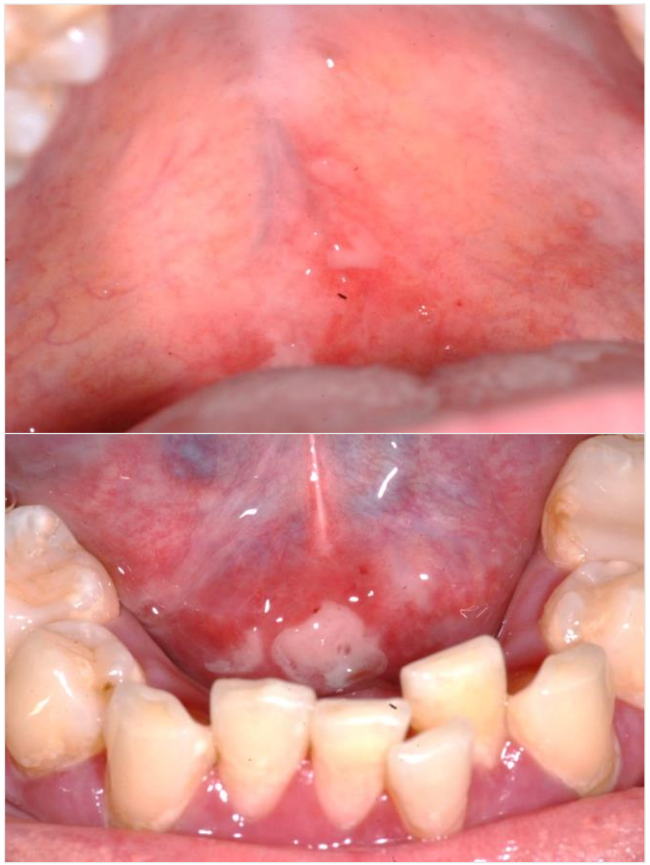
Squamous papilloma

Heck’s disease

2. Infectious – Candidiasis



3. Inflammatory – vesiculo-bullous conditions



Is this Lichen Planus?

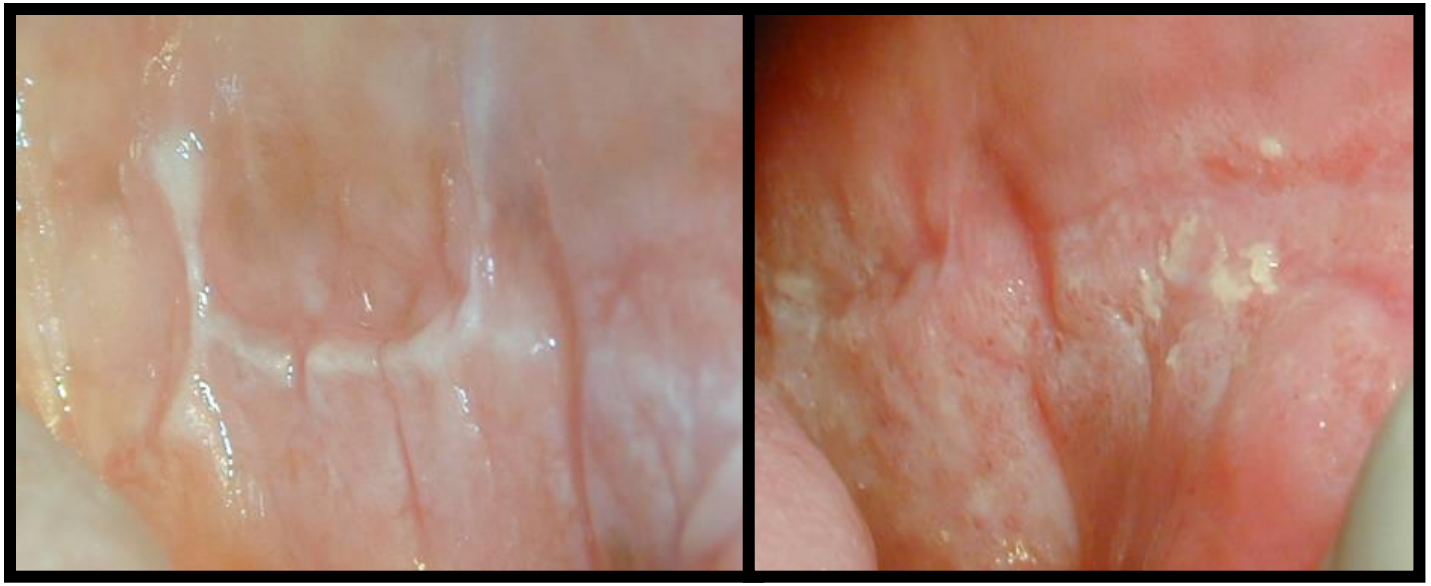
Contact lichenoid mucositis

Is this Lichen Planus?

Drug induced lichenoid reaction

Chronic graft-versus-host disease

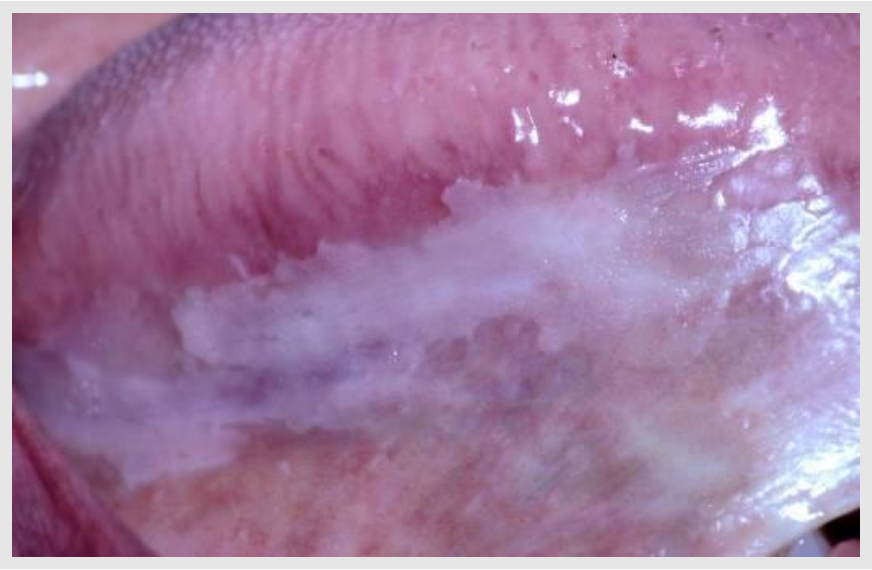
4. Iatrogenic – trauma or oroparafunctions



Frictional hyperkeratosis from oro-parafunctions!

5. Idiopathic – neoplastic process?

Leukoplakia



Leukoplakia

WHO definition:

A white patch or plaque which does not rub off and which cannot be diagnosed clinically or pathologically as any specific disease (a clinical entity)

Leukoplakia – clinical entity

Leukoplakia

Erythroleukoplakia

Erythroplakia

How do we know if this lesion is at high risk?

Problems in clinical diagnosis

1. Reactive vs. Malignant potential (5 I’)
2. High-risk vs. low-risk (3 S’)

Reactive vs. Malignant potential?

1. Medical history, smoking habit

   drug information and general health
2. Be familiar with the presentation of common oral mucosa conditions – Lichen planus, canker sore etc.
3. Culture – fungal swab/viral culture
4. Possible etiological factors – sharp tooth or prosthesis

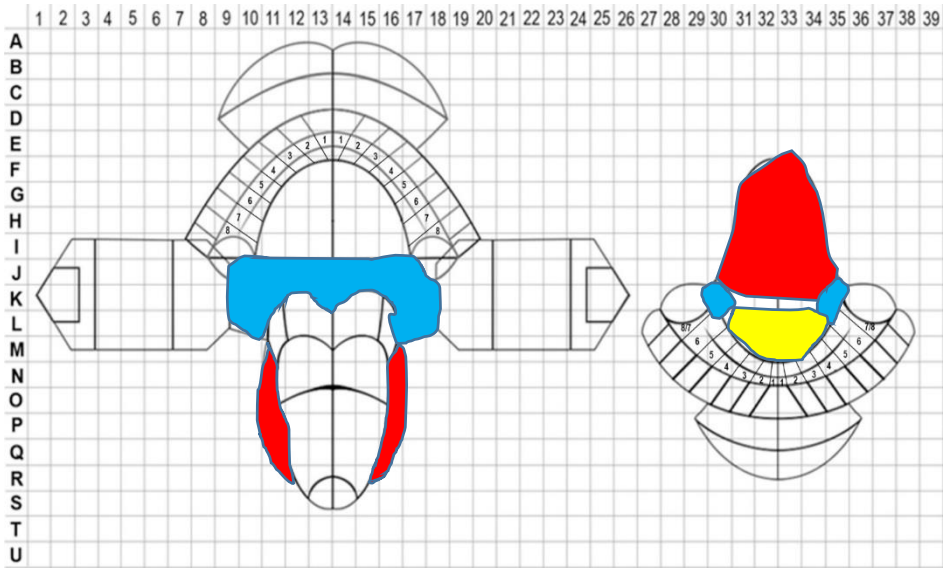
High-risk vs. low-risk - 3 S’

- Site of the lesion
- Sign (Appearance) of the lesion
- Size and change over time

Site of the lesion

High-risk anatomical site

1. Floor of mouth
2. Ventrolateral tongue
3. Soft palate complex -
   - soft palate proper
   - tonsillar pillars
   - lingual aspect of retromolar trigone



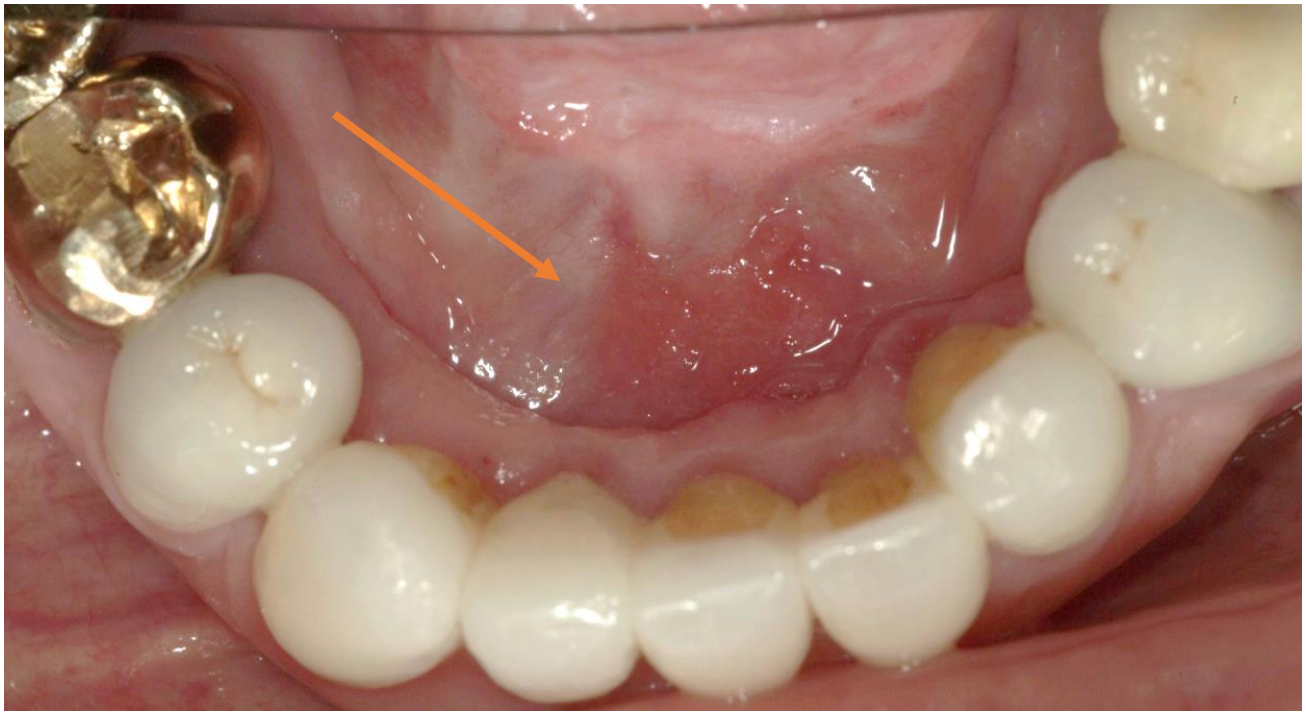
Sign of the lesion - appearance

Discrete, homogenous leukoplakia

Diffuse, non-homogenous erythroleukoplakia

Sign of the lesion - appearance

Discrete, homogenous erythroplakia



Sign of the lesion

High-risk appearance:

- Color: red >> red and white >> white
- Diffuse >> discrete
- Appearance:

  Non-homogenous >>homogenous

Size of the lesion

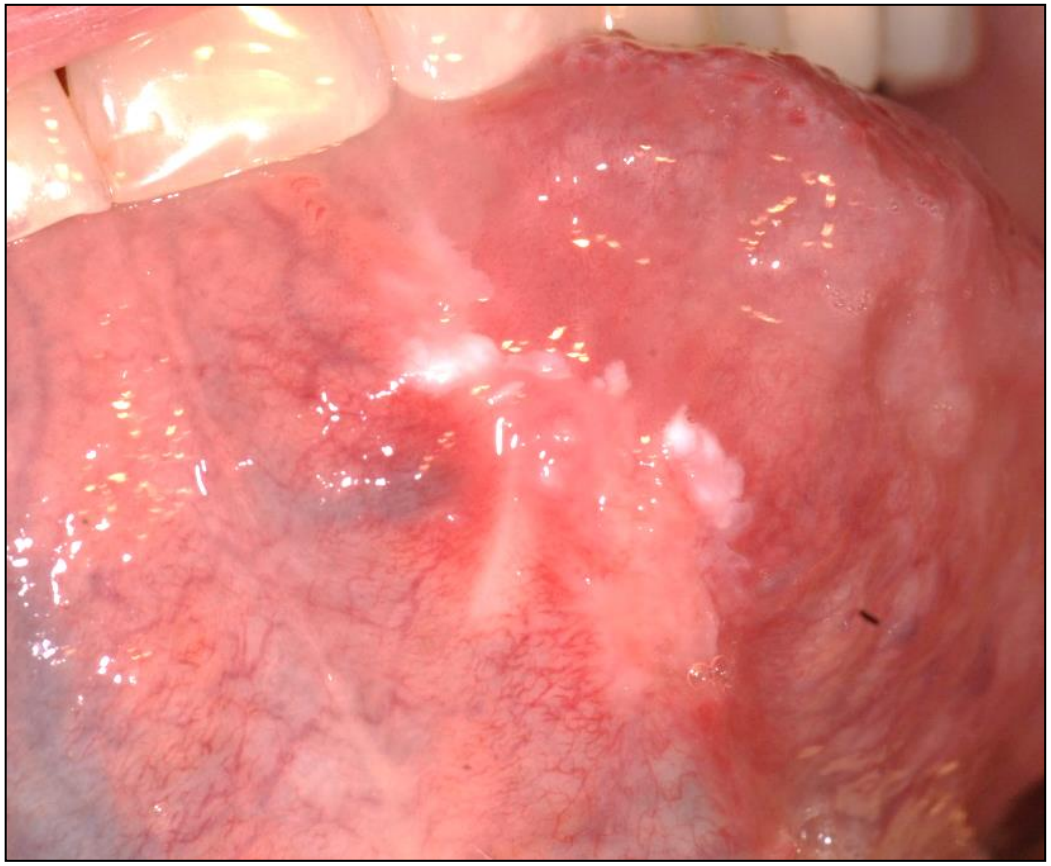
- ↑ size → ↑ risk
- ↑ number of lesion → ↑ risk
- Changes over time - indicating the speed of the progression

Low-risk or High-risk?

