HEALTH ASSESSMENT IN NURSING

8TH EDITION

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I dedicate this book to my late co-author, Jane Kelley Landaeta,
and my husband, sons, grandson, mother, father, and grandmothers,
who inspired me with their wisdom and encouragement,
helping me to see the world through fresh views.

JANE

***J**oyful, happy, and always giggling.*
***A**lways giving of herself, energy, love, and listening tirelessly to those in need.*
***N**ever hesitating and inspired by her faith; shared everything she had, giving selflessly to others.*
***E**verlasting in our minds as an example of how to faithfully live with meaning and purpose.*

— JANET R. WEBER

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PREFACE

The eighth edition of *Health Assessment in Nursing* continues to strive to help students learn effective interviewing and physical assessment skills to make accurate clinical judgments and provide safe, patient-centered nursing care in today's ever-changing healthcare environment. The content of this edition has been updated to include the latest evidence-based practices and assessment guidelines.

CLINICAL JUDGMENT IN THE EIGHTH EDITION

As nurses provide care in a variety of settings—preventive, acute, and chronic long-term care agencies—they need to be more prepared than ever before to perform accurate, timely health assessments based on evidence-based knowledge. This book also helps students to prepare for the next-generation NCLEX by presenting concepts from the NCSBN's Clinical Judgment Measurement Model. These pages are filled with in-depth, accurate information, illustrations, abnormal findings photos, and additional assessment tools to help students develop skills to make accurate clinical judgments. Today's nurses need expert critical thinking skills to analyze the data they collect to detect client concerns and make informed nursing judgments—whether these are client concerns treated independently by nurses, collaborative problems treated in cooperation with other healthcare practitioners, or medical problems that require a referral to other providers for further evaluation and treatment.

FEATURES OF THE EIGHTH EDITION

- **UPDATED! Case Studies** threaded through each chapter feature clients from various backgrounds and cultures, and illustrate how to interview the client, collect objective data, document data, analyze data to make informed clinical judgments, and communicate data using SBAR. A list of these case studies, along with their location in the book, appears in the "Case Studies in This Book" section later in this front matter.

CASE STUDY: CLIENT OVERVIEW

Mrs. Isabella Gutierrez, age 52, arrives at the clinic for teaching about diabetes. She appears distracted and sad, uninterested in the teaching. She is unable to focus and paces back and forth in the clinic, wringing her hands. The nurse suspects that Mrs. Gutierrez is upset by her diagnosis of diabetes.

- **UPDATED! Collecting Objective Data: Physical Examination** sections list normal findings in the second column and abnormal findings in the third column. These findings have been updated as appropriate.

PHYSICAL ASSESSMENT

Assessment Procedure	Normal Findings	Abnormal Findings
LEVEL OF CONSCIOUSNESS AND MENTAL STATUS		
OLDER ADULT INFORMATION **When assessing the mental status of an older client, be sure to first check vision and hearing before assuming that the client has a mental problem.**		
Observe the client's level of consciousness. Ask the client their name, address, and phone number. Ask the client to identify where they currently are (e.g., hospital or clinic), the day, and the approximate time of day (Fig. 6-3).	Client is alert and oriented to person, place, time, and events. Client responds to your questions and interacts appropriately. Makes and maintains eye contact and conversation. Asks and answers questions appropriately.	Client is not alert. Client is not oriented to person, place, day, or time; does not make or maintain eye contact; does not respond appropriately.

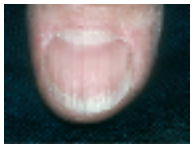
FIGURE 6-3 Assessing the level of consciousness. (Shutterstock/Monkey Business Images.)

- **UPDATED! Abnormal Findings** boxes in select chapters contain photos and descriptions to teach which findings need to be referred to a primary care provider for further assessment and diagnosis.

ABNORMAL FINDINGS 14-8 Common Nail Disorders

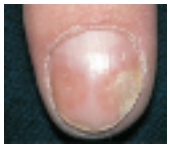
Many clients have nails with discoloration, lines, ridges, spots, and uncommon shapes that suggest an underlying disorder. Some examples are as follows:

LONGITUDINAL RIDGING
Parallel ridges running lengthwise. May be seen in the older adult and some young people with no known etiology.

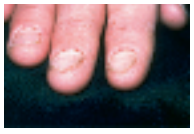


HALF-AND-HALF NAILS
Nails that are white on the upper proximal half and pink on the distal half. May be seen in chronic renal disease.

PITTING
Seen with psoriasis.

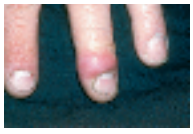


KOILONYCHIA
Spoon-shaped nails may be seen with trauma to cuticles or nail folds, or in iron deficiency anemia, or endocrine or cardiac disease.



YELLOW NAIL SYNDROME
Yellow nails grow slowly and are curved. It may be seen in AIDS and respiratory syndromes.

PARONYCHIA
Local infection.



- **UPDATED! Evidence-Based Health Promotion and Disease Prevention boxes**—which contain Healthy People 2030 goals, Risk Assessment, and Client Education sections—are an excellent resource for students to use when teaching the client ways to reduce risk factors for common diseases.

