Episode 77 – Oral Cancer: Part 2 January 27, 2023

Introduction

Oral cancer may go unnoticed in its initial stages since early oral cancers and precancerous lesions are often subtle and asymptomatic. Signs and symptoms can vary depending on location and type of malignancy. In addition, when clients are considered low risk for oral cancer (e.g., nonsmokers), both the client's and clinician's index of suspicion for malignancy may be low. When a malignant tumour is discovered, prognosis depends on early diagnosis and treatment. If oral cancer is detected early, the 5-year survival rate may be as high as 90%. [1] [2] [3]

5-year relative survival by stage and tumour site [3]

Stage	Lip	Tongue	Floor of mouth
Early stage or localized (stage 1 or 2)	93%	78%	75%
Locally advanced or regional (stage 3, 4A, or 4B)	48%	63%	38%
Metastatic (stage 4C)	52%	36%	20%

Delay in diagnosis

Delay in diagnosis may be related to the client (i.e., client/patient delay) or related to the clinician (i.e., professional delay). [1]

Diagnostic delay

	Client delay	Professional delay
Defined	Time from symptom onset to initial visit to an oral healthcare or medical professional. [1]	Time client is under professional care until final diagnosis (i.e., tumour is histologically confirmed malignant). [1]
Diagnostic barriers	Research shows low public awareness of head and neck cancers, including risk factors (e.g., tobacco and alcohol use, human papilloma [HPV] infection) and common symptoms. [4] [5]	Casey et al. (2023) found HPV-related conversations by clinicians were infrequent in oral healthcare settings. Barriers reported by oral healthcare clinicians included: • Insufficient knowledge • Lack of skills and training related to discussion of HPV-associated prevention, risks, and outcomes

	Client delay	Professional delay
		• Discomfort initiating sensitive HPV conversations • Uncertainty of oral healthcare provider roles [6] [7]
Factors helping to prevent diagnostic delay	Parents comfortable having discussions about HPV and HPV vaccination in oral healthcare settings. Most parents expect oral healthcare providers to discuss HPV and cancer with them or their children. [8]	Strong willingness among oral health providers to learn about HPV[1] and improve HPV vaccine uptake to prevent oropharyngeal cancer.[2] [6] [7]
	Casey et al. (2023) found most unvaccinated clients visited their oral healthcare provider within prior year, emphasizing the opportunity for oral healthcare providers to promote awareness about HPV-associated risks, transmission, and preventive strategies. [6] [7]	Screen all clients regularly for oral cancer and maintain high suspicion level, regardless of client risk factors (e.g., alcohol and tobacco consumption). Promptly refer suspicious lesions to appropriate specialists. [1] [9]
	ODHA client factsheets:[3] • Oral Cancer Screening • Oral Cancer Self-Examination • Human Papillomavirus (HPV) & Oral Care Canada's Guidance on Alcohol and Health[3]	Educate clients on topics such as: • Importance of regular appointments for oral cancer screening • Oral cancer signs and symptoms • Oral cancer risk factors (e.g., HPV, alcohol, tobacco)[4] • Avoiding high-risk behaviours[5] • Performing oral cancer self-screening; seeking care if a lesion or abnormality is discovered. [1]

Canada's Guidance on Alcohol and Health

Canada's Guidance on Alcohol and Health (2023) replaces the *Low-Risk Alcohol Drinking Guidelines*. The new guidance supports individuals in making informed health decisions and presents a continuum of risk associated with drinking alcohol, allowing individuals to decide where they are comfortable on the continuum.