1.5 cm, discrete, homogenous Leukoplakia at the right mandibular buccal gingiva/vestibule

3 cm, diffuse, non-homogenous Erythroleukoplakia at the left lateral tongue

A case – 55 y/o F Nonsmoker; non-drinker; Hx of asymptomatic lesion at left anterior tongue



Visual aids used routinely in the clinic

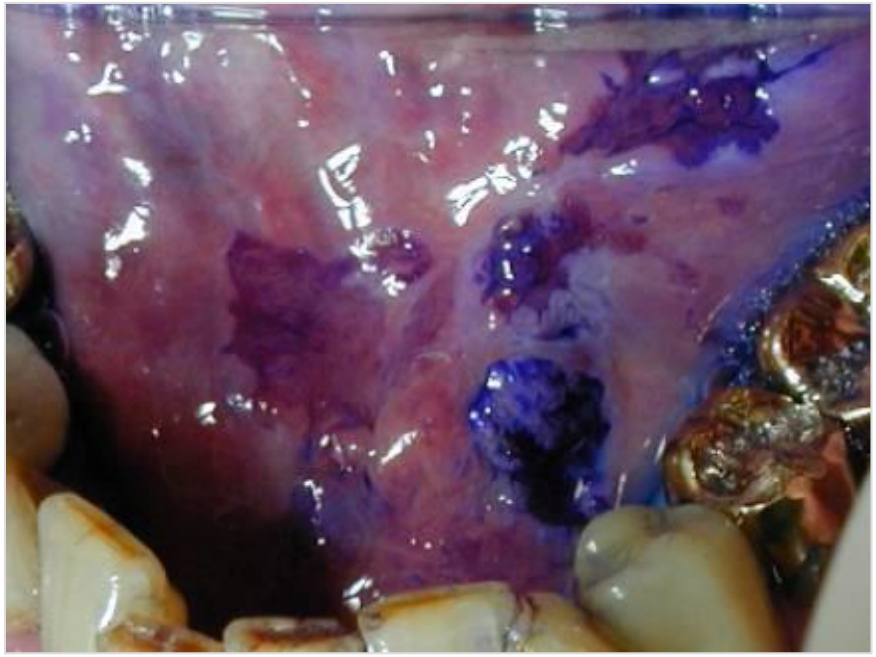
1. Digital Images
2. Fluorescence Visualization
3. Toluidine blue

1. Clinical images –
A good picture is better than a thousand words!

High resolution digital clinical images

2. Toluidine Blue (TB)– a metachromatic, acidophilic stain (Tolonium Chloride)

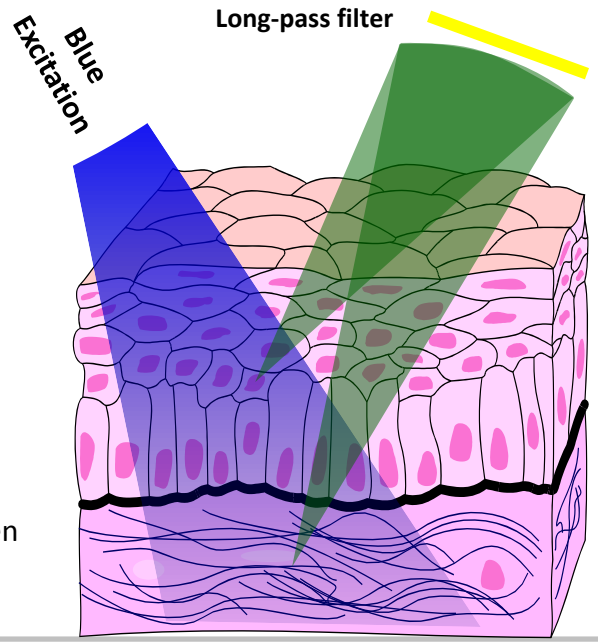
High affinity to nucleic acid



3. Fluorescence Visualization (FV) - Blue light and tissue autofluorescence

FVR
(fluorescence visualization retained)

FVL
(fluorescence visualization loss)

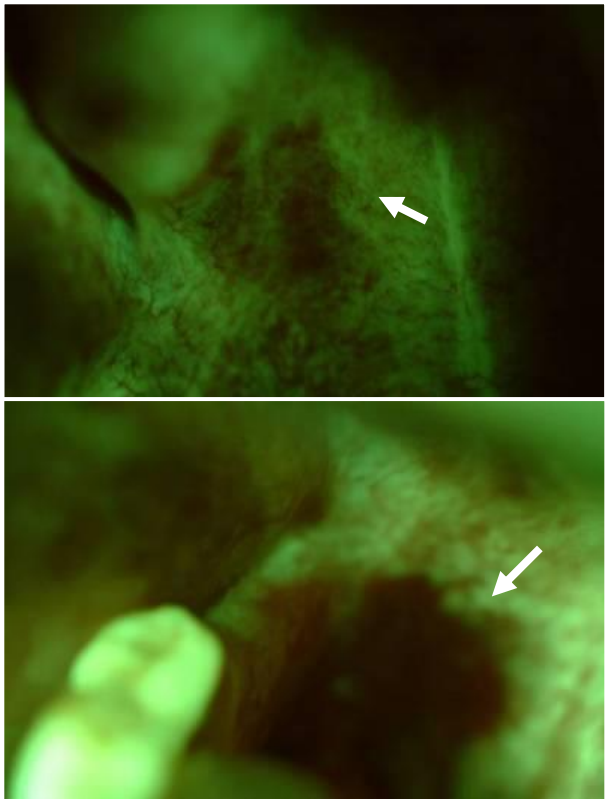


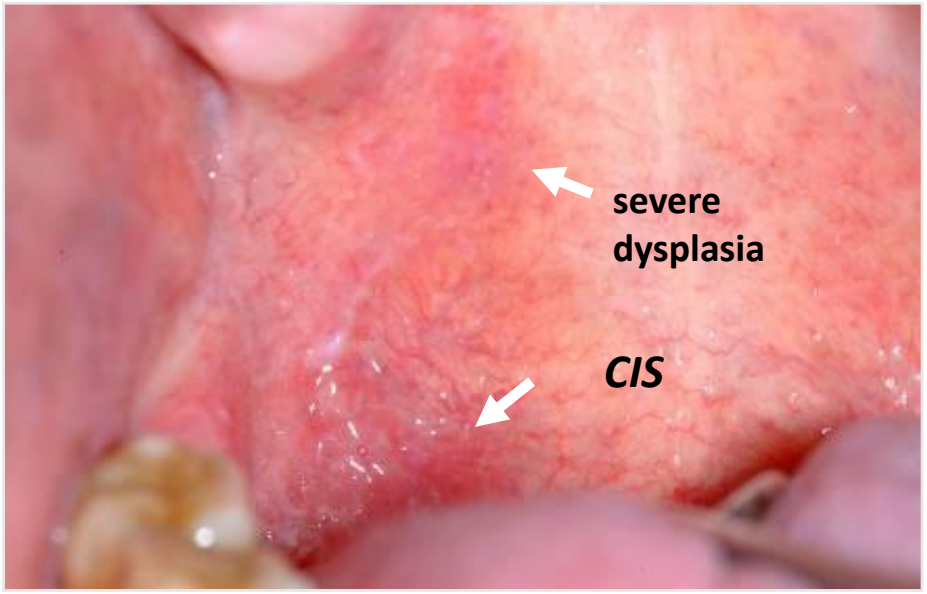
Fluorescence due to FAD/NADH (cellular level)

Fluorescence due to collagen cross-links & elastin (in the subtending stroma)

- Epithelial Thickening
- ↑ Nuclear Scattering
- ↑ Metabolic Activity (↑ FADH/NAD)
- Decomposition (or restructuring) of the of Collagen Matrix
- ↑ Micro-Vascularization

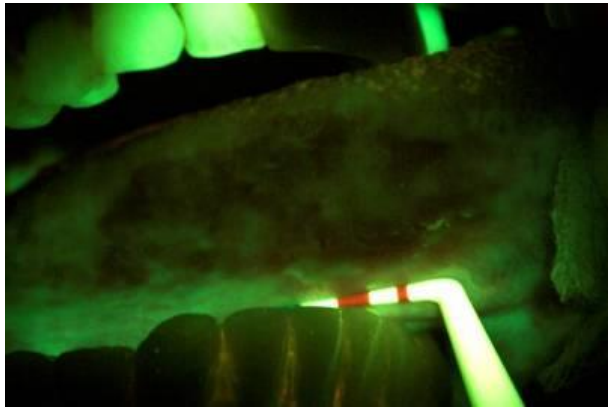
Clinically not-apparent change

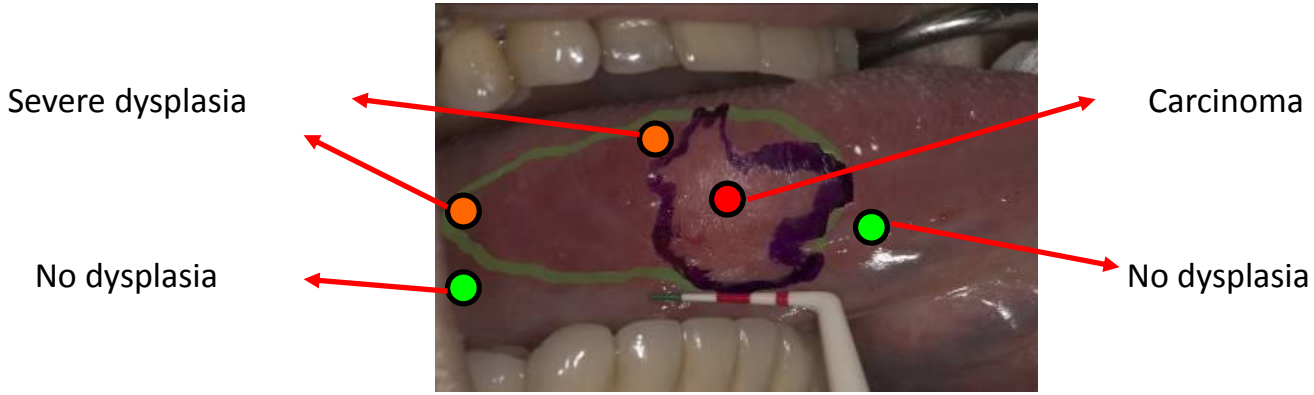




Poh *et al*., Head and Neck, 2007

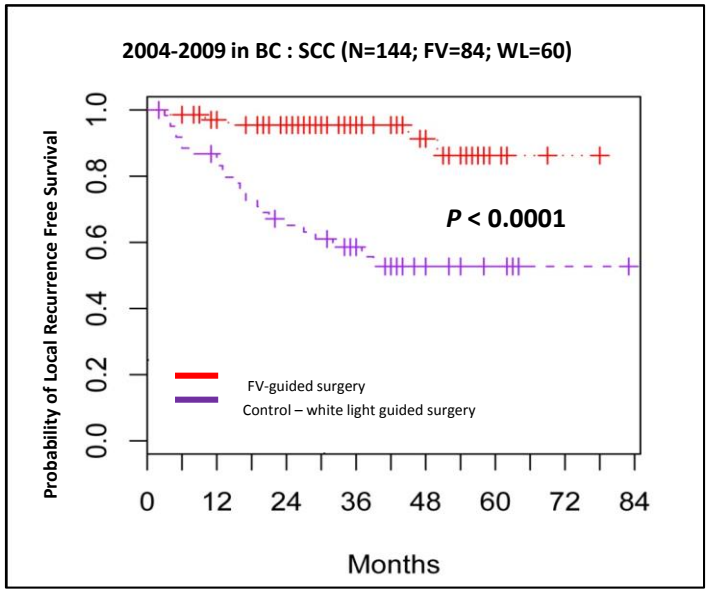
FV in oral cancer surgical margin decision

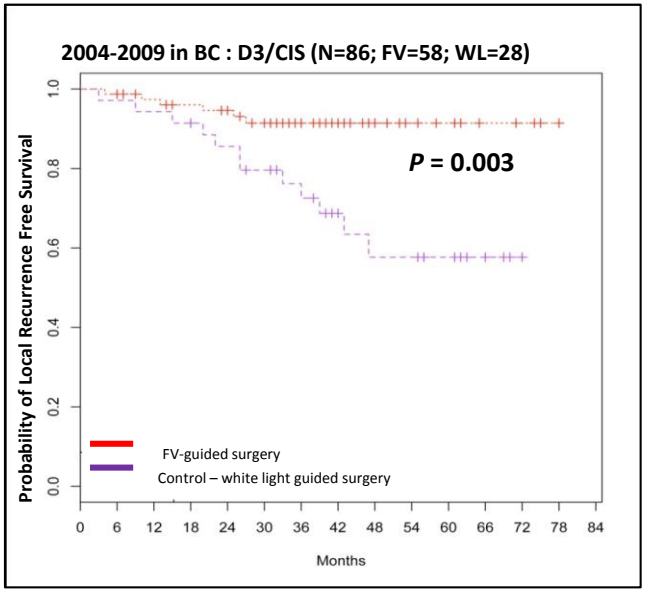




Clin Can Res, 12(22), 6716-22, 2006

FV-guided surgery appears to reduce local recurrence





Recurrence-free survival for 230 patients enrolled in a British Columbia study and have at least 12-month follow-up.

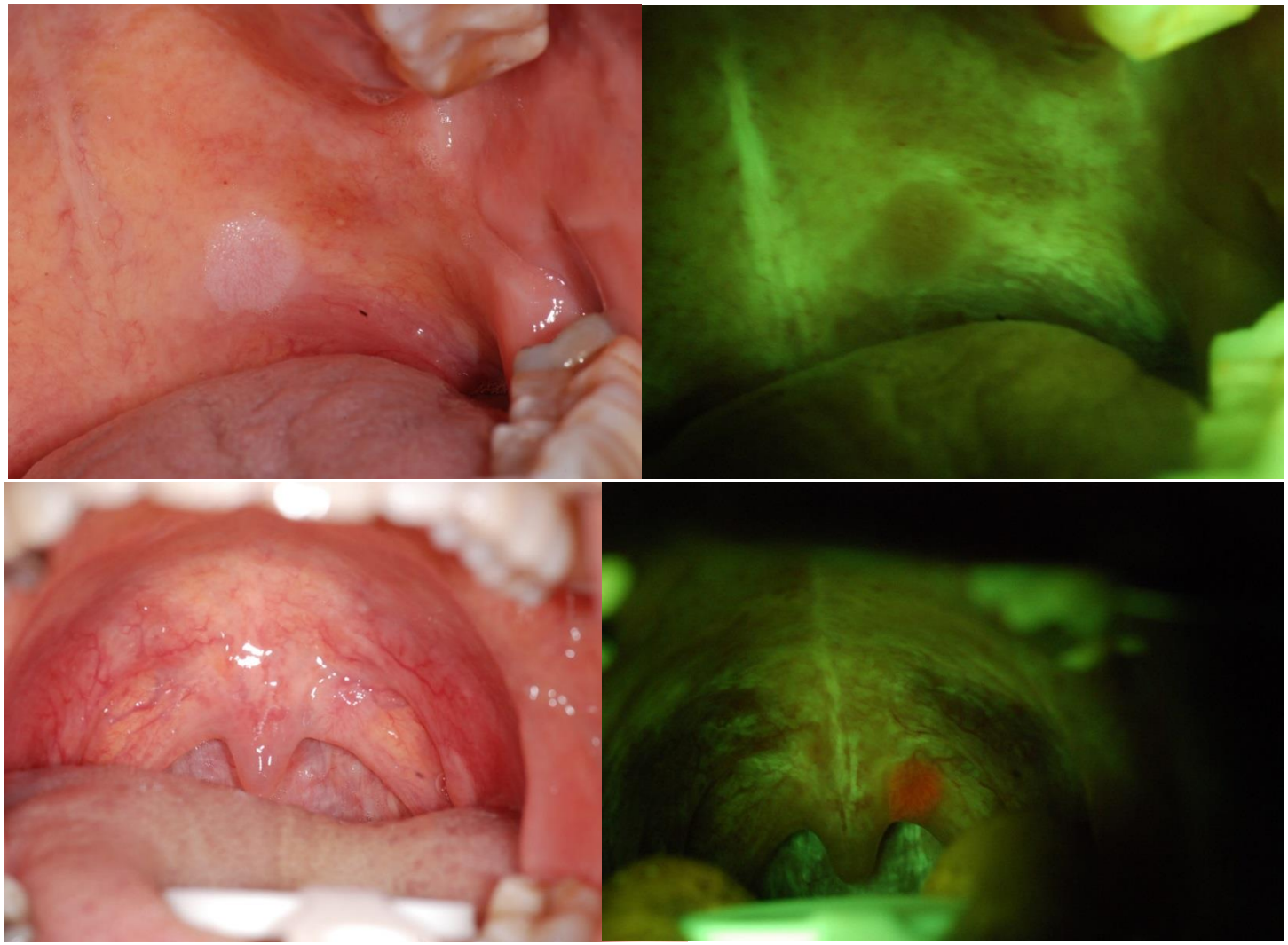
For SCC, 3-year recurrence rate reduces from **36% to 5%.**

For severe dysplasia and CIS, 3-year recurrence rate reduces from **32% to 9%**

JAMA Otolaryngol Head Neck Surg. 2016 Mar;142(3):209-16

Masking by Inflammation

Lichen planus



Outline

1. How to assess an oral lesion at risk clinically?
2. How to do a proper biopsy?
3. How to submit a biopsy?
4. What is dysplasia?