BOX 2-4 EVIDENCE-BASED HEALTH PROMOTION AND DISEASE PREVENTION: INSOMNIA

INTRODUCTION

The National Center for Complementary and Alternative Medicine (Taddai-Allen, 2020) reported that insomnia and sleep disorders affect millions of people, and studies estimate the related cost to be between $30 and $107 billion yearly plus high levels of lost productivity. Of more than 80 sleep disorders, insomnia is one of the more common. The National Council on Aging (Marshall, 2024) reported that, in the United States, 13.5% of adults older than 18 reported feeling tired or exhausted almost daily; over a third of adults reported getting less than seven hours of sleep daily; about 30% of adults have insomnia symptoms, and 10% have insomnia that affects daily activities; and sleep apnea affects 9% to 38% of adults.

Insomnia is a term used in many ways in the lay and medical literature. In the clinical guideline for managing adult insomnia, the National Institutes of Health (NIH, 2022) says that insomnia exists when a person has trouble falling or staying asleep. Insomnia can be acute or chronic, and primary or secondary. Criteria for chronic insomnia include episodes occurring at least three times per week over a minimum period of 1 month. Secondary insomnia, the most common form, results as a symptom or side effect of another condition, such as pain, anxiety, depression, illness (including lung and heart), or substance intake (caffeine, tobacco, alcohol), or of other sleep disorders, including restless leg syndrome, poor sleep environment, or change in sleep routine.

According to Healthy People 2030 (HealthyPeople.gov, 2020), about one in three adults, and many more adolescents, do not get enough sleep, which affects their health and well-being. The sleep objectives for Healthy People 2030 focus on helping people get enough sleep, treating sleep disorders (such as sleep apnea), and decreasing drowsy driving (associated with about 100,000 motor vehicle crashes per year in the United States). Health problems associated with inadequate sleep include obesity, diabetes, heart disease, stroke, dementia, and cancer. Inadequate sleep affects both school and work performance.

HEALTHY PEOPLE 2030 GOAL

Healthy People 2030 places Sleep Objectives under the Health Behaviors category.

Goal

Improve health, productivity, well-being, quality of life, and safety by helping people get enough sleep.

Objectives

Sleep—General

Reduce the rate of motor vehicle crashes because of drowsy driving.
Increase the proportion of adults with sleep apnea symptoms who get evaluated by a health care provider.
Increase the proportion of adults who get enough sleep.
Increase the proportion of high school students who get enough sleep.

Children

Increase the proportion of children who get sufficient sleep.

Infants

Increase the proportion of infants who are put to sleep on their backs.
Increase the proportion of infants who are put to sleep in a safe sleep environment.

Schools

Increase the proportion of secondary schools with a start time of 8:30 am or later.

SCREENING

Many screening tools that can be used in a primary care or in-patient setting are available. In addition, medical examinations can be done at sleep clinics to evaluate sleep breathing and brain patterns. An easy way to evaluate sleep is the Sleep Self-Assessment Quiz found online at https://psychcentral.com/quizzes/sleep-quiz#1.

RISK ASSESSMENT

There are many risk factors that can lead to insomnia. Frequently noted are the following (Healthline, 2023; National Sleep Foundation, 2024; Sleep Foundation, 2023):

- Gender (especially people assigned female at birth, because of hormone changes)
- Age (older than 60; older adults have more difficulty in falling asleep and staying asleep; amount of sleep needed does not decrease with age)
- Mental health and psychiatric disorders
- Stress and anxiety (especially causing hypervigilance and hyperarousal)
- Depression
- Pain medications, decongestants, and antihistamines, which may cause frequent urination
- Medications for weight loss, heart, thyroid, hypertension, asthma, depression, and birth control
- Stimulants (coffee, tea, soft drinks, energy drinks, and others)
- Alcohol (prevents deeper stages of sleep)
- Medical conditions
- Chronic pain and chronic low back pain
- Breathing difficulties
- Arthritis
- Diabetes
- Cardiovascular disease
- Cancer
- Frequent urination
- Gastroesophageal reflux disease
- Sleep disorders (sleep apnea, restless leg syndrome)
- Obesity
- Environmental changes (shift work, long distance travel/jet lag)
- Sleep habits (no bedtime routine or stimulating activities before bed, heavy meal before bed)

CLIENT EDUCATION

General Tips

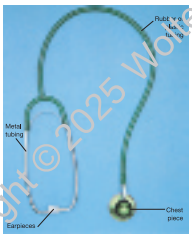
- Establish a regular sleep schedule; maintain a regular bed and wake time schedule, including weekends.
- Establish a regular, relaxing bedtime routine such as soaking in a hot bath or hot tub and then reading a book or listening to soothing music.
- Create a sleep-conducive environment that is dark, quiet, comfortable, and cool.
- Sleep on a comfortable mattress and pillows.
- Use your bedroom only for sleep and sex.
- Finish eating at least 2 to 3 hours before your regular bedtime.
- Exercise regularly; complete exercise at least a few hours before bedtime.

- **UPDATED! Assessment Guides** have been updated, and new ones added, to help students learn about essential equipment and techniques needed for client assessment.