Research shows the more an individual drinks, the more they increase their risk of seven types of cancer, most types of cardiovascular diseases, liver disease, and violence. Recent data show alcohol use causes nearly 7,000 cases of cancer deaths

[1] ODHA offering the course 'Head & Neck Cancers: Human Papillomavirus (HPV)', presented by Dr. Marla Shapiro. The course provides a foundation for dental hygienists to carry out high quality HPV counselling in their practice. https://odha.on.ca/courses/
[2] Episodes 7, 12, 53, 61, and 76 for additional information on HPV.
[3] Refer to Client Resources below for hyperlinks to factsheets & Canada's Guidance on Alcohol & Health
[4] Refer to Episode 76 for more information on oral cancer risk factors.
[5] Refer to Episode 53 for discussion on risk factors for HPV infection.

each year in Canada, with most cases being breast or colon cancer, followed by cancers of the rectum, oral cavity and throat, liver, esophagus, and larynx. Research has shown no amount or kind of alcohol, whether it is wine, beer, cider, or spirits, is good for an individual's health. [10] [11] [12]

The guidance states:

- No more than 2 drinks on any day, less is better.
- 1-2 standard drinks per week is low risk.
- 3-6 standard drinks per week is a moderate risk.
- 7 or more standard drinks per week is an increasingly high risk.
- There is no known safe amount of alcohol when pregnant or trying to conceive. [10]

Standard drink [12]

Type	**Beer**	**Cooler, cider, ready-to-drink**	**Wine**	**Spirits** (whisky, vodka, gin, etc.)
Amount	341 ml (12 oz) 5% alcohol	341 ml (12 oz) 5% alcohol	142 ml (5 oz) 12% alcohol	43 ml (1.5 oz) 40% alcohol

Impact of COVID-19 pandemic

The COVID-19 pandemic has interrupted continuity of care and preventative healthcare visits, including restrictions on oral healthcare due to office closures amid lockdowns. It has also led to a dramatic rise in oral cancer risk factors, such as increased tobacco and alcohol use, poor diet, and obesity rates, and decreased oral hygiene. Continuation of these trends may lead to future increases in global oral cancer rates. [13]

Varin et al. (2022) found increased alcohol use as well as past month heavy episodic drinking across specific sociodemographic subgroups in the Canadian general population during the COVID-19 pandemic. [14]

Remschmidt et al. (2022) conducted a retrospective study to quantify the COVID-19 pandemic's effect on oral squamous cell carcinoma (OSCC) tumour volume[6] and TNM stage[7] at the time of initial diagnosis. The study cohort included all patients who were primarily diagnosed with OSCC between March 2018 and March 2022.

Results showed a profound impact of the COVID-19 pandemic on TNM stage and tumour volume of OSCC over the 4-year timeframe. This development may be caused by the postponement of primary care services, such as routine oral healthcare appointments as a consequence of government lockdown policies and social restrictions, as well as prioritized treatment of individuals with COVID-19 in clinical centres.

[6] Tumour volume is the amount of space taken up by a tumour.
[7] TNM is a cancer staging system. T refers to size and extent of the primary tumour. N refers to the number of nearby lymph nodes positive for cancer. M refers to whether the cancer has metastasized. [35]

The study emphasizes the importance of oral cancer screening during routine examinations to detect and initiate oral cancer treatment early. [15]

Stringer et al. (2022) retrospectively reviewed the maxillofacial emergency database of a UK hospital after noting a surge in individuals attending the emergency department for painful orofacial lesions. Between March 2020 and October 2021, 34 patients attended with oral ulceration and nonodontogenic neck swellings, out of which nine were subsequently diagnosed with oral/oropharyngeal cancer. All patients had stage IV cancers. Three had progressive or recurrent disease, and two succumbed to the illness. Only one patient was deemed suitable for surgical cancer treatment.

Lack of access to essential and urgent care during the COVID-19 pandemic and consequent reduction in referrals, as well as fear among individuals to seek help, even when experiencing problems or symptoms, were likely causes of this presentation to the emergency department. [16]

Lo Giudice et al. (2022) retrospectively assessed delays in patients diagnosed with OSCC in a tertiary care University Hospital in Naples, Italy. The authors found an increased delay in diagnosis, but not treatment, among patients with oral cancer during the COVID-19 pandemic. [17]

A population-based study by Schoonbeek et al. (2022) in the Netherlands found the incidence of head and neck cancer (HNC) was nearly 25% less in 2020 during the first wave of the COVID-19 pandemic than in corresponding periods in 2018 and 2019. The lower incidence was mainly observed in oral cavity and laryngeal cancers. Tumour stage and treatment distribution did not differ. However, in the remaining months of 2020, a borderline significant trend towards higher proportion of stage IV tumours became apparent.