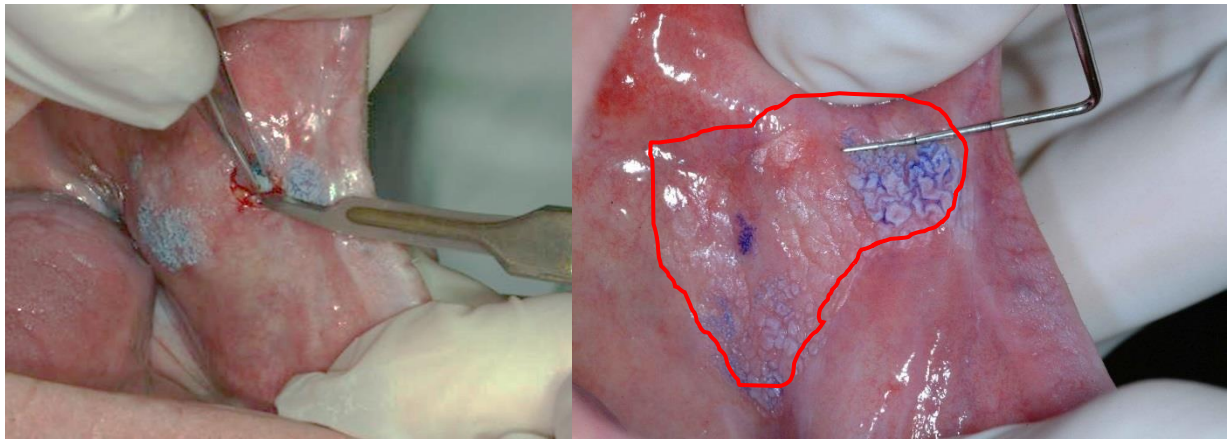
Gold standard for risk assessment
- Presence and Degree of dysplasia

- Incision or excision
- How many biopsies
- Where to biopsy
- Size of the biopsy

Incision vs. excisional biopsy

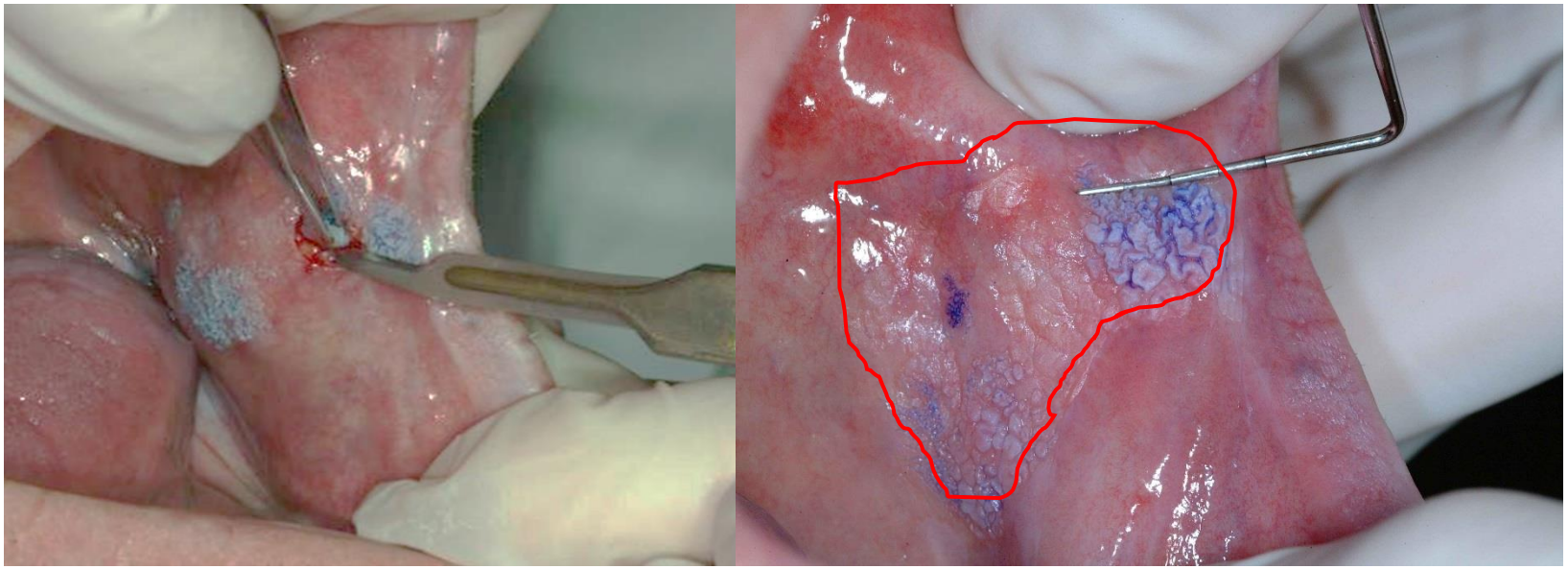
Incisional biopsy: is aimed to take a representative sample of the lesion with or without normal adjacent tissue for **diagnostic** purposes

Excisional biopsy: is aimed at the complete surgical removal of the lesion for **diagnostic and therapeutic** purposes



How many and where?

Rule of thumb – purpose, representativeness, and level of confidence



Example of punch biopsy technique



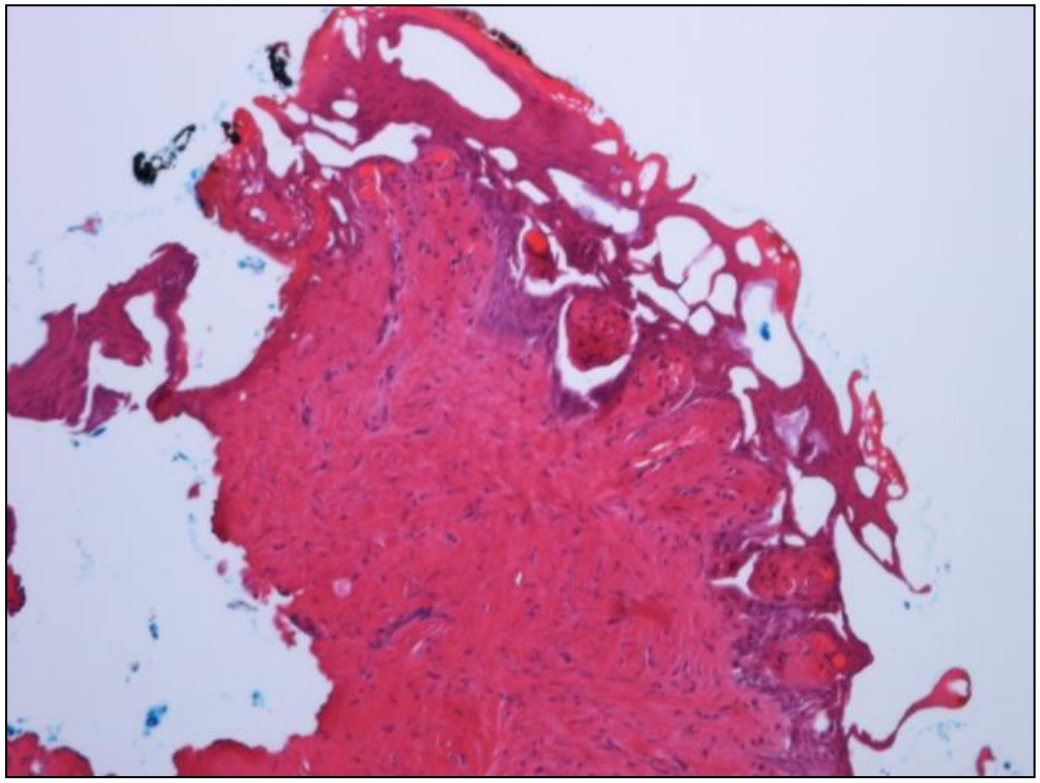





Key Issues of a Successful Biopsy Sample

1. Cold knife, not laser please!

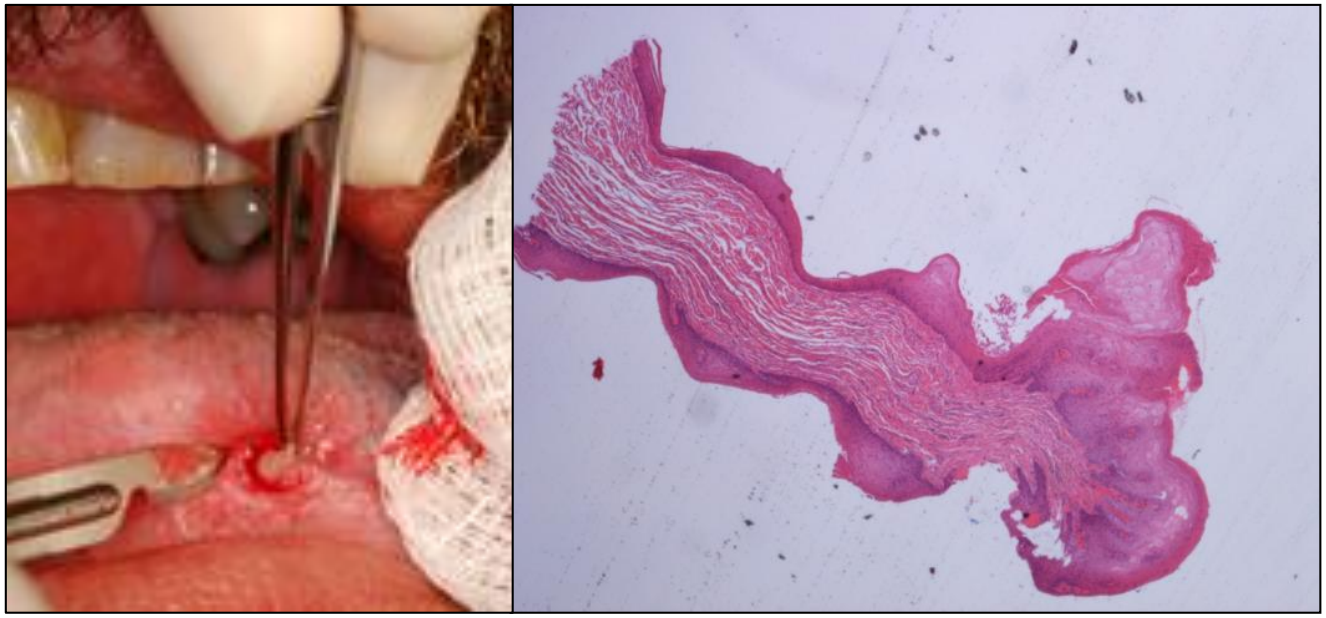
   Cauterizing artefact – Not diagnostic!



Key Issues of a Successful Biopsy Sample

2. Be Gentle to the Tissue

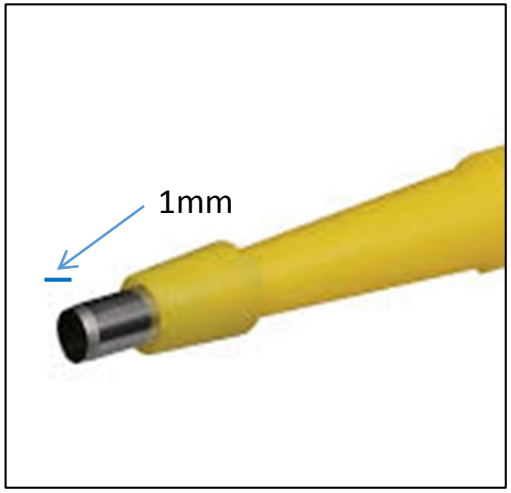
Crushing artefact - not diagnostic!



Key Issues of a Successful Biopsy Sample

3. Enough Depth

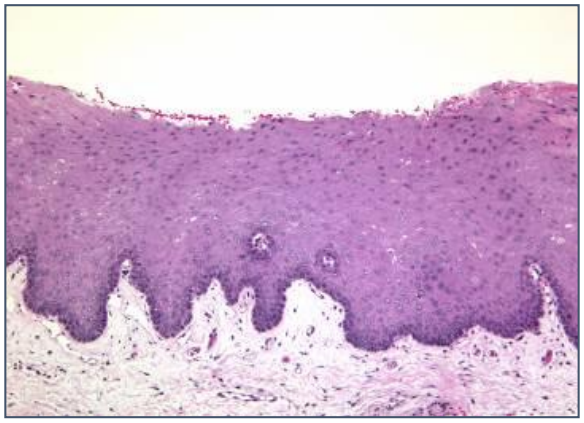
Must include connective tissue (~1mm)

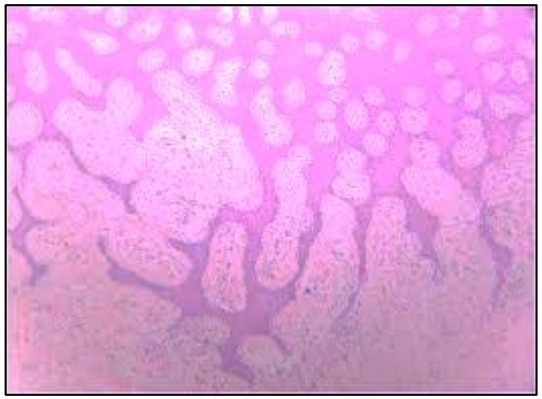


Key Issues of a Successful Biopsy Sample

4. Let it rest for 20-30 seconds on a piece of paper

To avoid tangentially cut



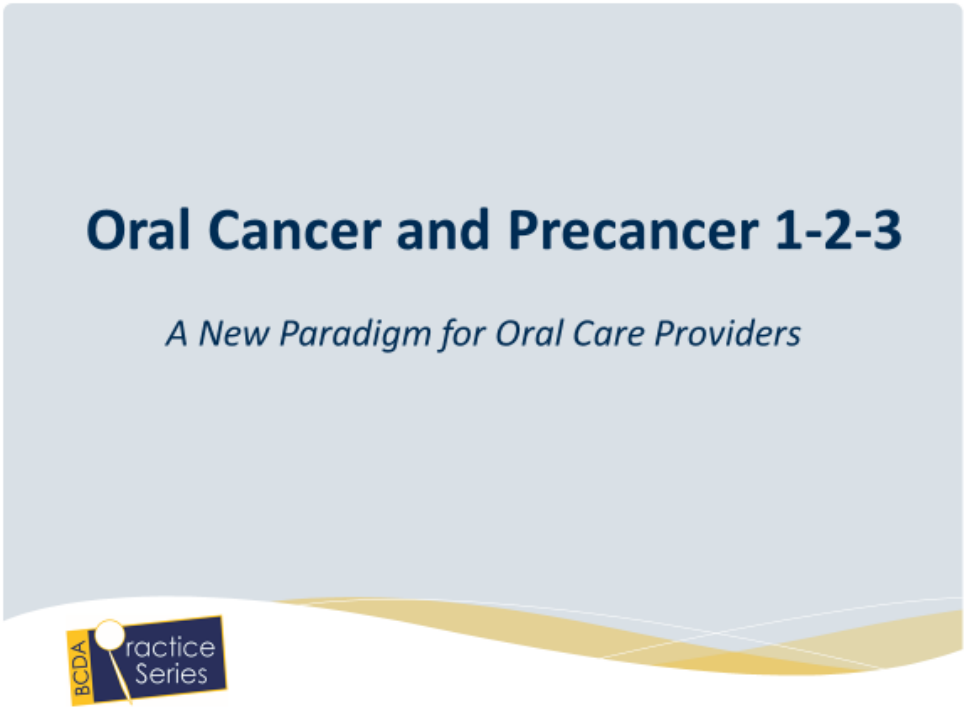


Key Issues of a Successful Biopsy Sample

1. Cold knife, not laser please!
2. Be gentle to the tissue
3. Enough depth
4. Let is rest

➔ Put it into fixative (10% neutral formalin)