ASSESSMENT GUIDE 3-1 How to Use the Stethoscope

The stethoscope is used to listen for (auscultate) body sounds that cannot ordinarily be heard without amplification (e.g., lung sounds, bruits, bowel sounds, and so forth). To use a stethoscope, follow these guidelines:

1. Place the earpieces into the outer ear canal. They should fit snugly but comfortably to promote effective sound transmission. The earpieces are connected to binaurals (metal tubing), which connect to rubber or plastic tubing. The rubber or plastic tubing should be flexible and no more than 12 to 14 in. long to prevent the sound from diminishing.
2. Angle the binaurals down toward your nose. This will ensure that sounds are transmitted to your eardrums.
3. Use the diaphragm of the stethoscope to detect high-pitched sounds. The diaphragm should be at least 1.5 in. wide for adults and smaller for children. Hold the diaphragm firmly against the body part being auscultated.
4. Use the bell of the stethoscope to detect low-pitched sounds. The bell should be at least 1-in. wide. Hold the bell lightly against the body part being auscultated.



Some Dos and Don'ts

Dos

1. Warm the diaphragm or the bell of the stethoscope by rubbing it in your palm for 10 seconds before placing it on the client's skin.
2. Explain what you are listening for, and answer any questions the client has. This will help alleviate client anxiety.
3. Expose the body part you are going to auscultate. Do not auscultate through the client's clothing or gown. The stethoscope rubbing against the clothing obscures the body sounds.
4. Use the diaphragm of the stethoscope to listen for high-pitched sounds, such as normal heart sounds, breath sounds, and bowel sounds, and press the diaphragm firmly on the body part being auscultated.
5. Use the bell of the stethoscope to listen for low-pitched sounds such as abnormal heart sounds and bruits (abnormally loud, blowing, or murmuring sounds). Hold the bell lightly on the body part being auscultated.
6. Eliminate distracting or competing noises from the environment (e.g., radio, television, machinery).

Don'ts

1. Do not apply too much pressure when using the bell—too much pressure will cause the bell to work like the diaphragm.
2. Do not listen through clothing, which may obscure or alter sounds.

- **UPDATED! Assessment Tools** contain client self-assessments or questionnaires for students to use during client interviews.

ASSESSMENT TOOL 2-2 Stanford Sleepiness Scale

Degree of Sleepiness	Scale Rating
Feeling active and vital; alert; wide awake	1
Functioning at a high level, but not at peak; able to concentrate	2
Relaxed; awake; not at full alertness; responsive	3
A little foggy; not at peak; let down	4
Fogginess; beginning to lose interest in remaining awake; slowed down	5
Sleepiness; prefer to be lying down; fighting sleep; woozy	6
Almost in reverie; sleep onset soon; lost struggle to remain awake	7

Adapted with permission from Hoddes, E., Zarcone, V., Smythe, H., Phillips, R., & Dement, W. C. (1973). Quantification of sleepiness: a new approach. *Psychophysiology*, *10*(4), 431–436.

- **UPDATED! Safety Tips** alert students to key information to ensure safe practice of assessment skills.

SAFETY TIP ***Wear gloves for every step of the examination to ensure safety for the nurse and the client and to prevent contamination.***

- **UPDATED! Clinical Tips** help highlight critical content necessary for accurate clinical judgments.

CLINICAL TIP

Although the epididymis is usually located over the posterior surface of the testes, it is located anteriorly in about 6% to 7% of the male population.

- **UPDATED! Older Adult Information** and **Variation Information** features highlight lifespan and variation considerations. These sections explain how age or culture may affect interview techniques, growth and development, and physical examination methods.

OLDER ADULT INFORMATION

In the older adult, temperature may range from 35.0°C to 36.4°C (95.0°F to 97.5°F). Therefore, the older client may not have an obviously elevated temperature with an infection or be considered hypothermic below 35.5°C (96°F).

- **UPDATED! Unfolding Client Stories**, written by the National League for Nursing, are an engaging way to begin meaningful conversations in the classroom. These vignettes, which appear at the end of the first chapter of each unit, feature clients from Wolters Kluwer's vSim for Nursing | Health Assessment (codeveloped by Laerdal Medical) and DocuCare products; however, each Unfolding Client Story in the book stands alone, not requiring purchase of these products. For your convenience, a list of these case studies, along with their location in the book, appears in the "Case Studies in This Book" section later in this front matter.

Unfolding Client Stories: Kim Johnson • Part 1

Kim Johnson is a 26-year-old police officer with paraplegia from a thoracic spinal cord injury at level 8 caused by a gunshot wound. She has started on bowel and bladder management programs. Describe the nursing assessment of the genital and rectal areas. While assessing these areas, what potential complications should the nurse consider that are associated with intermittent urinary catheterization, rectal suppositories and digital stimulation, and incontinence (Kim Johnson's story continues in Chapter 29)?

Care for Kim and other clients in a realistic virtual environment: *for Nursing* (http://thepoint.lww.com/vSimHealthAssessment). Practice documenting these clients' care in DocuCare (thepoint.lww.com/DocuCareEHR).

- **Routine vs. Focused Assessment Charts** differentiate routine screening assessment skills, used by most nurses in any situation, from focused specialty assessment skills, used more by advanced practice nurses or nurses with expertise in highly specialized areas.