The lower reported incidence of HNC might be due to patient, clinician, or tumour-related factors. For example, individuals with non-COVID symptoms may not have sought care because the healthcare system was overwhelmed or due to fear of contracting the virus. Also, most medical consultations were virtual or by phone preventing physical examinations. Detection of oral lesions was further restricted by temporary closure of oral healthcare practices, which may explain the lower reported incidence of oral cavity cancers.

Symptoms, such as coughing and hoarseness in laryngeal carcinoma, may resemble signs of COVID-19. During the first wave, COVID-19 testing capacities were too limited to test everyone with symptoms, and people were advised to stay home. Insufficient investigation of those with symptoms may partly explain the significant decline in laryngeal carcinoma incidence.

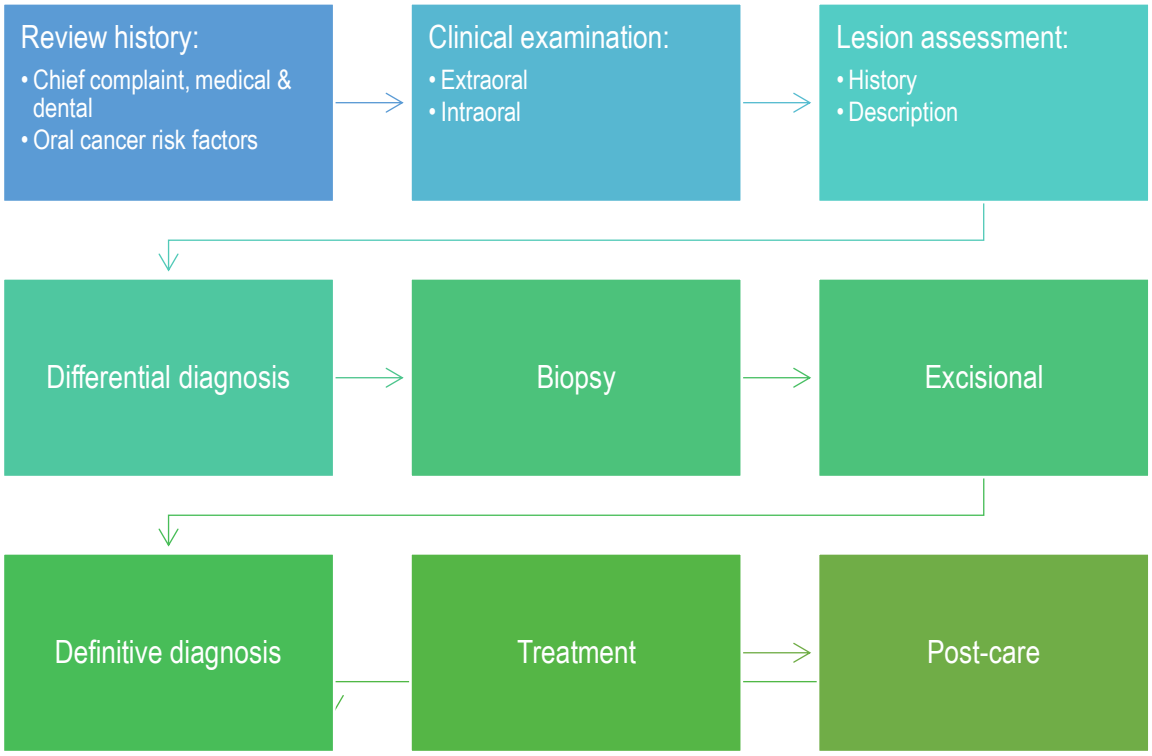
The lack of decline in oropharyngeal and hypopharyngeal carcinoma incidence may be due to many of these carcinomas are diagnosed at advanced stages, when the person feels an urgent need to seek medical attention due to symptoms and these symptoms are more obvious of carcinoma to healthcare professionals.