BCDA on Demand



Dr. Samson Ng *BSc(Pharm), MSc, DMD, FRCD(C) , FDSRCSEd, Dip. ABOM, Dip. ABOMP*

Certified Specialist in Oral Medicine & Pathology

Clinical Associate Professor, University of British Columbia

Dr. Catherine Poh *DDS, PhD, FRCD(C) , Dip. ABOMP*

Certified Specialist in Oral & Maxillofacial Pathology

Professor, University of British Columbia

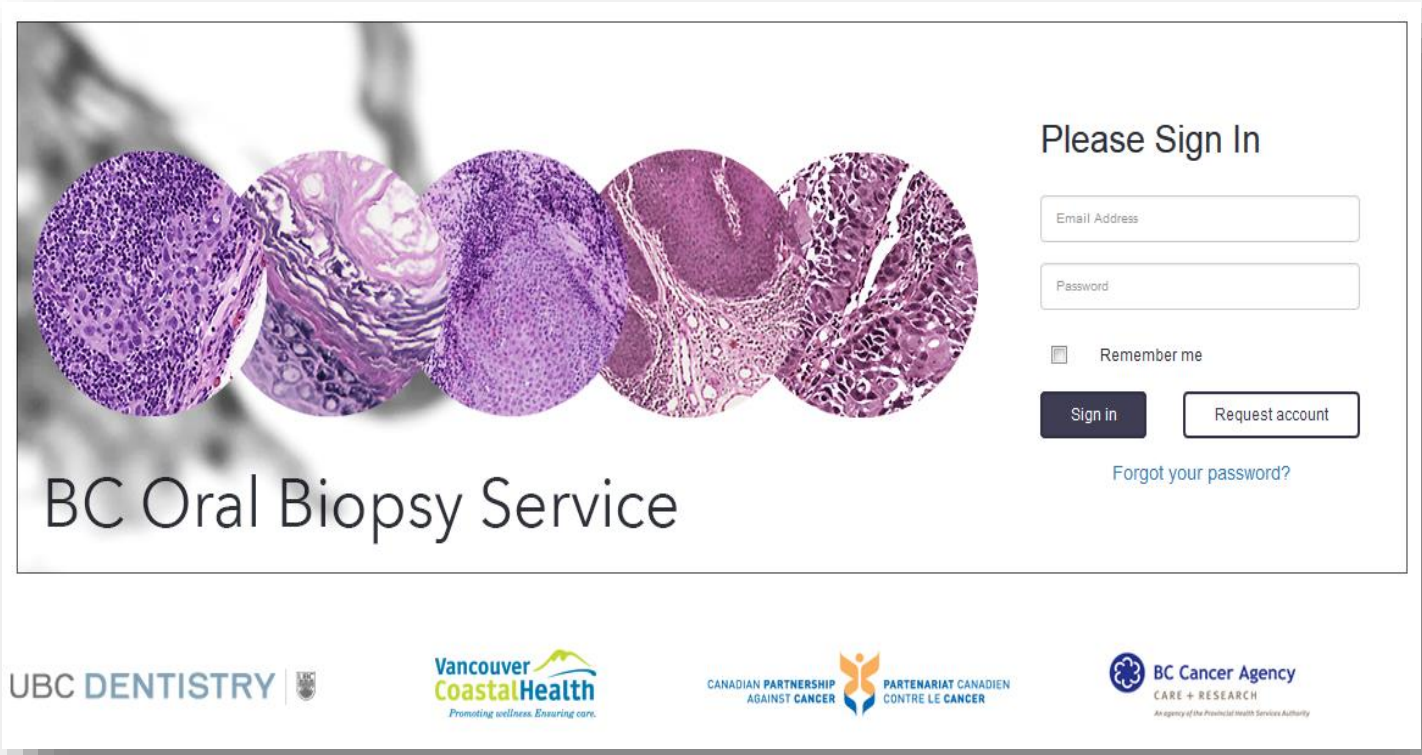
Senior Scientist, BC Cancer Agency

Outline

1. How to assess an oral lesion at risk clinically?
2. How to do a proper biopsy?
3. How to submit a biopsy?
4. What is dysplasia?

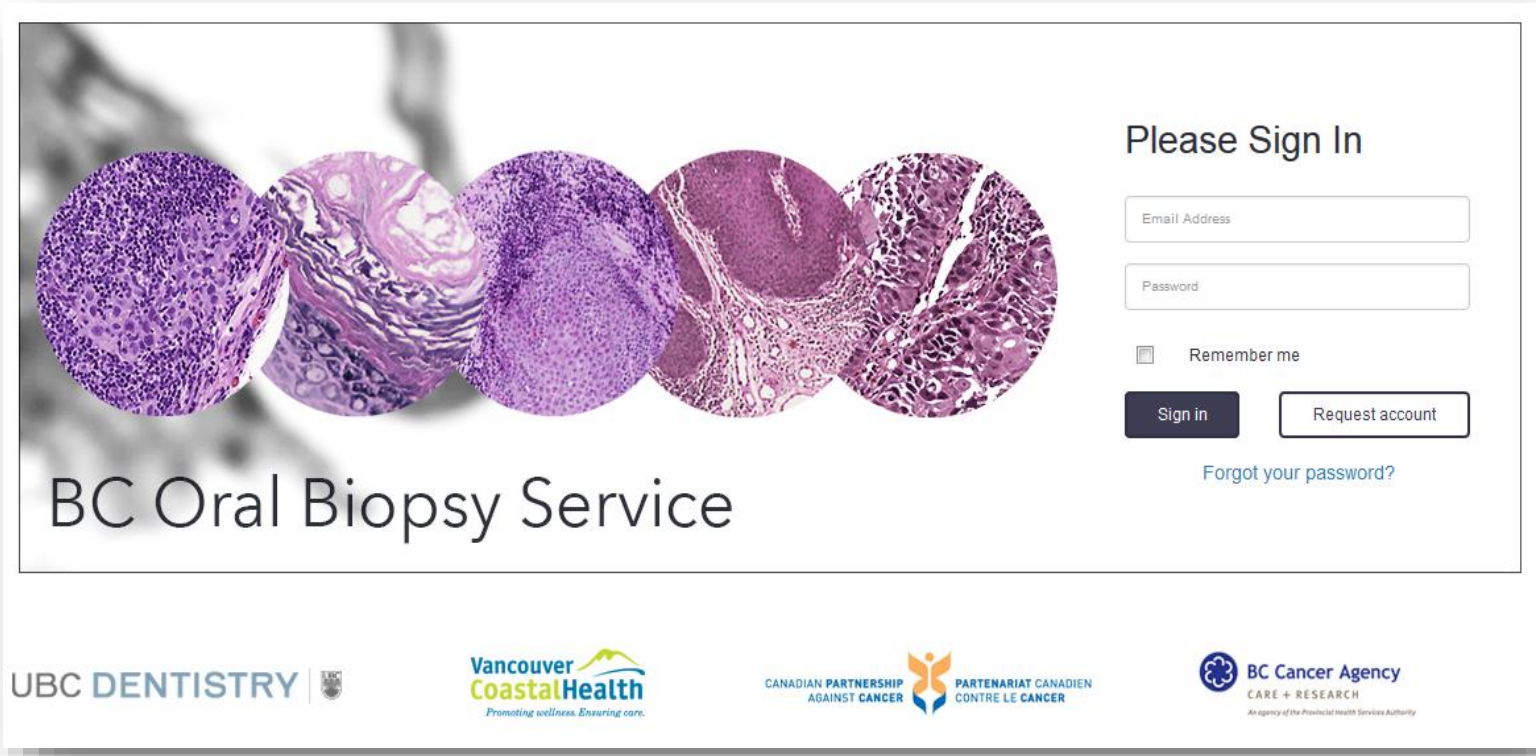
BC Oral Biopsy Service Go Live!
May 2018~

iOBS (https://iobs@dentistry.ubc.ca)

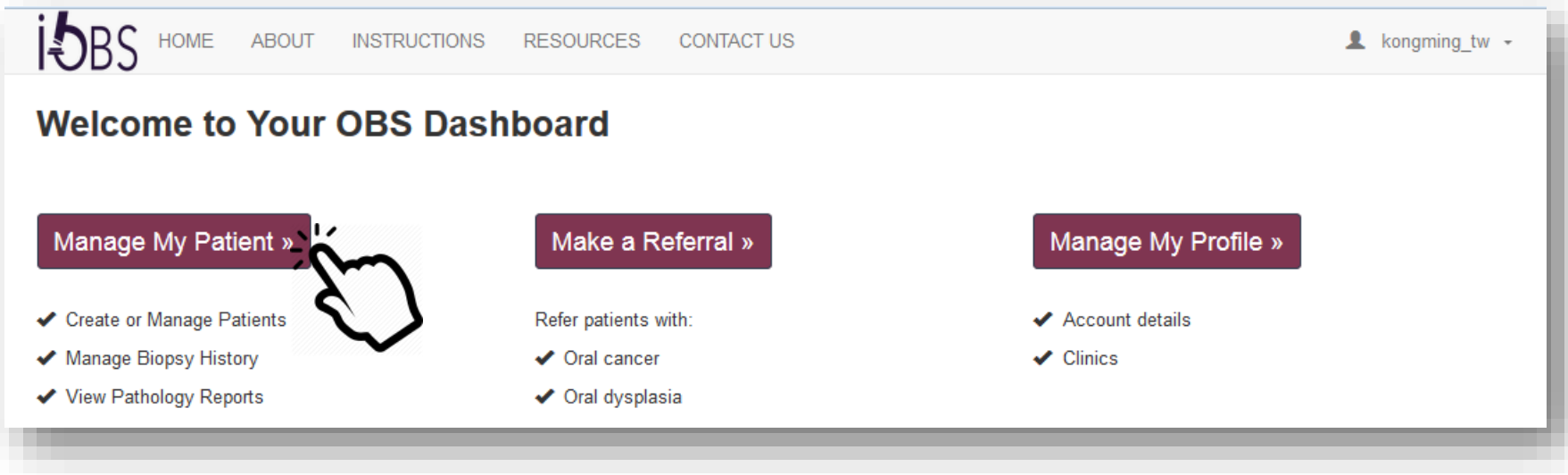


Registration

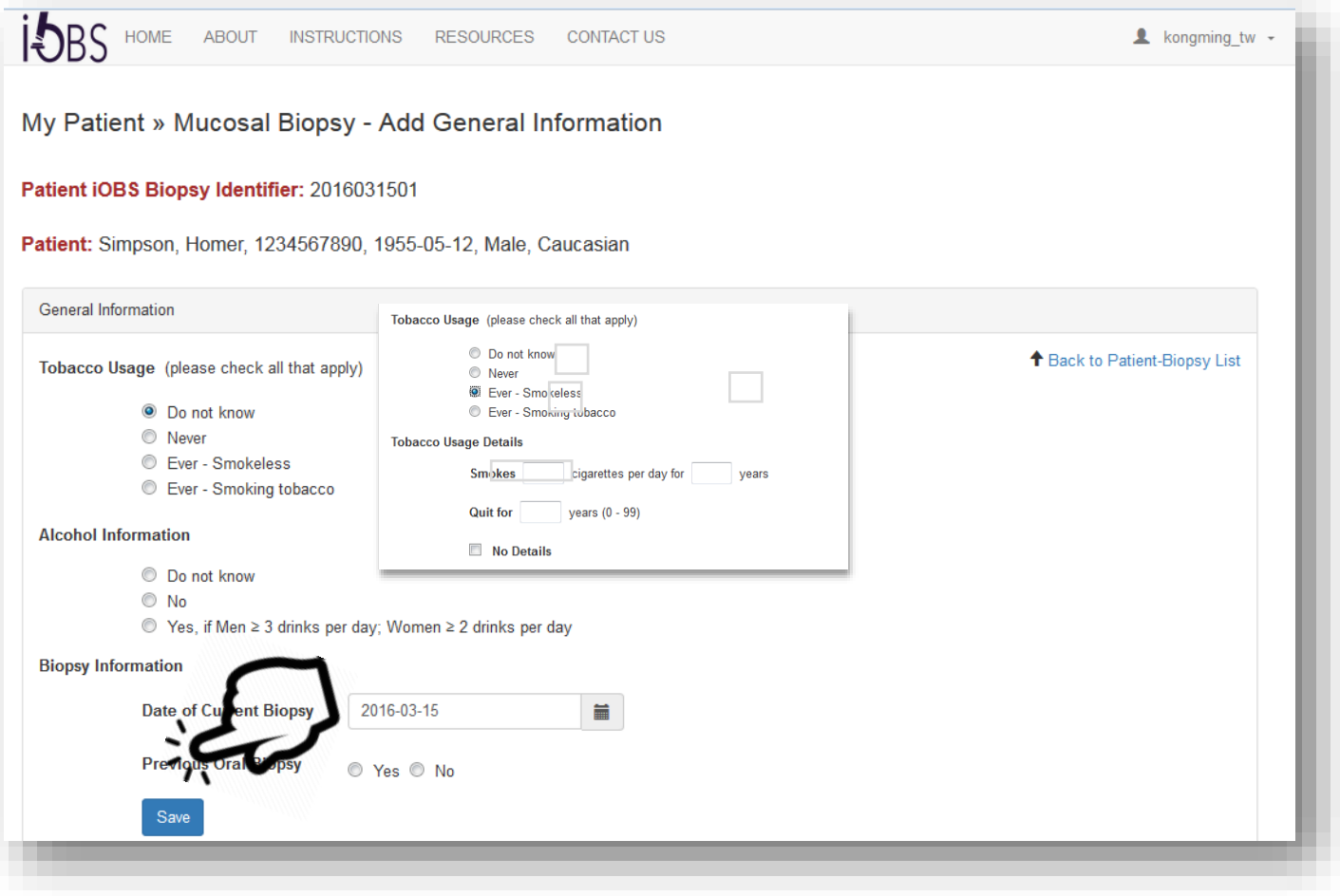
https://iobs.dentistry.ubc.ca



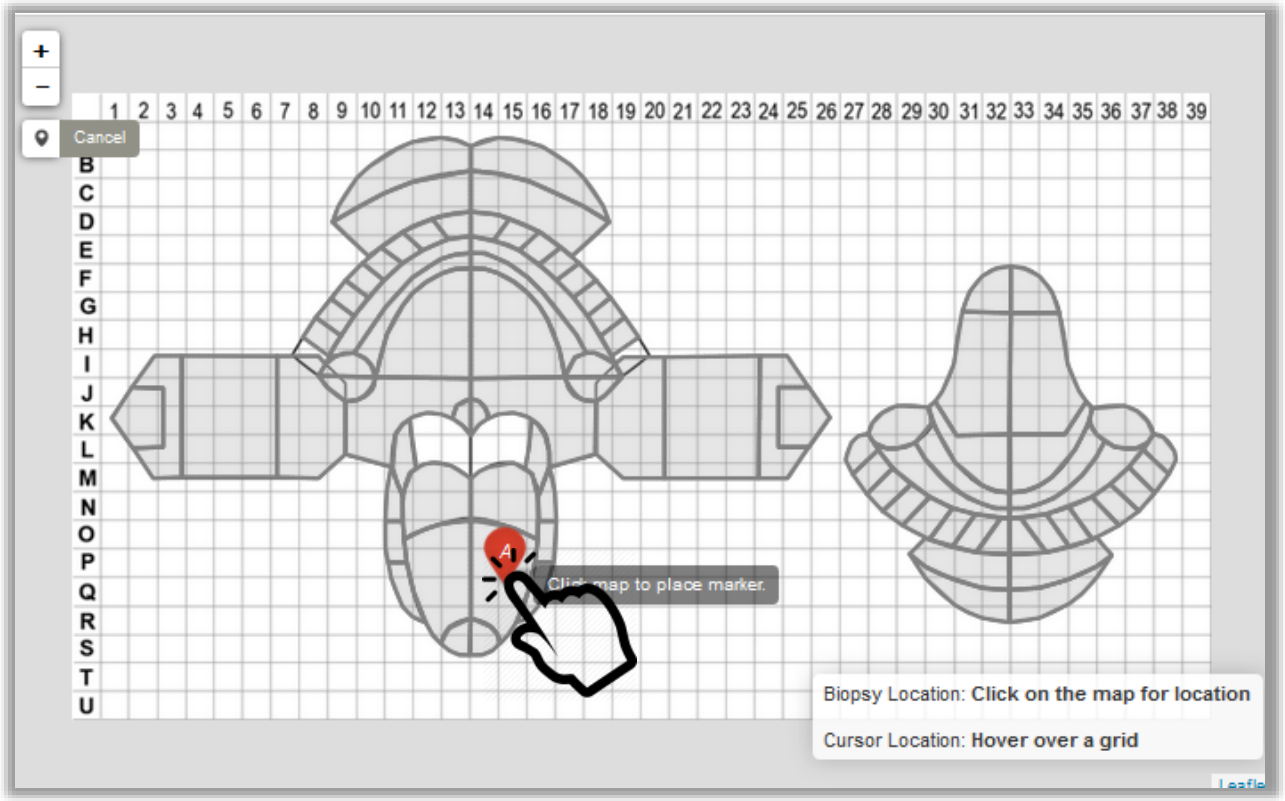
Manage Patients



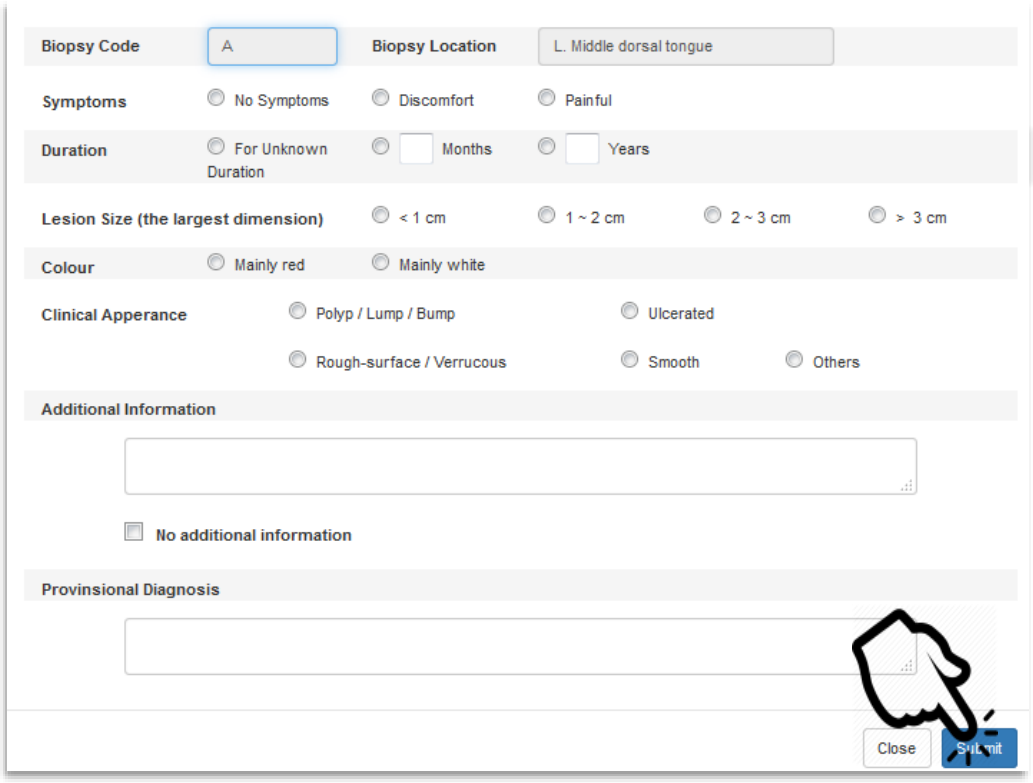
Oral Mucosa Biopsy – Patient's Risk



Biopsy Location and Description



Biopsy Location and Description



Example of Requisition Form

Vancouver Coastal Health
Promoting wellness. Ensuring care.