General Routine Screening vs. Focused Specialty Assessment of Communities

All nurses need to be aware of how the community in which clients live has an influence on their holistic health status. However, nurses working in acute care would not perform a complete community assessment but would assess the community resources available to their clients. A complete community assessment would be completed by a community nurse, public health nurse, or advanced practice nurse in order to meet the needs of the clients in a specific community.

- Boxes highlighting **Interdisciplinary Verbal Communication of Assessment Findings Using SBAR** utilize the Situation, Background, Assessment, Recommendation framework to report accurate findings of the case studies found in each body system chapter and to make recommendations regarding the assessment findings.

Interdisciplinary Verbal Communication of Assessment Findings Using SBAR

SITUATION: M. C., a 22-year-old college student, comes into the college clinic reporting having no energy, a headache, and a 100.6°F temperature. Has had lots of vaginal and rectal pain (8 on a scale of 10) and itching, burning with urination, and painful defecation. Burning radiates up back, hurts to sit, and has cramps above pubic area. Also broke out with genital lesions a few days after having sexual relations 10 days ago ("first and only") with her first sexual partner. Did not use any protection or birth control. Has a great deal of itching and pain in the vaginal area and says that "urinating and having a bowel movement hurts a lot." Pain prevents her from doing any activities of daily living and going to class. Took an over-the-counter (OTC) pain pill that helped somewhat.

BACKGROUND: Has regular menstrual cycle every 28 days with last one 2 weeks ago (beginning the 10th and ending the 13th). Has bloating and mild cramping with period. Urine burns her genital and anal area. Immunizations up to date, including vaccination for HPV. Has had one sexual encounter; reports attempt at anal intercourse that was not successful. States, "I have always been healthy—I don't know why I behaved so stupidly and put my health at risk." Aware of TSS; wears tampons only during heavy flow days, changing every few hours. Has never had a Pap test.

ASSESSMENT: Normal hair distribution of the mons pubis, with lesions present as vesicles. Ulcerations noted as well. Labia majora with mild erythema and vesicular lesions along with mild excoriation. Labia minora dark pink, moist, and free of lesions or excoriation. Vesicles and ulcerations extend into the perianal area. Visual inspection of the anus reveals multiple vesicular lesions noted around the anal opening. Upon palpation of the inguinal area and external genitalia, no masses or edema was noted to the inguinal lymph nodes bilaterally. Mild edema noted to the labia majora. Labia minora free from edema and discharge. Bartholin glands soft, nontender, and free from discharge. No discharge from urethral opening. Routine Pap smear performed. Vaginal walls smooth and pink. Cervix slightly anterior, pink, smooth in appearance, slitlike os, without lesions or discharge present.

RECOMMENDATION: Client has pain in the genitalia and perianal area associated with ulcerations and vesicles from probable STI, has poor self-esteem associated with perceived lack of assertiveness in protecting self. The client needs to be seen by their primary care provider for further evaluation, diagnosis, and treatment of genital lesions.

- **Concept Mastery Alerts** clarify fundamental nursing concepts to improve the reader's understanding of potentially confusing topics.

Concept Mastery Alert

Data analysis is the phase in which the nurse identifies and clusters the cues collected to make clinical judgments. The end result of this data analysis portion of the nursing process is identification of client concerns, collaborative problems, and/or referrals.

- ***Nursing Concepts*** listed at the beginning of each chapter make clear how content applies to concepts-based curricula.

NURSING CONCEPTS		
Assessment	Clinical Decision Making	Communication

INCLUSIVE LANGUAGE

A note about the language used in this book. Wolters Kluwer recognizes that people have a diverse range of identities, and we are committed to using inclusive and nonbiased language in our content. In line with the principles of nursing, we strive not to define people by their diagnoses but to recognize their personhood first and foremost, using as much as possible, the language diverse groups use to define themselves and including only information that is relevant to nursing care.

We strive to better address the unique perspectives, complex challenges, and lived experiences of diverse populations traditionally underrepresented in health literature. When describing or referencing populations discussed in research studies, we will adhere to the identities presented in those studies to maintain fidelity to the evidence presented by the study investigators. We follow best practices of language set forth by the *Publication Manual of the American Psychological Association*, 7th Edition, but acknowledge that language evolves rapidly, and we will update the language used in future editions of this book as necessary.

THE TEACHING–LEARNING PACKAGE

The eighth edition of *Health Assessment in Nursing* provides a robust teaching–learning package.

Instructor Resources Available on thePoint

Tools to assist you with bringing health assessment to life are available upon adoption of this text at http://thePoint.lww.com/Weber8e. Resources include:

- Test Generator Questions
- Image Bank
- PowerPoint Presentations with i-clicker questions and answers
- Guided Lecture Notes
- Ebook
- Syllabus
- AACN Essentials Map

vSim for Nursing

Available for separate purchase, vSim for Nursing, jointly developed by Laerdal Medical and Wolters Kluwer, offers innovative, scenario-based learning modules consisting of web-based virtual simulations, course learning materials, and curriculum tools designed to develop critical thinking skills and promote clinical confidence and competence. vSim for Nursing | Health Assessment includes 10 virtual simulations. Students can progress through suggested readings, pre- and postsimulation assessments, documentation assignments, and guided reflection questions and will receive an individualized feedback log immediately upon completion of the simulation. Throughout the student learning experience, the product offers remediation back to trusted Lippincott resources, including *Health Assessment in Nursing*, as well as Lippincott Nursing Advisor and Lippincott Nursing Procedures—two online, evidence-based, clinical information solutions used in health care facilities throughout the United States. This innovative product provides a comprehensive patient-focused solution for learning and integrating simulation into the classroom

Contact your Wolters Kluwer sales representative or visit http://thepoint.lww.com/vsim for options to enhance your health assessment nursing course with vSim for Nursing.