The expected increase in HNC incidence during the remainder of 2020 was not observed. It may be explained by patients not yet diagnosed with HNC died of or died during COVID-19. Risk factors for mortality from COVID-19 overlap with risk factors for HNC (i.e., smoking, male sex). Furthermore, the presence of comorbidities and frailty is high in those with HNC, which could also contribute to the mortality risk.

The authors concluded despite the overloaded healthcare system, the standard treatment for HNC was delivered within a shorter time interval than usual, demonstrating shorter time-to-treatment intervals are possible within the Netherlands' centralized HNC care setting where this oncological care is prioritized. [18]

Oral cancer screening
The process for oral cancer screening begins with thoroughly reviewing client history, including chief complaint, and medical and dental history. This is followed by a comprehensive clinical examination, including extraoral, intraoral, and assessment of any lesions or abnormalities. Diagnosis and treatment are then determined, including necessary post-care. [19]

Systematic approach [19]



Chief complaint and dental history
In some situations, the client will have no complaints and will be unaware of a lesion or abnormality because most oral premalignant lesions or early cancers have few if any symptoms. If symptoms are present, gather information about:

- Onset, location, intensity, frequency, and duration.
- Symptom changes (e.g., improved, remained unchanged, worsened).

- Aggravating or relieving factors.

Persistent oral sensitivity or a sense of mucosal “roughness” may be warning signs. If a clinician is unsure of the identity of a lesion, refer to a specialist. [19]

Medical history

- Review medical history including current prescribed and over the counter (OTC) medications. Certain drugs may cause oral tissue changes with features similar to premalignant or early cancer. For example, certain drugs can cause oral mucosa pigmentation (e.g., antimalarial drugs). Steroids delivered in inhaler or oral form and medications causing dry mouth increase risk of oral candidiasis, which often appears as whitish, nonadherent plaques.[8]
- Review known systemic conditions as certain conditions can exhibit oral manifestations (e.g., lichen planus can manifest cutaneously and intraorally).[9]
- Gather information regarding previous cancer history (type and associated treatment). Individuals with history of oral cancer have a higher risk of developing another oral cancer, especially if they continue to use tobacco or alcohol. Previous cancer of esophagus, larynx, lung, or cervix also increases oral cancer risk. [20]
- Review alcohol and tobacco use (e.g., cigarettes, pipes, cigars, water pipes, chewing tobacco, smokeless tobacco, cannabis, e-cigarettes, betel quid, etc.), including type, frequency, duration, and amount, for all new clients and update at recare appointments. [19]

Clinical examination

Clinical examination should always include extraoral and intraoral components. Perform examinations thoroughly and systematically to help ensure nothing is missed. Record if the soft tissue is within normal limits (WNL), or not. If there is an abnormality, further details are recorded (e.g., size, colour, location, surface texture, consistency). Knowledge of normal anatomy and common variations of normal is important to determine if a structure is abnormal or within normal limits. [19] [21]

Oral cancer signs and symptoms

Signs and symptoms to look for include:

- Lip or mouth sore that bleeds easily or does not heal within two weeks
- White, red, or white/red patches
- Lump or thickening in the lips, oral cavity, neck, or face
- Indurations
- Numbness in the tongue, lip, or other area of the oral cavity or face
- Enlarged and/or hard lymph nodes
- Swollen, painless tonsil, lump or mass in the back of the throat
- Loose teeth or pain around teeth
- Dentures that start to fit poorly or become uncomfortable
- Persistent earaches, may be unilateral
- Persistent sore throat or feeling something caught in the throat

[8] Refer to Episode 62 for additional information on drug-induced oral conditions.

[9] Refer to Episode 75 for additional information on oral lichen planus and Episodes 60, 61, and 62 for additional information on oral manifestations of systemic conditions.