Oral Mucosal Biopsy

BC ORAL BIOPSY SERVICE
Vancouver General Hospital
Room 1400 JPPN1
910 West 10th Avenue
Vancouver, BC, V5Z 1M9
Fax: 604-875-4797

For reports call 1-800-992-8801

Patient: BBB, aaa

Date of Birth: 1945-01-20 (Yr-Mon-Day) **Sex:** Female **Ethnic Origin:** East-South / East Asian

PHN: 9451193408 **Other:**

Date of Biopsy: 2018-08-02 (Yr-Mon-Day) **Image:** Yes - Mail in hard copy

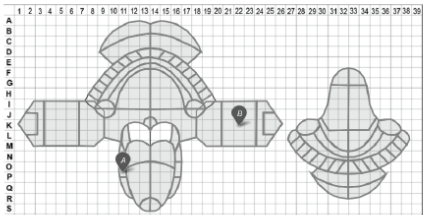
Clinical History

(2018080214) 73 y/o with no previous biopsy history

Tobacco: Smokes 20 cigarettes per day for 1 years, quit for 0 years ago **Alcohol:** No

Biopsy A: R. Middle lateral tongue, No Symptoms, Clinical Size 1 ~ 2 cm, Mainly white, Appears Ulcerated, For 60 Month(s) 0 Year(s)
Clinical Diagnosis: Lichen planus, r/o dysplasia

Biopsy B: L. Middle buccal mucosa, No Symptoms, Clinical Size 0 ~ 1 cm, Mainly white, Appears Ulcerated, For 1 Month(s) 0 Year(s)
Clinical Diagnosis: Lichen planus



Additional Comments:

Submitting Physician:

Dr. Submitting Dentist **College ID:** 0xxxx **Signature:**

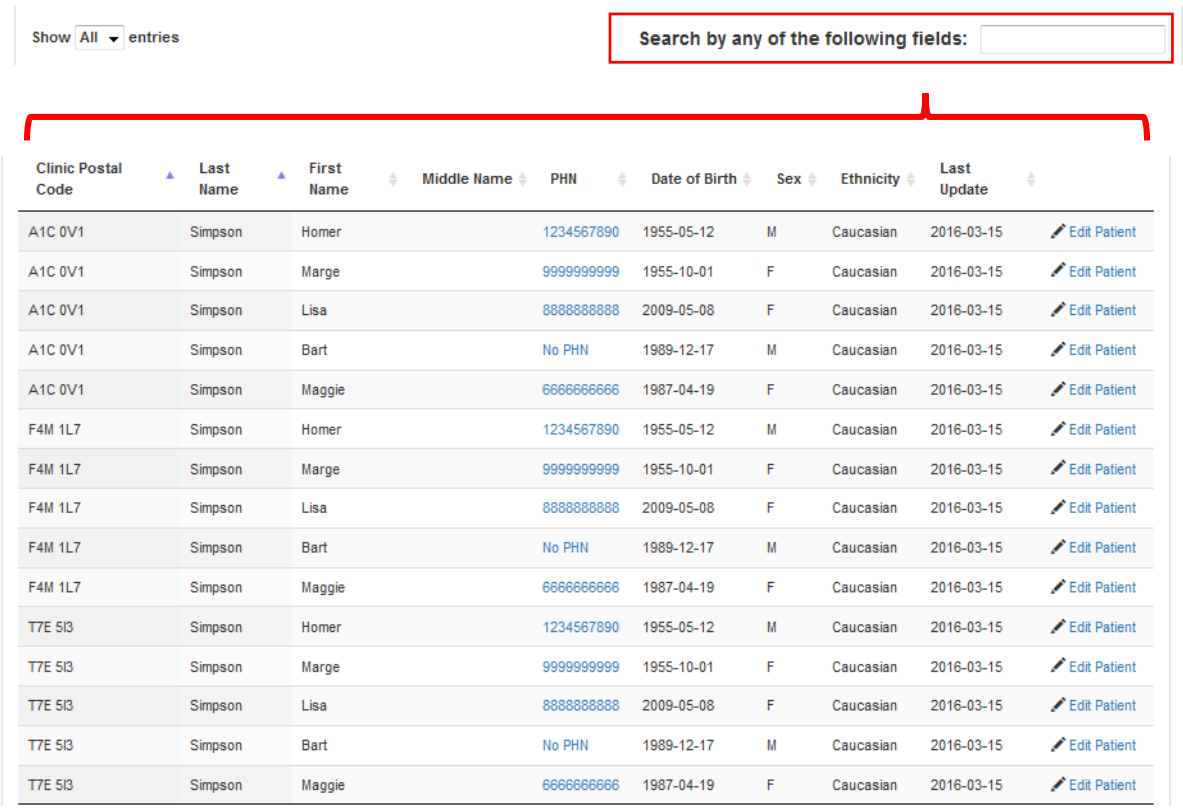
Dr. Test Monday (01002) 7 th Floor, 2775 Laurel Street, Vancouver, BC, V5Z 1M9, Tel: 604-875-4006, Fax: 604-875-5493

Copy To:

Oral Biopsy Service Registry

Dr. Catherine Poh, Oral Medicine / Pathology (College ID: 12345)

Patient Biopsy History – Search Function



Show All entries

Search by any of the following fields:

Clinic Postal Code	Last Name	First Name	Middle Name	PHN	Date of Birth	Sex	Ethnicity	Last Update	
A1C 0V1	Simpson	Homer		1234567890	1955-05-12	M	Caucasian	2016-03-15	Edit Patient
A1C 0V1	Simpson	Marge		9999999999	1955-10-01	F	Caucasian	2016-03-15	Edit Patient
A1C 0V1	Simpson	Lisa		8888888888	2009-05-08	F	Caucasian	2016-03-15	Edit Patient
A1C 0V1	Simpson	Bart		No PHN	1989-12-17	M	Caucasian	2016-03-15	Edit Patient
A1C 0V1	Simpson	Maggie		6666666666	1987-04-19	F	Caucasian	2016-03-15	Edit Patient
F4M 1L7	Simpson	Homer		1234567890	1955-05-12	M	Caucasian	2016-03-15	Edit Patient
F4M 1L7	Simpson	Marge		9999999999	1955-10-01	F	Caucasian	2016-03-15	Edit Patient
F4M 1L7	Simpson	Lisa		8888888888	2009-05-08	F	Caucasian	2016-03-15	Edit Patient
F4M 1L7	Simpson	Bart		No PHN	1989-12-17	M	Caucasian	2016-03-15	Edit Patient
F4M 1L7	Simpson	Maggie		6666666666	1987-04-19	F	Caucasian	2016-03-15	Edit Patient
T7E 5I3	Simpson	Homer		1234567890	1955-05-12	M	Caucasian	2016-03-15	Edit Patient
T7E 5I3	Simpson	Marge		9999999999	1955-10-01	F	Caucasian	2016-03-15	Edit Patient
T7E 5I3	Simpson	Lisa		8888888888	2009-05-08	F	Caucasian	2016-03-15	Edit Patient
T7E 5I3	Simpson	Bart		No PHN	1989-12-17	M	Caucasian	2016-03-15	Edit Patient
T7E 5I3	Simpson	Maggie		6666666666	1987-04-19	F	Caucasian	2016-03-15	Edit Patient

Access Pathology Report Online

My Patient » Patient-Biopsy List

Patient: Simpson, Homer

1234567890, 1955-05-12, Male, Caucasian

Patient-Biopsy List

+ Mucosal Biopsy + Non-Mucosal Biopsy

Back to Patient List

Show All entries Search:

Bx ID	Bx Date	Bx #	Bx Requisition	Path Number	Path PDF	Last Update
2016031502	2016-03-15	1	Bx PDF	VS16-123	None	2016-03-15
2016031501	2016-03-15	1	Bx PDF	Pending		2016-03-15

View this patient-biopsy on pathology page

Showing 1 to 2 of 2 entries

Previous 1 Next

Ship the Biopsy Specimen and Form

1. Remember to sign the form
2. Tighten the lid of the specimen container – make sure the specimen is in the container
3. Label the container with patient's name and biopsy site
4. Check the outdoor temperature before shipping
5. Ship it to :

BC ORAL BIOPSY SERVICE
Vancouver General Hospital
Room 1400 JPPN1 910 West 10th Avenue
Vancouver, BC, V5Z 1M9

BC Oral Biopsy Service

1. Over 35 years history (1980 ~)
2. Serving BC's residents through dental practitioners
3. Currently we have ~6000 cases per year for the past 5 yrs
4. Consulting service to medical pathology colleagues
5. Education hub for the Oral Medicine & Pathology Hospital Residency

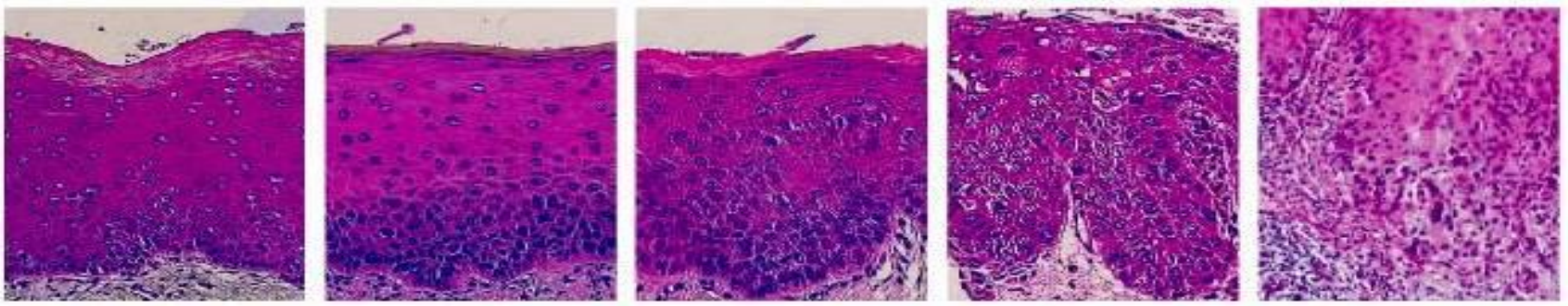
Outline

1. How to assess an oral lesion at risk clinically?
2. How to do a proper biopsy?
3. How to submit a biopsy?
4. What is dysplasia?

What is dysplasia?

Criteria often used for dysplasia (at *cellular* level) :

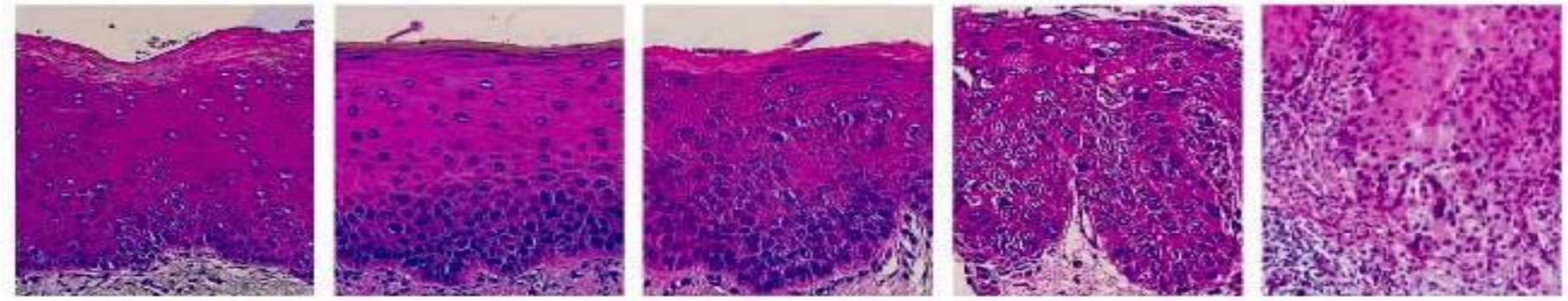
- Irregular stratification or loss of polarity of the cells in the epithelium
- Increased mitoses
- Nuclear hyperchromatism
- Increased nuclear/cytoplasmic ratio
- Polymorphism of cells
- Abnormal keratinization...



What is dysplasia?

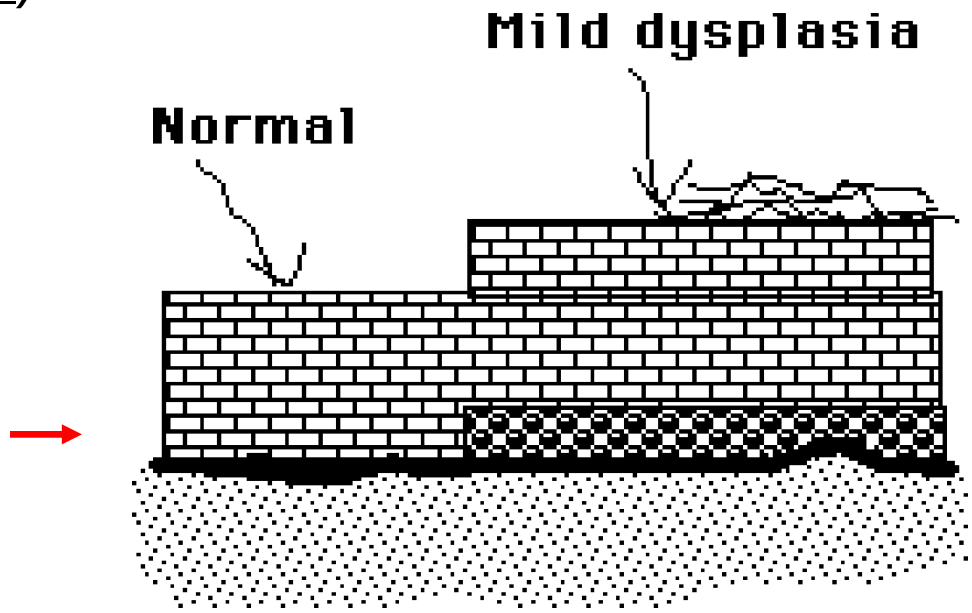
Criteria often used for dysplasia (at *architectural* level) :

- Irregular stratification or loss of polarity of the cells in the epithelium
- Increased mitoses
- Nuclear hyperchromatism
- Increased nuclear/cytoplasmic ratio
- Polymorphism of cells
- Abnormal keratinization...