Lippincott DocuCare

Available for separate purchase, Lippincott DocuCare combines web-based academic electronic health record (EHR) simulation software with clinical case scenarios, allowing students to learn how to use an EHR in a safe, true-to-life setting, while enabling instructors to measure their progress. Lippincott DocuCare's nonlinear solution works well in the classroom, simulation lab, and clinical practice.

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The same trusted solution, innovation, and unmatched support that you have come to expect from Lippincott CoursePoint+ is now enhanced with more engaging learning tools and deeper analytics to help prepare students for practice. This powerfully integrated digital learning solution combines learning tools, virtual simulation, real-time data, and the most trusted nursing education content on the market to make curriculum-wide learning more efficient and to meet students where they are at in their learning. And now, it is easier than ever for instructors and students to use, giving them everything they need for course and curriculum success!

Lippincott® CoursePoint+ includes:

- Engaging course content provides a variety of learning tools to engage students of all learning styles.
- A more personalized learning approach gives students the content and tools they need at the moment they need it, giving them data for more focused remediation and helping to boost their confidence.

- Powerful tools students need to learn the critical thinking and clinical judgment skills that will help them become practice-ready nurses, including:
  - *Lippincott's Adaptive Learning Powered by PrepU* provides a personalized learning experience for every student.
  - *vSim for Nursing* (also available for separate purchase), a virtual simulation platform codeveloped by Laerdal Medical and Wolters Kluwer, includes patient scenarios that correspond to the National League for Nursing (NLN) Unfolding Cases. *vSim for Nursing* helps students develop clinical competence and decision-making skills as they interact with virtual patients in a safe, realistic environment. *vSim for Nursing* records and assesses student decisions throughout the simulation, then provides a personalized feedback log highlighting areas needing improvement.
- Unparalleled reporting provides in-depth dashboards with several data points to track student progress and help identify strengths and weaknesses.
- Unmatched support includes training coaches, product trainers, and nursing education consultants to help educators and students implement CoursePoint+ with ease.
- Leading content provides a variety of learning tools to engage students of all learning styles.
- A personalized learning approach gives students the content and tools they need at the moment they need it, giving them data for more focused remediation and helping to boost their confidence and competence.

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18 ASSESSING MOUTH, THROAT, NOSE, AND SINUSES

Learning Objectives

1. Describe the structure and function of the mouth, throat, nose, and sinuses.
2. Discuss risk factors for oral cancer and ways to reduce one's risks.
3. Interview a client for an accurate nursing history of the mouth, throat, nose, and sinuses.
4. Use correct techniques to assess the mouth, throat, nose, and sinuses.
5. Differentiate between normal and abnormal findings of the mouth, throat, nose, and sinuses.
6. Describe possible variations in assessment findings of the mouth, throat, nose, and sinuses.
7. Analyze interview and physical assessment data related to the mouth, throat, nose, and sinuses to formulate valid clinical judgments.
8. Differentiate between skills needed for general routine screening vs. skills needed for focused or specialty assessment of the mouth, throat, nose, and sinuses.
9. Document and verbally report accurate assessment findings of the mouth, throat, nose, and sinuses.

NURSING CONCEPTS

Assessment	Oxygenation
Nutrition	Sensory Perception

CASE STUDY: OVERVIEW OF CLIENT'S MOUTH, NOSE, THROAT, AND SINUSES ASSESSMENT

Jasmine Miller (J. M.), a 22-year-old college student, visits the student health service reporting severe throat pain ("like swallowing razor blades"), bad breath, neck pain and "knots" on both sides of her neck, chills, fever, feeling tired all the time, and no appetite. She says she has been studying "day and night" for final examinations and has "only one more to go." She continues, "This is the third time I've had this problem this year. I didn't even bother coming in the first or second time. I just stayed in bed between classes and treated myself."

STRUCTURE AND FUNCTION

The mouth and throat are the parts of the digestive system responsible for receiving food (ingestion), tasting, preparing food for digestion, and aiding in speech. Cranial nerves V (trigeminal), VII (facial), IX (glossopharyngeal), and XII (hypoglossal) assist with some of these functions (the cranial nerves are discussed in Chapter 25). The nose and *paranasal sinuses* constitute the first part of the respiratory system and are responsible for receiving, filtering, warming, and moistening air to be transported to the lungs. Receptors of cranial nerve I (olfactory) are also located in the nose. These receptors are related to the sense of smell.