- Hoarseness, change in speech, difficulty speaking
- Constant cough or coughing up blood
- Pain or difficulty chewing, swallowing, speaking, or moving the tongue or jaw
- Unexplained weight loss

Note: Some individuals may not experience symptoms. [22] [23] [24]

Extraoral examination

Complete the extraoral examination of the head and neck first, including inspection and palpation of lymph nodes, temporomandibular joint (TMJ), lips, and skin.

Extraoral examination [19] [21]

Anatomical site	Procedure
Head and neck region	Inspect for asymmetry, swelling, or abnormality. Most individuals are not completely symmetrical. Significant asymmetries should be noted and cause obtained from client if known. Skin should also be examined.
Lymph nodes: Submental (under chin) Submandibular (under angle of mandible) Cervical (along sides of neck) Supraclavicular (above both sides of collar bone) Occipital (base of skull) Postauricular (behind ears) Preauricular (front of ears)	Palpate lymph nodes using a bimanual approach to make comparisons with the contralateral side. Note size, number, tenderness, consistency, and mobility of lymph nodes. Lymph node tenderness generally indicates inflammation or drainage of infection. Refer for further investigation if a lymph node is enlarged (i.e., >1 cm in diameter) or palpably firm or fixed to adjacent structures. Cancer metastasis to a lymph node is often a fixed, non-tender, firm enlargement. Lymphoma can cause nontender enlargement of lymph nodes of the neck. Any persistent lymph node, regardless of size, should be evaluated.
TMJ	Place fingertips over both TMJs simultaneously. Palpate TMJ for clicking, tenderness, deviations, or restricted movement when client opens and closes slowly several times.
Lips and perioral tissues	Inspect and palpate for abnormalities. Look for even colouring, symmetry, and sharp demarcation between skin and lip vermillion. Blurred edges of the vermillion can indicate actinic cheilitis[10] (sun damage of the lip), an oral potentially malignant disorder.

Intraoral examination

Remove any appliances and systematically inspect and palpate all oral soft tissues as oral cancer can develop at any anatomical site. To examine intraoral tissues, a good light is needed, as well as appropriate instruments, such as gauze and a periodontal probe to measure lesion size. Look for changes in colour, size, and texture. Pay particular attention to high-risk sites (e.g., lateral and ventral surfaces of the tongue, floor of mouth, soft palate). [19] [21]

[10] Refer to Episode 76 for additional information on actinic cheilitis (cheilosis).

Intraoral examination [21]

Anatomical site	Procedure
Labial mucosa	With the mouth ¾ closed, gently grasp lower lip between thumb and first finger of each hand and evert the lip. Examine and palpate both lower and upper lips.
Buccal mucosa and vestibular mucosa	Examine and palpate buccal mucosa and maxillary and mandibular vestibules.
Gingiva and alveolar mucosa	Examine and palpate gingiva and alveolar mucosa of the maxilla and mandible, including tissues around dental implants.[11]
Hard and soft palate	Examine hard and soft palate, palpate hard palate.
Oropharynx and fauces	With client's tongue in a resting position (not protruding), have the client open widely, place the mouth mirror on the tongue and gently depress the tongue while having the client say "ahhh." Examine the throat, palate, uvula, and tonsils for signs of swelling, texture, or colour change. Occasionally, this will stimulate the gag reflex. If this happens, look at these areas when the client gags, so hopefully this step does not have to be repeated.
Tongue	Examine and palpate dorsum of the tongue. Grasp the tip of the tongue with gauze. Gently stretch the tongue to one side then the other to inspect the lateral borders of the tongue. While the tongue is touching the roof of the mouth, visually examine and palpate the ventral surface.
Floor of mouth	While the tongue is elevated, examine, and palpate floor of the mouth bimanually (i.e., index finger of one hand feels the floor of the mouth while fingers of the opposite hand provide a platform to gently push against).