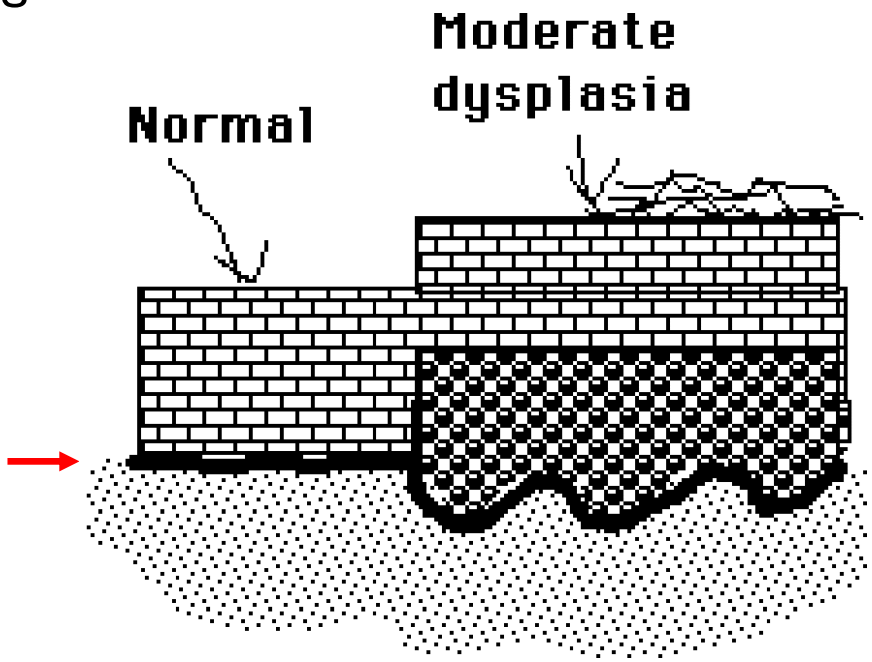
Mild Dysplasia

Dysplastic cells involving basal and parabasal cells (lower 1/3)



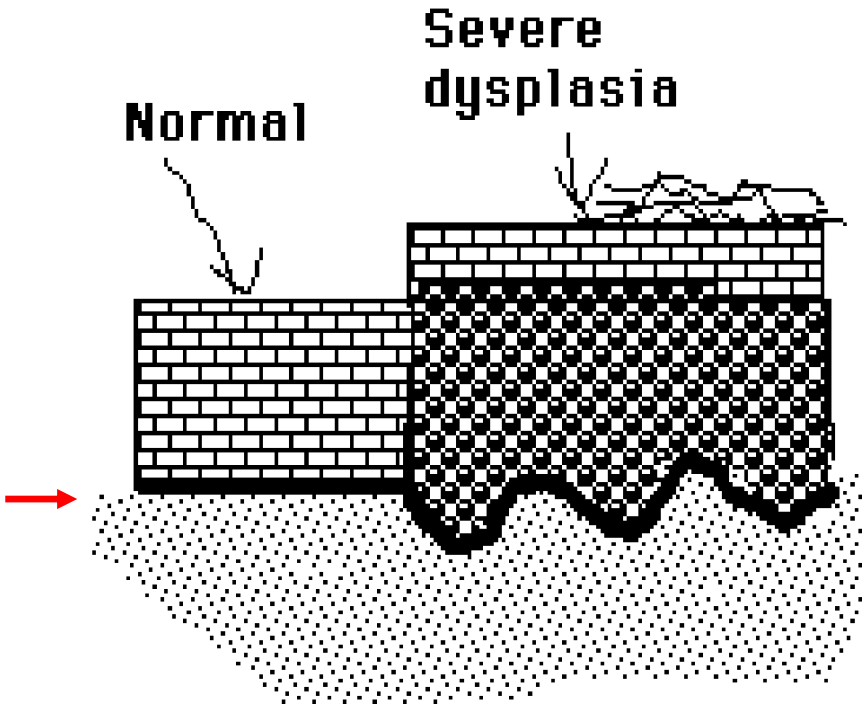
Moderate Dysplasia

Dysplastic cells involving the lower half of the epithelial cells



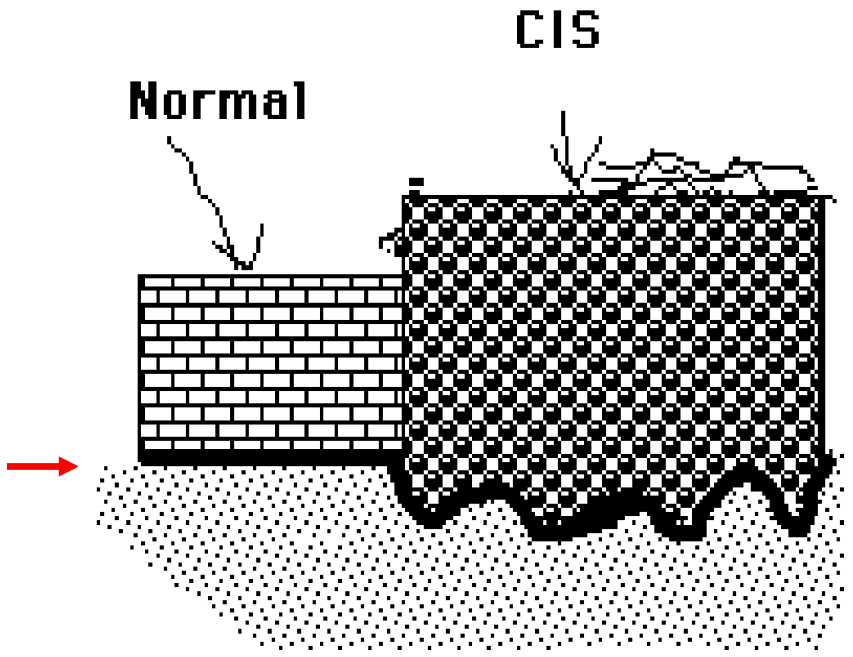
Severe Dysplasia

Dysplastic cells involving the lower 2/3 of the epithelial cells



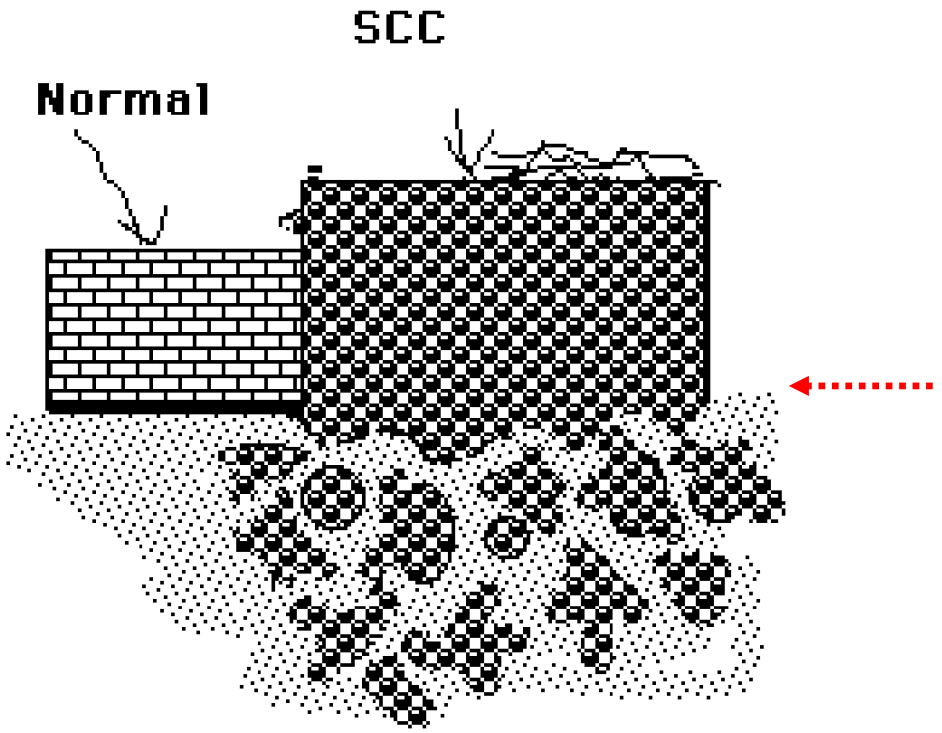
Carcinoma *in situ* (*CIS*)

Dysplastic cells involving all the epithelial layers (bottom to top)

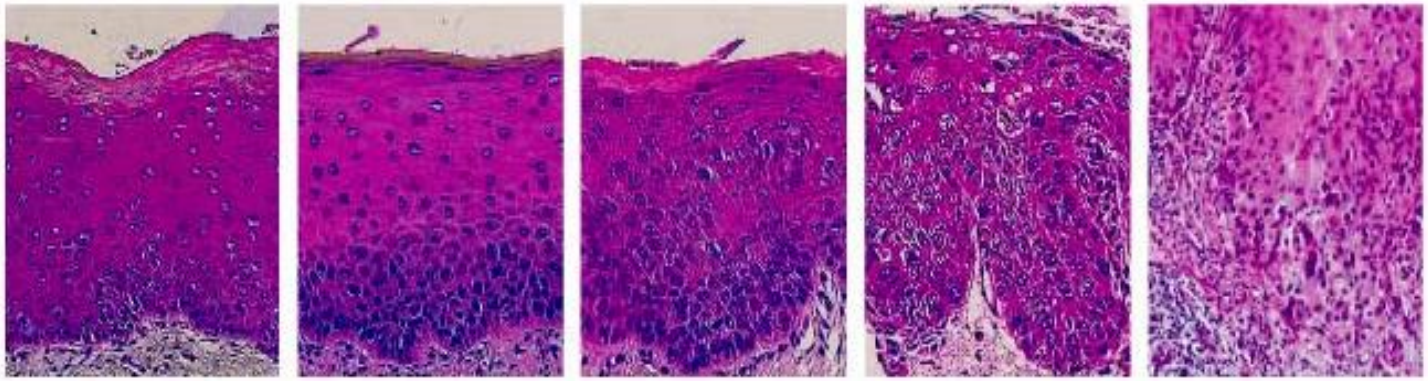


Invasive Squamous Cell Carcinoma

Basement membrane is disrupted by the dysplastic cells



Histological progression model



Hyperplasia → **Mild Dysplasia** → **Moderate Dysplasia** → **Severe Dysplasia/CIS** → **Invasive SCC**

High risk? Low risk? **High risk**

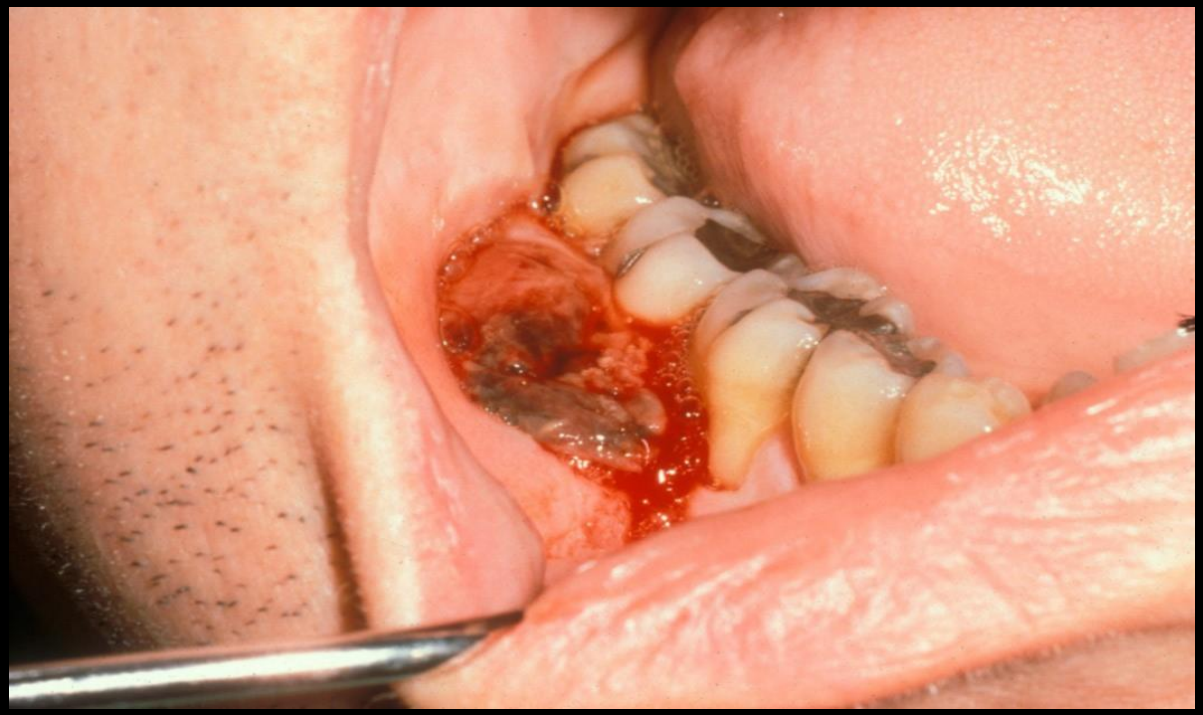
Dr. Allan Hovan

What to do next?

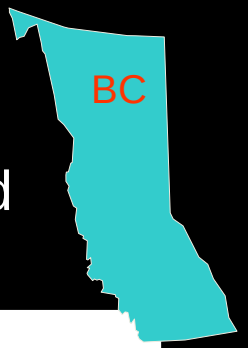
Roger Ebert
(1942-2013)

Problem Statement #1

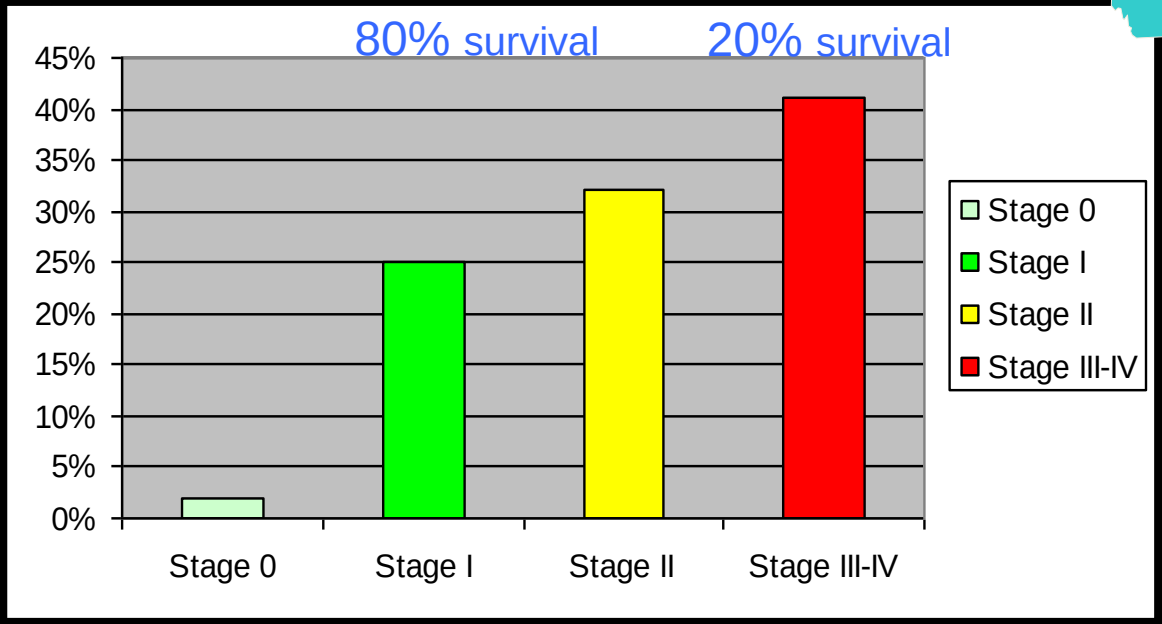
Late stage diagnosis remains a problem for a significant percentage of oral and oropharyngeal cancers in BC, resulting in poor 5-year survival rates.



Oral Cancers in BC



- 42% were diagnosed in an advanced stage



BCCA Report,2012

Five Year Survival Rates

Cancer Type	1975-1977	1984-1986	1996-2004
All Cancers	**50%**	**54%**	**66%**
Prostate	69%	76%	99%
Thyroid	93%	94%	97%
Breast	75%	79%	89%
Hodgkin's Disease	74%	79%	86%
Larynx	67%	66%	64%
Oral	**53%**	**55%**	**60%**
Colon	52%	59%	65%
Non-Hodgkins lymphoma	48%	53%	65%
Leukemia	35%	42%	51%
Multiple myeloma	26%	29%	35%
lung	13%	13%	16%

Problem Statement #2

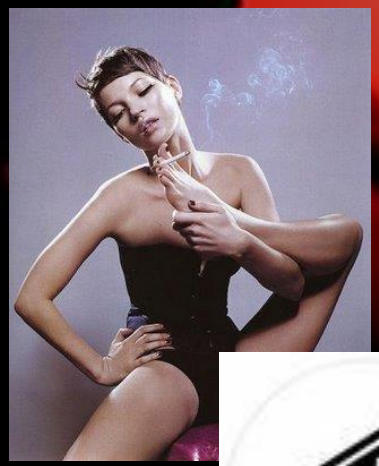
- Many cancer patients (H&N and others) are referred to Oral Oncology @ BC Cancer prior to initiating cancer care

- Once cancer therapy is complete, we refer the patient back to their community-based dentist for ongoing care

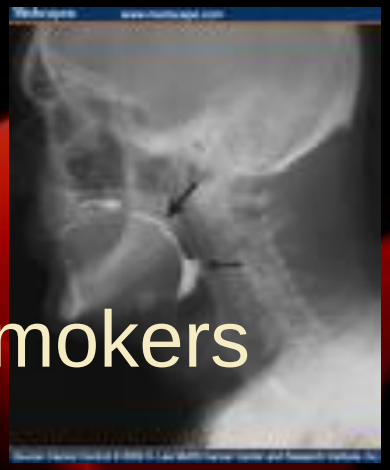
- Dentists report that they lack the knowledge to competently and safely treat cancer patients in their practice.