Mouth

The mouth—or *oral cavity*—is formed by the lips, cheeks, hard and soft palates, uvula, and the tongue and its muscles (Fig. 18-1). The mouth is the beginning of the digestive tract and serves as an airway for the respiratory tract. The upper and lower lips form the entrance to the mouth, serving as a protective gateway to the digestive and respiratory tracts. The roof of the oral cavity is formed by the anterior hard *palate* and the posterior soft palate. An extension of the soft palate is the *uvula*, which hangs in the posterior midline of the oropharynx. The cheeks form the lateral walls of the mouth, whereas the tongue and its muscles form the floor of the mouth. The *mandible* (jaw bone) provides the structural support for the floor of the mouth.

Contained within the mouth are the tongue, teeth, gums, and the openings of the salivary glands (parotid, submandibular, and sublingual). The tongue is a mass of muscle, attached to the hyoid bone and styloid process of the

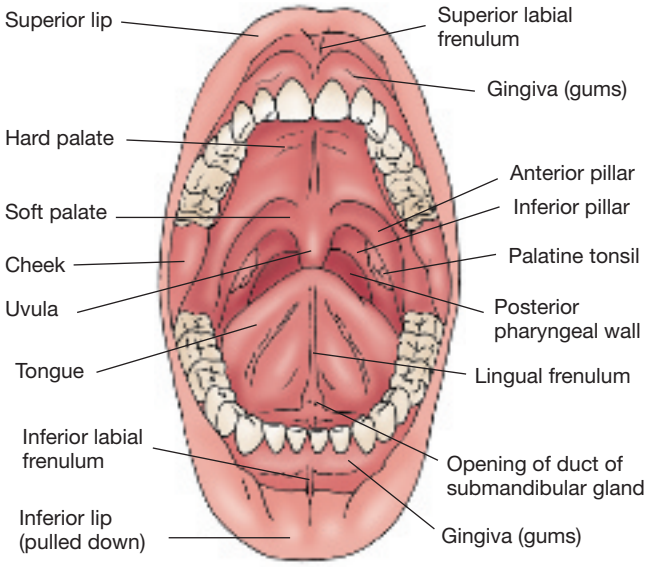

FIGURE 18-1 Structures of the mouth.

temporal bone. It is connected to the floor of the mouth by a fold of tissue called the *frenulum*. The tongue assists with moving food, swallowing, and speaking. The gums (*gingiva*) are covered by mucous membrane and normally hold 32 permanent teeth in the adult (Fig. 18-2). The top, visible, white enameled part of each tooth is the *crown*. The portion of the tooth that is embedded in the gums is the *root*. The crown and root are connected by the region of the tooth referred to as the *neck*. Small bumps called *papillae* cover the dorsal surface of the tongue. Taste buds, scattered over the tongue's surface, carry sensory impulses to the brain. The three pairs of *salivary glands* secrete saliva (watery, serous fluid containing salts, mucus, and salivary amylase) into the mouth (Fig. 18-3). *Saliva* helps break down food and lubricates it. *Amylase* digests carbohydrates. The parotid glands, located below and in front of the ears, empty through Stensen ducts, which are located inside the cheek across from the second upper molar. The *submandibular glands*, located in the lower jaw, open under the tongue on both sides of the frenulum through openings called *Wharton ducts*. The *sublingual glands*, located under the tongue, open through several ducts located on the floor of the mouth.

Throat

The throat (*pharynx*), located behind the mouth and nose, serves as a muscular passage for food and air. The upper part of the throat is the *nasopharynx*. Below the nasopharynx lies the *oropharynx*, and below the oropharynx lies the *laryngopharynx*. The soft palate, anterior and posterior pillars, and uvula connect behind the tongue to form arches. Masses of lymphoid tissue referred to as the *palatine tonsils* are located on both sides of the oropharynx at the end of the soft palate between the anterior and posterior pillars. The *lingual tonsils* lie at the base of the tongue. *Pharyngeal tonsils*, or adenoids, are found high in the nasopharynx. Because tonsils are masses of lymphoid tissue, they help protect against infection (Fig. 18-4).

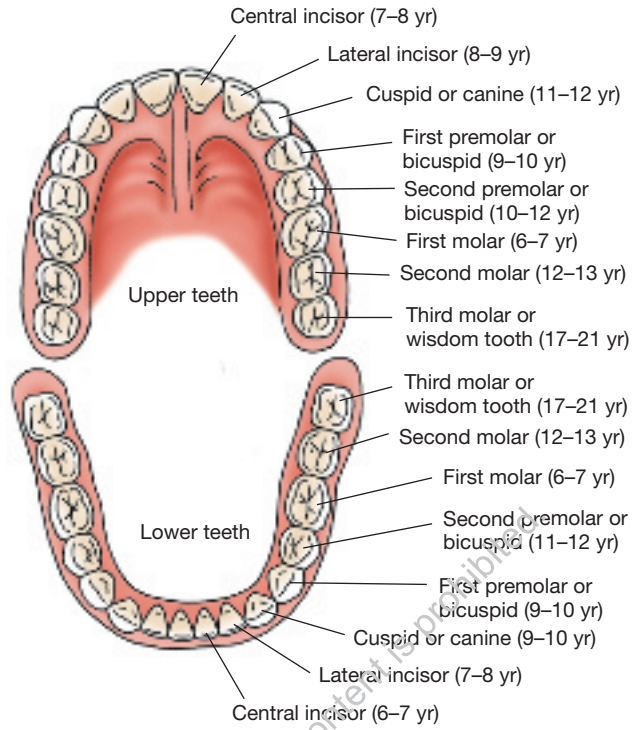

FIGURE 18-2 Teeth.