Lesion assessment

If a lesion is identified, additional attention to its characteristics is required. Oral premalignant lesions and early oral cancers vary in appearance. Clinical characteristics can help raise the level of suspicion that a lesion may be premalignant or an early cancer. Biopsy is required to establish a definitive diagnosis. [19]

Lesion description

Describe and document the lesion, including its location, distribution, definition, size, shape, colour, consistency, surface texture, and history. Accurate lesion description is essential for diagnosis and treatment. Lack of a detailed description of oral lesions can lead to difficulties with monitoring. If possible, take high-resolution clinical photos to help determine if a lesion is healing or progressing and to depict its location. Utilizing a periodontal probe beside the lesion helps to identify its dimensions. Lesions that do not heal within two weeks require further investigation.

[11] A systematic review by Afrashtehfar et al. (2022) found most individuals with OSCC next to their dental implants were female lacking known risk factors. Common location was the mandible with an ulceration or exophytic mass presentation. A major concern is the clinical and radiographic features of OSCC could be misdiagnosed as peri-implantitis. Accordingly, OSCC should be considered in persistent lesions surrounding dental implants. [36]

Documenting oral lesions [19] [25] [26] [27]

Category	Document
Location	Anatomic site of the lesion Use a fixed point of reference (e.g., 3mm from the midline)
Distribution	How spread out the lesion is and how many: • Localized or generalized, and • Single or multiple
Definition	Describe margins of the lesion: • Well-defined (circumscribed) or poorly-defined (vague) • Well-defined margin can have regular or irregular borders
Size	Measure diameter in millimeters or centimeters using a periodontal probe Measure length, width, and height
Shape	Macule, vesicle, patch, plaque, nodule, pedunculated, etc.
Colour	Red, pink, white, red-white combined, blue, purple, gray, yellow, black, brown, etc.
Consistency	Soft, spongy, rubbery, resilient, hard, indurated, fluctuant, etc.
Surface texture	Smooth, flat, raised, depressed, fissured, granular, verrucous, ulcerated, pebbly, cobblestone, crusted, pseudomembrane, etc.
History	Client awareness of the lesion, such as: • Onset, frequency, and duration • Symptoms (e.g., pain), intensity, changes in the lesion, aggravating and/or relieving factors • Previous trauma in the area

Descriptive terms for soft tissue lesions [25] [27] [28] [29] [30] [31]

Term	Description
Abscess	Localized accumulation of pus in skin/mucosa or subcutaneous/submucosal tissue; often red, warm, tender
Blister	Raised, fluid-filled lesion (vesicle or bulla)
Bulla	Raised, clear fluid-filled blister >1 cm
Crust (scab)	Consists of dried serum, blood, or pus
Cyst	Elevated area filled with liquid or semisolid fluid
Ecchymosis	Non-blanching, purpuric macule >3 mm due to extravasated blood in skin or mucosa; over time, may change from blue-black to brown-yellow or green before fading away
Enanthem	Lesion on surface of mucous membrane
Erosion	Red, shallow, moist, slightly depressed lesion often resulting from a broken vesicle or bulla, epithelial breakdown, or trauma
Erythroleukoplakia	Red and white patch
Erythroplakia	Red patch
Exophytic	Pathological growth projecting above normal contours of surface epithelium; growing outward
Fissure	Sharply defined linear or wedge-shaped tear in skin or mucosa
Fistula	Abnormal pathological pathway between two anatomic spaces or a pathway from an internal cavity or organ to the surface of the body
Fluctuant	Lesion has wave-like motion when pressed usually owing to liquid content
Generalized	Involves most or all the area