Even Worse…

Oral Cancer Risk Factors



Recent Changes in Epidemiology



young non-smokers

non-drinkers

Discovery of HPV in male oral cancers leads to vaccination call

Last Updated: Wednesday, May 14, 2008 | 11:40 AM ET

There's growing evidence that the virus that causes cervical cancer in women is also linked to cancers in men, leading health professionals to call for an HPV vaccination program for boys.

[…]

Recent research found more than half of some oral cancers in men are associated with the HPV.

While many Canadian provinces fund programs to vaccinate girls against HPV to prevent cancer, there are none for boys.

[...]

However, while cervical cancer is the second most common cancer in women, oral cancers linked to HPV are estimated to affect a relatively small number of men — hundreds a year in Canada.

Health Canada has not approved the HPV vaccine for boys or men. But the company that makes Gardasil is testing it on men now.

Changes in Cancer Incidence 2004-2008 (United States)

		New Cases		
Year	**all cancers**	**HNC**	**tongue**	**pharynx**
2004	1,368,030	28,260	7,320	8,250
2005	1,372,910	29,370	7,660	8,590
2006	1,399,790	30,990	9,040	8,950
2007	1,444,920	34,360	9,800	11,800
2008	1,437,180	35,310	10,140	12,410
total	7,022,830	158,290	43,960	50,000
5-year ↑	69,150	7,050	2,820	4,160
% ↑	5.1%	24.9%	38.5%	50.4%

ACS Cancer Statistics 2008


Why NOW?

Times Have Changed

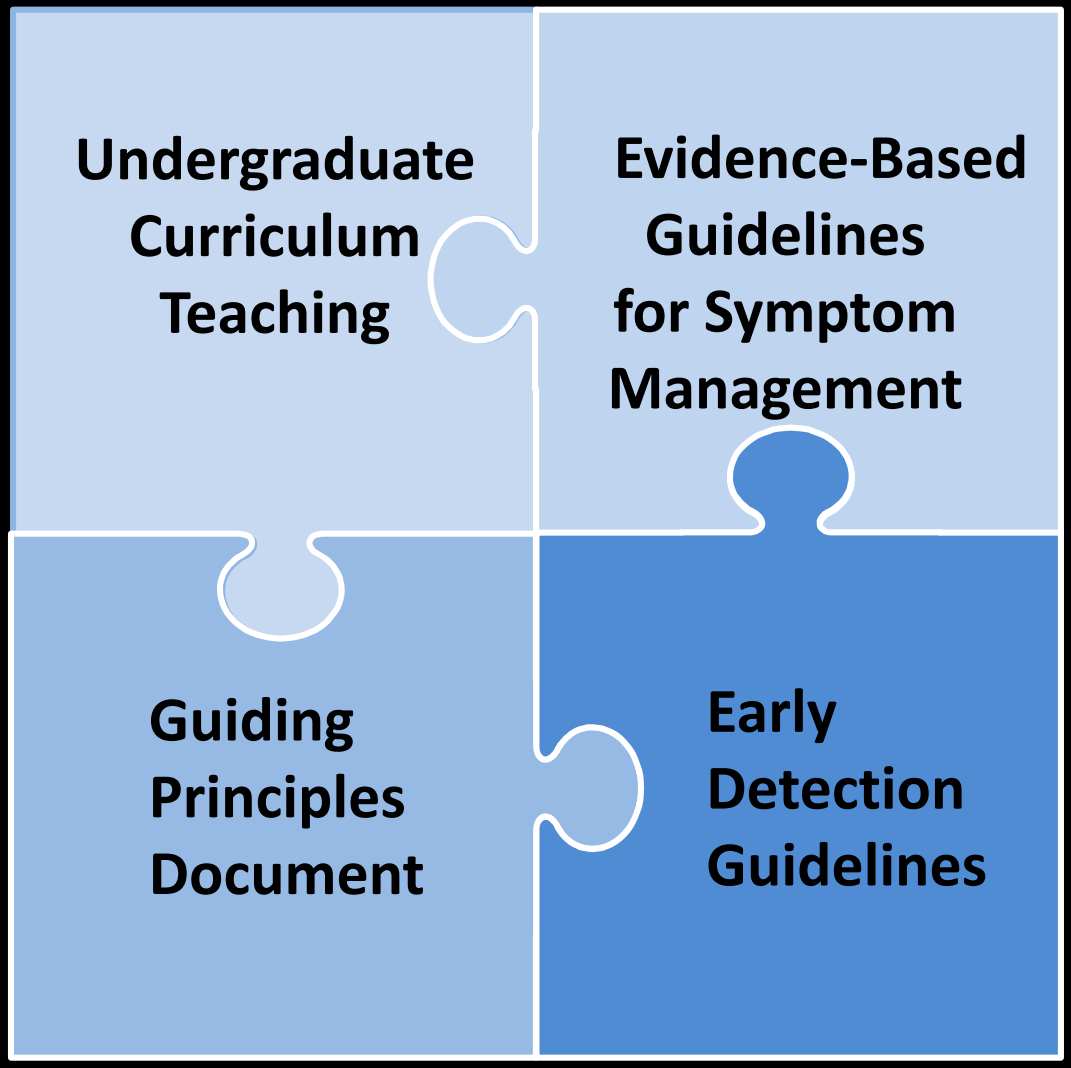
Squamous Papilloma (HPV 6/11)

HPV Tonsillar Cancer

Proposed Solution

With our centralized cancer care model in British Columbia and a highly engaged dental community, we have a tremendous opportunity to develop a comprehensive strategy to address these two issues.

Education and Communication Strategy



Training the Clinicians of the Future

Undergraduate Curriculum UBC

- Provided for first time in Fall 2017 to 3rd Year Dental Students @ UBC Faculty of Dentistry

- Twelve 2-hour Oncology lecture series with focus on managing cancer patients in general practice

Evidence-Based Guidelines

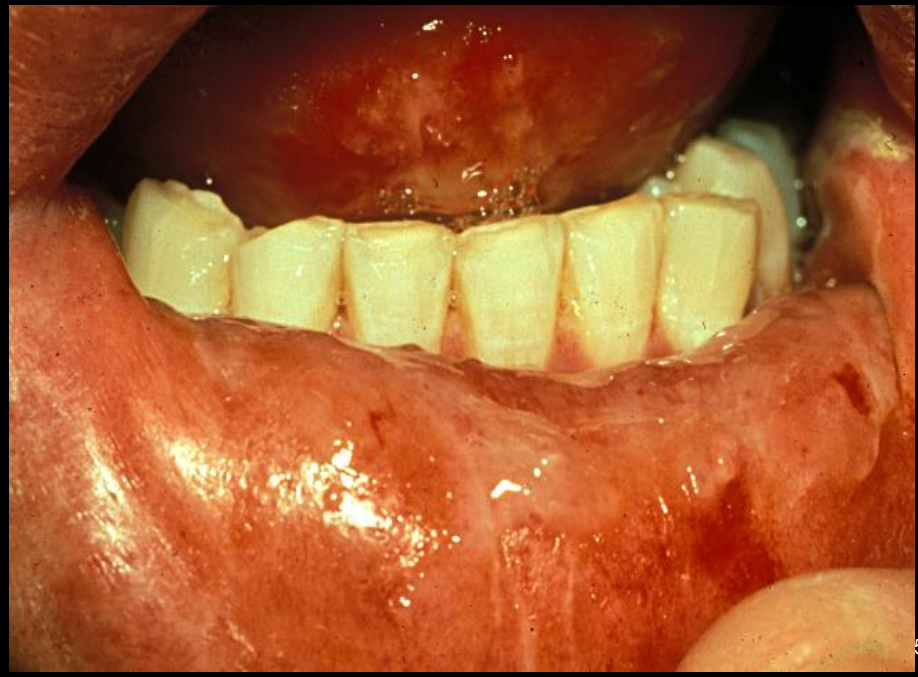
Based on the work of the Oral Care Study Group of MASCC/ISOO

Extensive literature review of 9 most common oral side-effects of cancer therapy, including:

- **Xerostomia/Salivary Gland Hypofunction**
- **Oral Mucositis**
- **Dysgeusia**
- **Trismus**
- **Fungal Infections**
- **Viral Infections**
- **Oral Graft-vs-Host Disease (GVHD)**
- **Osteoradionecrosis (ORN)**
- **Medication-Related Osteonecrosis of the Jaw (MRONJ)**

Xerostomia

Grade 4 Mucositis



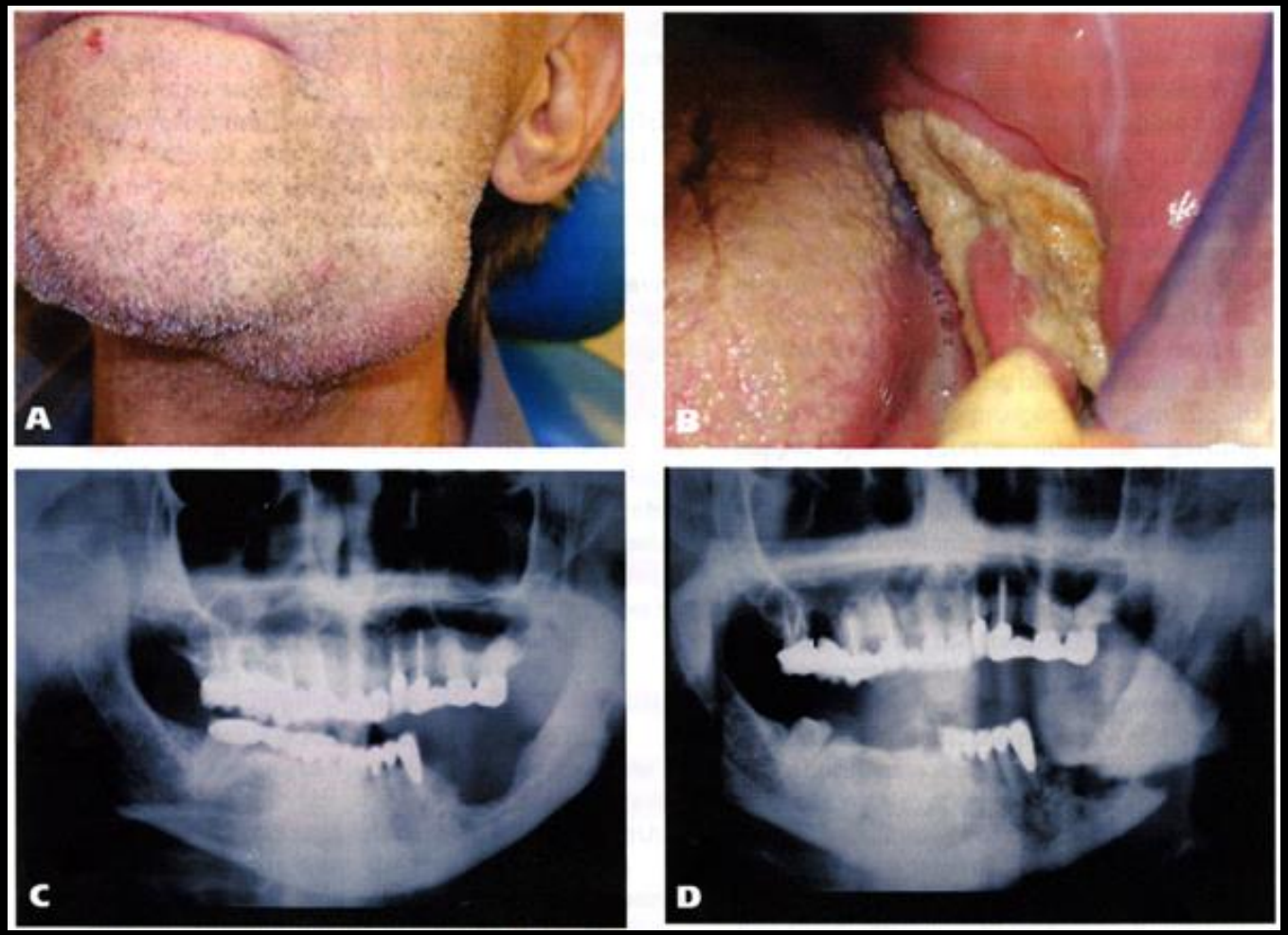
“Radiation Caries”

Fungal Infections

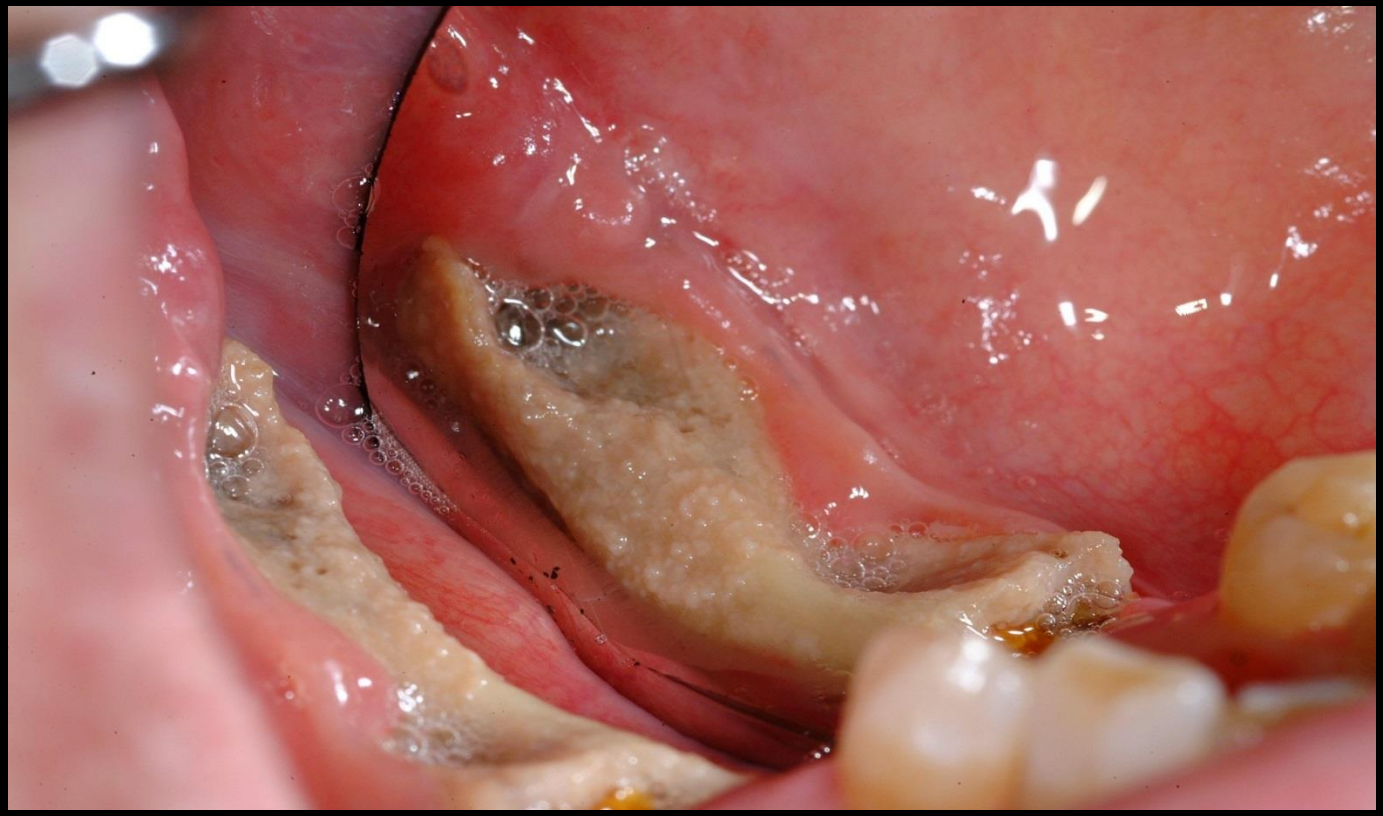
(note: clinical presentation can vary)