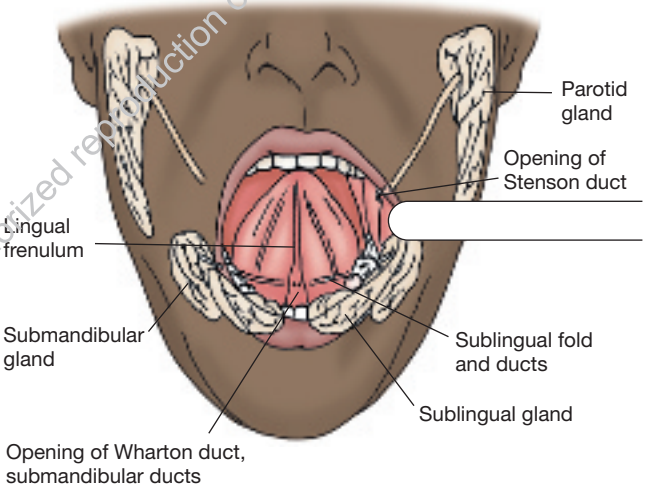

FIGURE 18-3 Salivary glands.

Nose

The nose consists of an external portion covered with skin and an internal nasal cavity. It is composed of bone and cartilage and is lined with mucous membrane. The *external nose* consists of a bridge (upper portion), tip, and two oval openings called *nares*. The *nasal cavity* is located between the roof of the mouth and the cranium. It extends from the anterior nares (nostrils) to the posterior nares, which open into the nasopharynx. The nasal septum separates the cavity into two halves. The front of the nasal *septum* contains a rich supply of blood vessels and is known as *Kiesselbach area*. This is a common site for nasal bleeding.

The superior, middle, and inferior *turbinates* are bony lobes, sometimes called *conchae*, that project from the lateral walls of the nasal cavity. These three turbinates increase the surface area that is exposed to incoming air (Fig. 18-4). As the person inspires air, nasal hairs (*vibrissae*) filter large particles from the air. Ciliated mucosal cells then capture and propel debris toward the throat, where it is swallowed. The rich blood supply of the nose warms the inspired air as it is moistened by the mucous membrane. A meatus underlies each turbinate and receives drainage from the *paranasal sinuses* and the *nasolacrimal duct*. Receptors for the first cranial nerve (olfactory) are located in the upper part of the nasal cavity and septum.

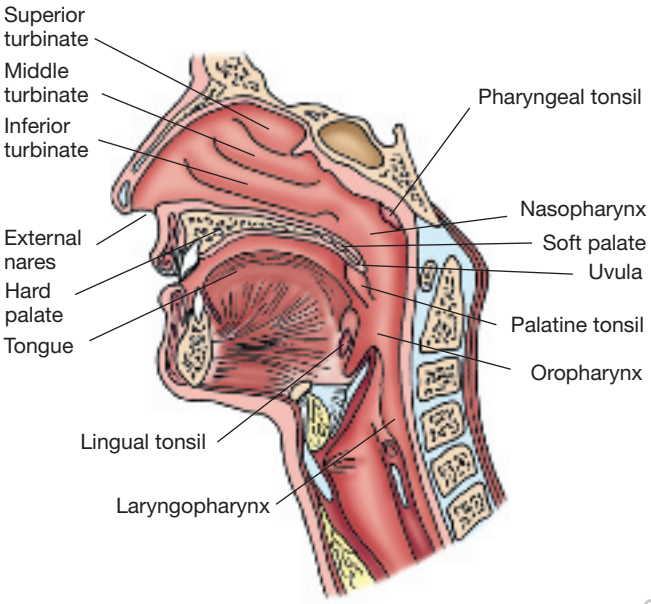

FIGURE 18-4 Nasal cavity and throat structures.

Sinuses

Four pairs of *paranasal sinuses* (frontal, maxillary, ethmoidal, and sphenoidal) are located in the skull (Fig. 18-5). These air-filled cavities decrease the weight of the skull and act as resonance chambers during speech. The paranasal sinuses are also lined with a ciliated mucous membrane that traps debris and propels it toward the outside. The sinuses are often a primary site of infection because they can easily become blocked. The *frontal sinuses* (above the eyes) and the *maxillary sinuses* (in the upper jaw) are accessible to examination by the nurse. The *ethmoidal* and *sphenoidal sinuses* are smaller, located deeper in the skull, and are not accessible for examination.

VARIATION INFORMATION

Physical variations related to the mouth, nose, and sinuses involve color differences and structures of the uvula, lip, palate, and teeth. People of Asian descent have the highest incidence of a cleft uvula (in which the uvula is either partial or completely split), followed by people of European descent, and then those of African descent. Older age of the mother and environmental factors can also contribute to cleft lip or palate (Boyle et al., 2025).