Term	Description
Hematoma	Mass of usually extravasated clotted blood that forms in tissue, organ, or body space
Induration	Localized hardening of soft tissue
Leukoplakia	White patch
Localized	Limited to a small focal area
Macule	Flat lesion <1 cm
Maculopapular	Consisting of both macules and papules
Papillary	Small finger-like projections
Nodule	Solid raised lesion >5 mm; extends into dermis or mucosa
Papule	Solid raised lesion <1 cm
Patch	Flat lesion >1 cm
Pedunculated	Base of the lesion is attached by a narrow stalk or stem
Petechia	1-2 mm pinpoint non-blanchable purpuric macules resulting from rupture of small blood vessels; red, purple, or brown in colour based on duration
Plaque	Solid lesion >1 cm, raised or depressed compared to skin surface
Polyp	Mass of tissue that projects out or up from the level of the tissue
Pseudomembrane	Loose film or layer of exudate containing organisms, fibrin, necrotic cells, and inflammatory cells formed during an inflammatory reaction on tissue surface
Pustule	Raised, pus-filled lesion, usually <1 cm
Scar	Healed wound where fibrous tissue replaces normal tissue
Sessile	Base of the lesion is as wide as the lesion itself
Sinus tract	Narrow channel extending from a suppurative cavity, cyst, or abscess to skin or mucosa surface
Tumour	Benign or malignant solid lesion with dimensional depth, located above, level with, or below skin or mucosa
Ulcer	Superficial (<3mm deep) or deep (>3mm deep) craterlike lesion
Verrucous	Irregular, wartlike, pebbly, or rough surface
Vesicle	Raised, clear fluid-filled blister <1 cm
Weal (hive)	Transient, edematous smooth-surface papule or plaque

Biopsy

Biopsy is vital if there is any clinical suspicion of pathology or malignancy (e.g., an enlarging mass, chronic ulceration, tissue friability, induration, or persistent nonhealing area despite removal of local irritants). New or enlarging pigmented lesions, especially those with irregular borders and nonhomogeneous colouration, should be biopsied to exclude mucosal melanoma.[12] Biopsy is essential for definitive diagnosis of oral potentially malignant disorders[13] (e.g., leukoplakia, erythroplakia, oral lichen planus).[14] There are two types of biopsies: excisional and incisional, both require local anesthetic.

Local anesthetic is administered adjacent to the biopsy site because direct injection into the site can distort the specimen. For highly vascularized lesions or sites (e.g., tongue, lip), anesthetics containing vasoconstrictors are often used to minimize bleeding.

[12] Refer to Episode 76 for additional information on oral melanoma.
[13] Refer to Episode 76 for additional information on oral potentially malignant disorders.
[14] Refer to Episode 75 for additional information on lichen planus.

Excisional biopsy is when the entire lesion is removed and examined. It is done if the lesion is almost certainly benign. Lesion size, accessibility, and regional anatomy must all be considered. Small, pedunculated, exophytic lesions in accessible areas are good candidates for excisional biopsy. An ellipse is traced around the lesion, with the scalpel blade angled toward the centre of the lesion. This produces a wedge-shaped specimen that is deepest under the centre of the lesion and leaves a wound that is simple to close.

Incisional biopsy is when a sample of the lesion is removed and examined. It is done when the differential diagnosis includes malignancy. Its accuracy is relative, since the whole lesion is not histologically studied.

A sample of tissue is taken from the most severely and significantly affected area. In epithelial dysplasia, the severity of epithelial changes or presence of carcinoma is correlated with the clinical appearance. For example, a thin white plaque is less likely to show high-grade dysplasia than a thick white plaque or erythematous, ulcerated, and indurated lesion. Multiple biopsy samples may be required if the lesion is extensive or has multiple clinical presentations. Referral to a specialist is necessary if the clinician is uncertain about the most appropriate site(s) to biopsy.

An elliptical incision, with a length-to-width ratio of 3:1, is made with a scalpel blade. The inferior incision is made first, so hemorrhage does not obscure the surgical field. The anterior tip of the ellipse is lifted with tissue forceps, and the base is severed. Hemostasis is attained with single interrupted sutures using resorbable plain gut.

Scalpel biopsy, for both excisional and incisional procedures, is the most common technique and generally produces the most satisfactory samples.