Viral Infections

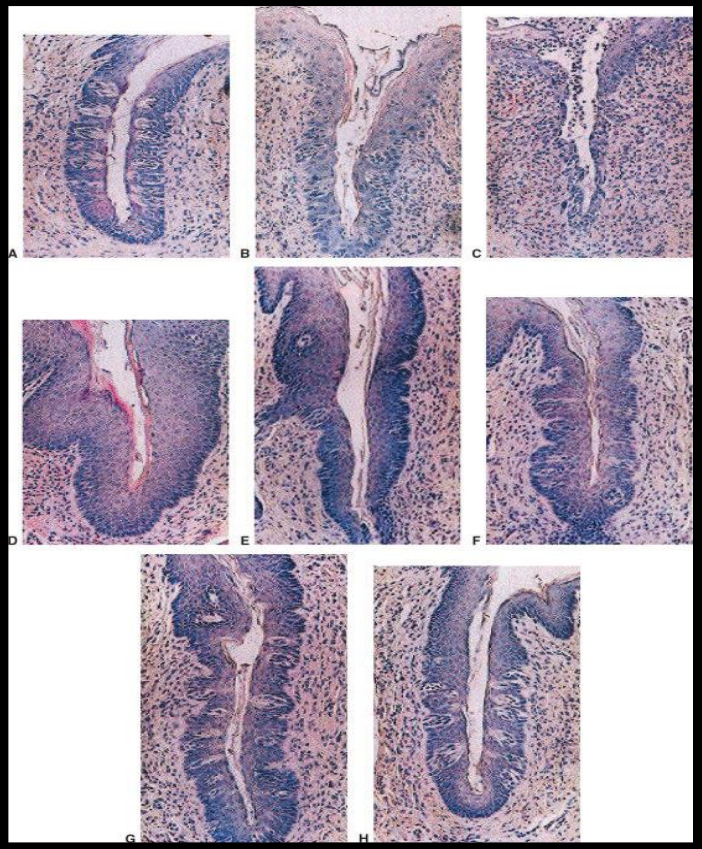
Osteo*radio*necrosis (ORN)

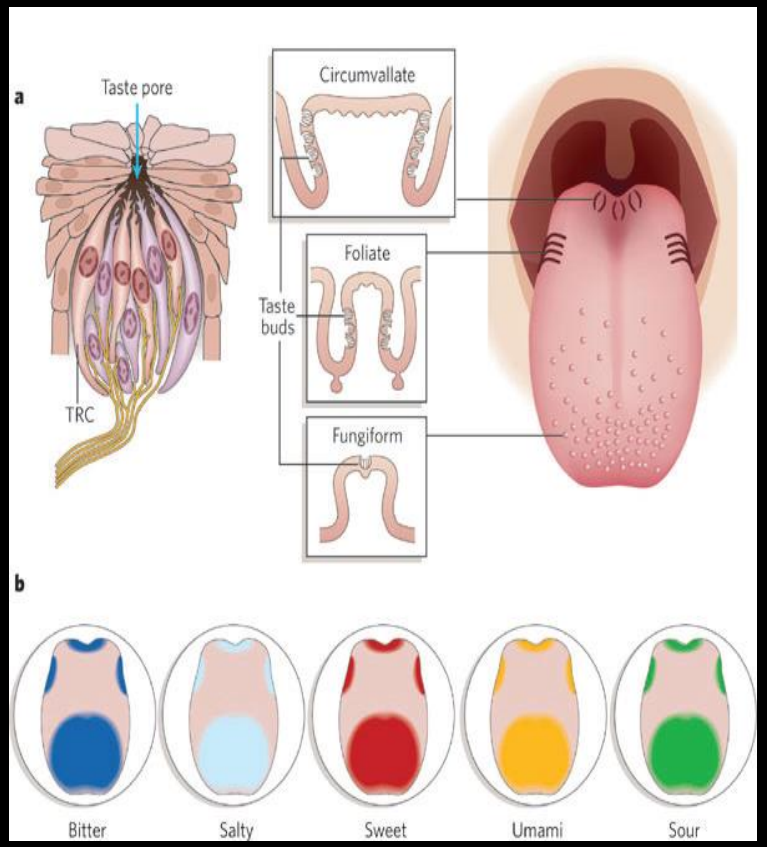


Osteo*chemo*necrosis (MRONJ)



15 Gy # - Day 0 – 28 (rat model)





Prevalence of Oral Complications

Oral complication	Prevalence
	CT only = 56.3%
Dysgeusia	RT only = 66.5%
	Combined CT and RT = 76%

MASCC/ISOO Oral Care Study Group
Systematic Reviews. Support Care Cancer 2010;18 (8)

Dysphagia (altered swallowing)

- Persistent dysphagia reported in up to 50% of head-and-neck CRT patients (defined by need for instrumental swallowing assessment – MBS, FEES)
- Patients may lose oropharyngeal swallow integrity 2^{o} XRT or surgery-induced fibrosis (tongue ROM, decreased glottic closure, decreased cricopharyngeal relaxation, etc)
- Risk for aspiration-related complications….fear of eating, social isolation, depression….
- Aggravated by inability to masticate, lubricate or mobilize food bolus

Trismus

- Occasionally seen in patients whose RT field includes the TMJ and muscles of mastication
- Treatment includes passive stretching of muscles / physio
- May need to reduce vertical dimension

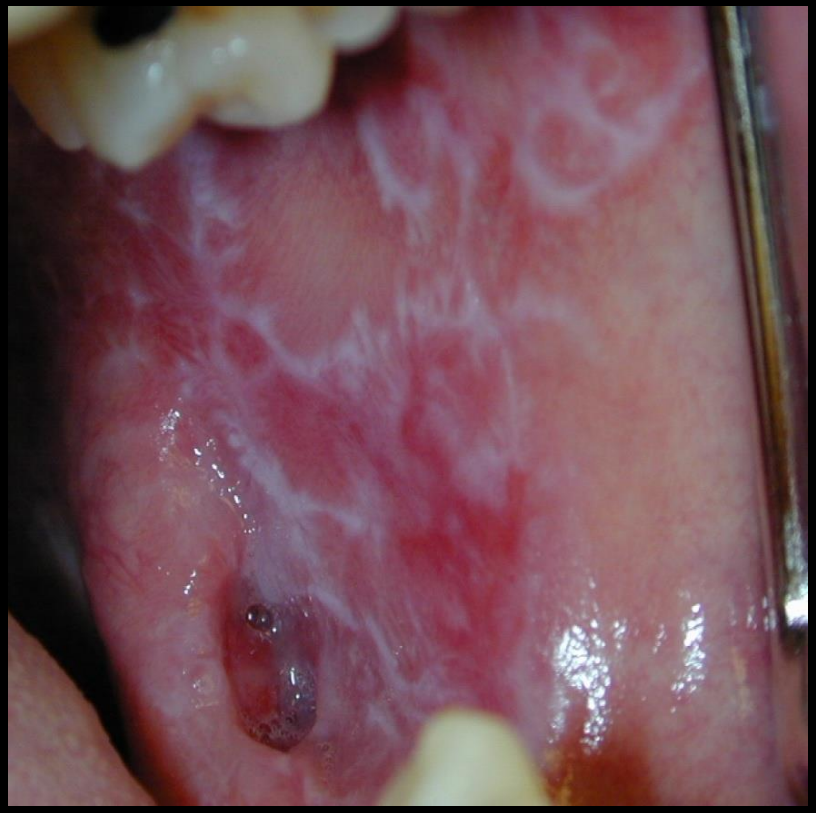
Prevalence of Oral Complications

Oral complication	Prevalence
	Conventional RT = 25.4%
Trismus	IMRT = 5%
	Combined RT and CT = 30.7%

MASCC/ISOO Oral Care Study Group
Systematic Reviews. Support Care Cancer 2010;18 (8)

Oral GVHD

(pre-malignant potential?)



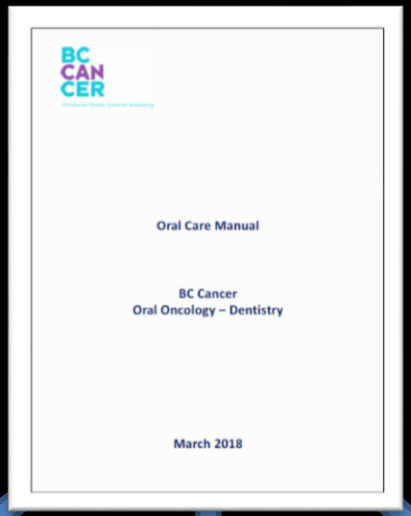
Guiding Principles Document (part of Oral Care Manual)

Answering FAQs commonly asked by dentists/physicians when treating cancer patients in their practice:

- ***Timing of elective procedures relative to chemo?***
- ***Antibiotic Coverage with central or peripheral lines?***
- ***Blood Values of Relevance to Dental Work?***
- ***Implants/Dental Extractions in Irradiated Jaws?***
- ***Prosthesis care (obturators, dentures, etc.)?***
- ***What Is/Isn't Covered for Patients?***
- ***Chemo Brain, etc***

Oral Care Manual

3 Key Components


BC CANCER

Oral Care Manual

BC Cancer
Oral Oncology – Dentistry

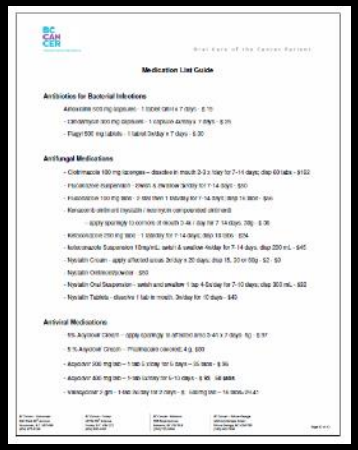
March 2018


Oral Care of the Cancer Patient

PRACTICE GUIDELINES


Oral Care of the Cancer Patient

Management of the Cancer Patient


Oral Care of the Cancer Patient

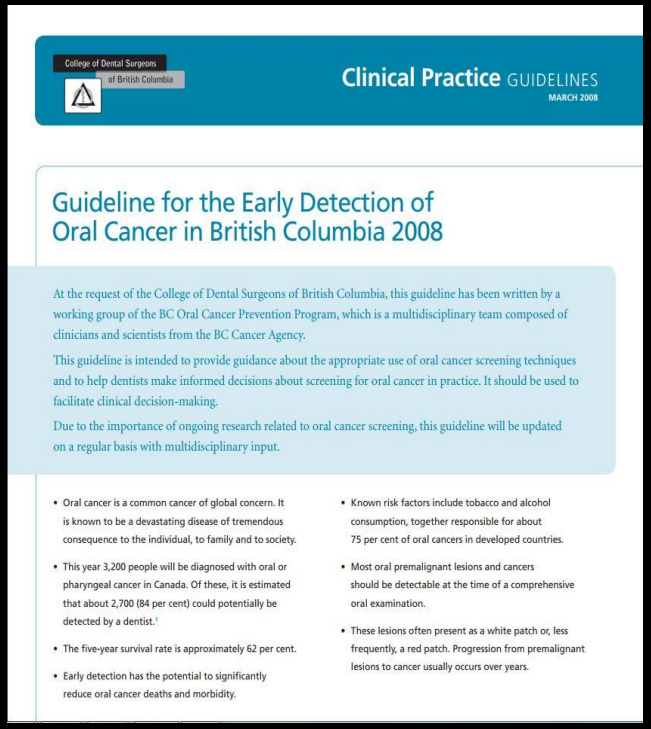
Medication List Guide

Antibiotics for Bacterial Infections

Antifungal Medications

Antiviral Medications

Guidelines on Early Detection



College of Dental Surgeons of British Columbia

Clinical Practice GUIDELINES

MARCH 2008

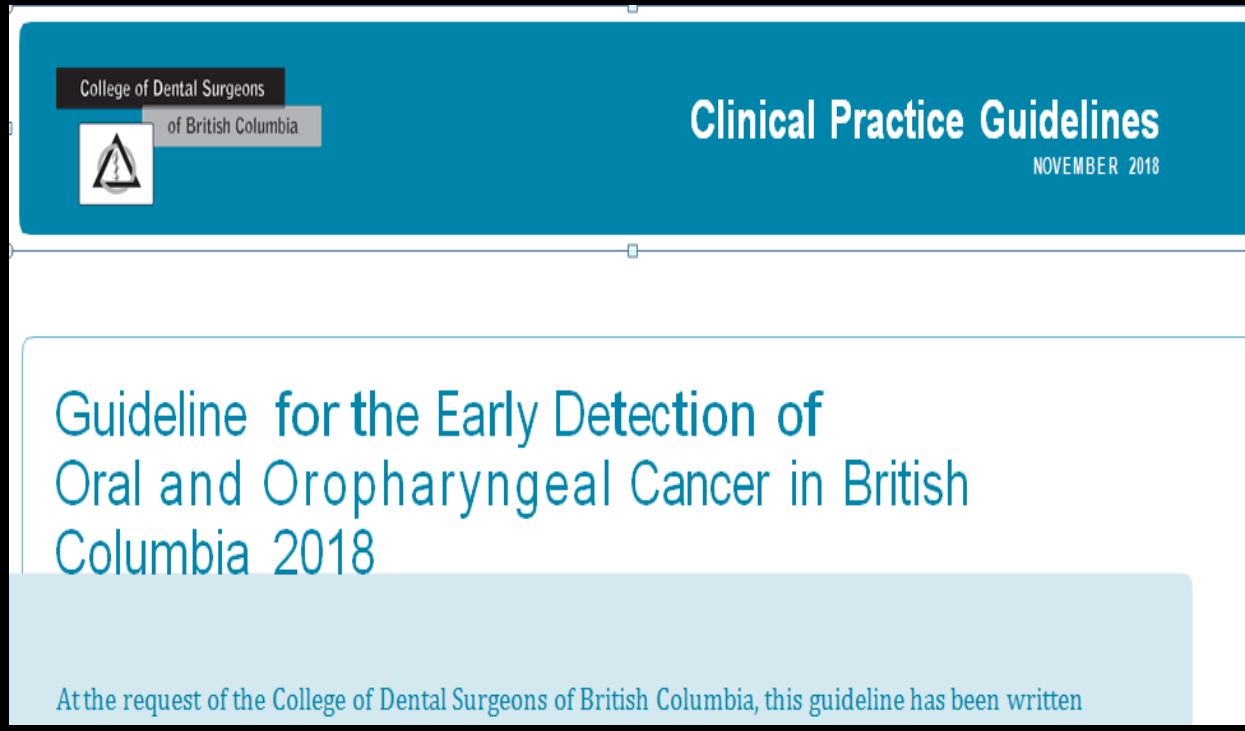
Guideline for the Early Detection of Oral Cancer in British Columbia 2008

At the request of the College of Dental Surgeons of British Columbia, this guideline has been written by a working group of the BC Oral Cancer Prevention Program, which is a multidisciplinary team composed of clinicians and scientists from the BC Cancer Agency.

This guideline is intended to provide guidance about the appropriate use of oral cancer screening techniques and to help dentists make informed decisions about screening for oral cancer in practice. It should be used to facilitate clinical decision-making.

Due to the importance of ongoing research related to oral cancer screening, this guideline will be updated on a regular basis with multidisciplinary input.

- Oral cancer is a common cancer of global concern. It is known to be a devastating disease of tremendous consequence to the individual, to family and to society.
- This year 3,200 people will be diagnosed with oral or pharyngeal cancer in Canada. Of these, it is estimated that about 2,700 (84 per cent) could potentially be detected by a dentist.[1]
- The five-year survival rate is approximately 62 per cent.
- Early detection has the potential to significantly reduce oral cancer deaths and morbidity.
- Known risk factors include tobacco and alcohol consumption, together responsible for about 75 per cent of oral cancers in developed countries.
- Most oral premalignant lesions and cancers should be detectable at the time of a comprehensive oral examination.
- These lesions often present as a white patch or, less frequently, a red patch. Progression from premalignant lesions to cancer usually occurs over years.



College of Dental Surgeons of British Columbia

Clinical Practice Guidelines

NOVEMBER 2018

Guideline for the Early Detection of Oral and Oropharyngeal Cancer in British Columbia 2018

At the request of the College of Dental Surgeons of British Columbia, this guideline has been written

Roll-Out

- UBC Undergraduate Curriculum - In place
- Oral Care Manual – Pacific Dental Conference March, 2018
- Early Detection Guideline Update – November 2018
- Website/ SHOP Launch – Early 2019
- ASCO Adoption of Guidelines (MRONJ, Mucositis)

What Can We Do As Dentists?

- Ask about any usual symptoms (nasal stuffiness, sore throat, voice change, dysphagia, blood in sputum, paresthesias, lumps and bumps, etc.)
- Do a proper H&N exam (see BCDA website)
- Do a thorough intra-oral exam
- If in doubt, refer


03/24/2014


03/24/2014

More Importantly…….

More Importantly….
BJ Miller – Ted Talks

Thank You

Early detection of oral cancer can save a life.

Dentists have an excellent opportunity to screen for oral cancer. The responsibility lies with both general practitioners and specialists alike.

Questions?