Punch biopsy may be used for either incisional biopsy or excision of a small lesion at an accessible site. The lateral tongue and buccal mucosa may be appropriate sites for punch biopsy, since the device must be perpendicular to the mucosal surface. The punch is placed on the lesional tissue, and a downward, twisting motion is applied. The tissue core is severed at the base with curved scissors. The circular wound is more difficult align the edges to suture closed compared to the elliptical shape. Punch biopsy is not used for vesiculobullous diseases, as the twisting action would detach the epithelium and prevent proper assessment of the interface between epithelium and connective tissue that is necessary for subclassification of these lesions.

Referral to a specialist for biopsy may be indicated with:

- Vascular lesions due to risk of significant hemorrhage,
- Lesions in esthetic regions (e.g., vermillion border of lip),
- Certain locations (e.g., floor of the mouth) due to access difficulties and risk of hemorrhage and damage to anatomic structures (e.g., submandibular duct), or
- Individuals who are medically compromised or have bleeding disorders.

Standard postoperative instructions should be provided to the client, including guidelines for eating, brushing, pain control, and bleeding. Emergency contact information should be made available. [27] [32]

Adjunctive techniques
The gold standard for diagnosis is scalpel biopsy and histological assessment. There is no evidence currently to support the use of diagnostic adjuncts such as vital staining or light-based detection methods for the evaluation of potentially premalignant oral epithelial lesions among adult clients with clinically evident, seemingly innocuous, or suspicious lesions. [33]

Brush biopsy has been suggested as a screening tool for innocuous lesions that may otherwise not be sampled. With this method, a stiff brush is used to collect cells from all epithelial layers by applying firm pressure with a rotational movement. Pinpoint bleeding indicates sufficient depth of cell collection. The sample is transferred to a glass slide and sent to the laboratory for analysis. If atypical cells are found, conventional biopsy is also required. Routine use of brush biopsy remains debatable, especially given the accessibility of oral lesions for conventional biopsy. [32]

Biopsy submission
The specimen is accompanied by pertinent clinical information, including the client's demographic data and risk factors; clinical appearance, location, and duration of the lesion; history of dysplasia or squamous cell carcinoma; and any other relevant medical history. Including a colour photograph of the lesion can be helpful. [32]

Histological evaluation
Pathologic evaluation of the presence and degree of epithelial dysplasia (mild, moderate, severe, or carcinoma in situ [CIS]) is used to assess the malignant risk of oral premalignant lesions. The risk of cancer is markedly different for low-grade (mild or moderate) than for high-grade dysplasia (severe dysplasia or CIS). Most low grade dysplasias do not progress to cancer; high-grade dysplasia; however, often progresses if left untreated. Consequently, these dysplasias are often managed differently. Clients with high-grade dysplasias are referred for removal of the lesions. Those with low-grade dysplasias are monitored and seen every 6 to 12 months depending on the condition and clinical judgement of the specialist. [34]

Follow-up
Clients should be seen 1 to 2 weeks postoperatively of biopsy to ensure healing and to discuss biopsy results. [32]

All oral dysplasias must be followed up at least annually, even if the lesion has been completely excised (i.e., no clinically visible lesion remains), and regardless of whether the individual has stopped high risk behaviours (e.g., tobacco consumption). Increasing evidence shows that even when excision is confirmed both clinically and histologically, molecular clones of altered cells may remain and later give rise to further dysplasia or OSCC. It is critical the site of the previous dysplasia be followed regularly, even when it

appears clinically normal. Semi-annual follow-up is preferable. The lesion should be biopsied again if clinical changes become evident. [34]

Take home messages

- Delays in identification and recognition of suspicious lesions contribute to advanced stage at diagnosis and lower survival rates.
- Any lesion of unknown source or origin needs to be biopsied and followed closely for resolution.
- Tissue biopsy remains the gold standard for diagnosing an oral premalignant lesion or malignancy.

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Additional Resources

'Head & Neck Cancers: Human Papillomavirus (HPV)' course presented by Dr. Marla Shapiro. The course provides a foundation for dental hygienists to carry out high quality HPV counselling in their practice. https://odha.on.ca/courses/

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