The number of teeth and their size vary widely, with many such variations having little clinical significance. Dental care and periodontal disease can be adversely affected by health disparities, including variations in access to care (Boyle et al., 2025).

HEALTH ASSESSMENT

Collecting Subjective Data: The Nursing Health History

Subjective data related to the mouth, throat, nose, and sinus can aid in detecting diseases and abnormalities that may

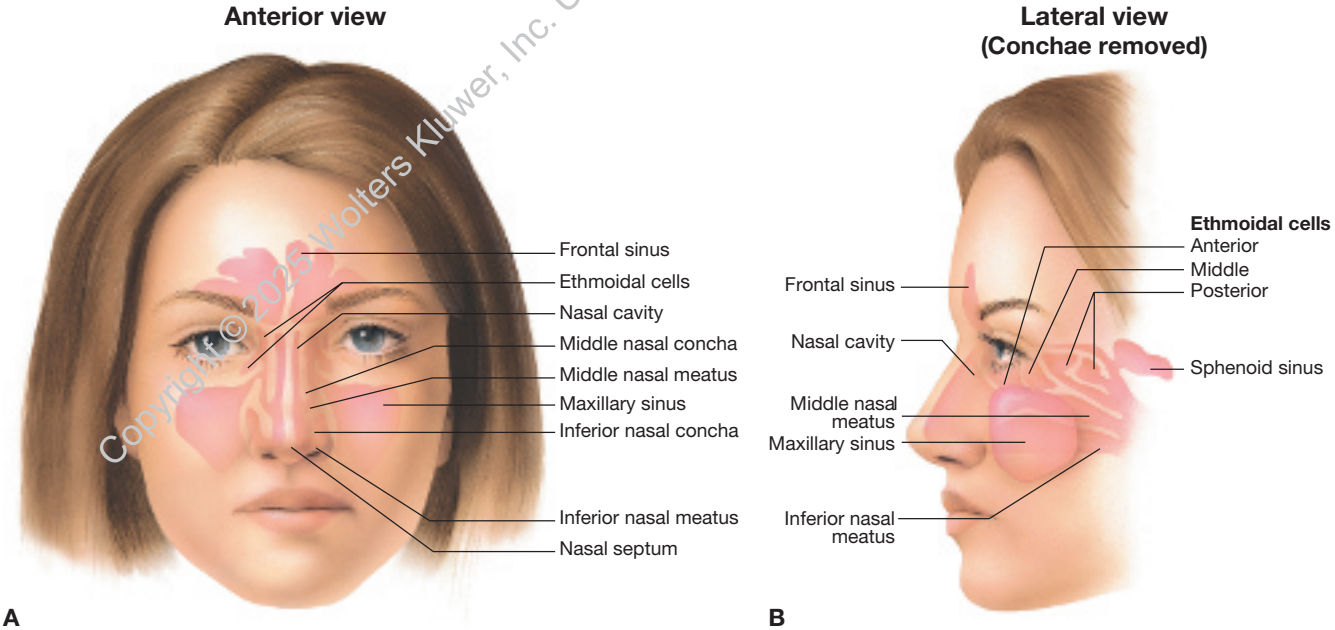

FIGURE 18-5 **(A)** Paranasal sinuses, anterior view. **(B)** Paranasal sinuses, lateral view. (Asset provided by Anatomical Chart Co.)

affect the client's activities of daily living. Screening for cancer of the mouth, throat, nose, and sinuses is an important area of this assessment. These cancers are highly preventable (Box 18-1). Use of tobacco and heavy alcohol consumption increases one's risk for cancer. Data collected regarding the client's risk factors may form the basis for preventive teaching.

Other problems may cause discomfort and loss of function and can lead to serious systemic disorders. For example, malnutrition may develop in a client who cannot eat certain foods because of poorly fitting dentures, impaired dental health, or an edentulous state. A client with frequent sinus infections and headaches may have impaired concentration, which affects job or school performance.

This examination also allows the nurse to evaluate the client's health practices. For example, improper use of nasal decongestants may explain recurrent sinus congestion and infection, and improper oral hygiene practices may cause tooth decay or gum disease. The nurse should provide teaching for a client with these health practices.

BOX 18-1 EVIDENCE-BASED HEALTH PROMOTION AND DISEASE PREVENTION: OROPHARYNGEAL CANCER

INTRODUCTION

Because the oral cavity and oropharynx, along with other parts of the head and neck, contribute to the ability to chew, swallow, breathe, and talk, oropharyngeal cancer can have significant effects on well-being. The American Cancer Society (ACS, 2024) reported that an estimated 58,450 new cases of cancer of the oral cavity and pharynx (throat) are expected in 2024, and 12,230 people are expected to die of these. Incidence rates are more than twice as high in people assigned male at birth as people assigned female at birth. Oral cancers are most prevalent in the tongue, the tonsils and oropharynx, the gums, and the floor of the mouth. The high death rate from oral cancer is related to it usually being discovered late in its course of development (The Oral Cancer Foundation, 2024b). Traditional key risk factors have been age over 50, chewing tobacco use, smoking tobacco use, and alcohol consumption. But the Oral Cancer Foundation (2024b) described two different types of risk factors with different parts of the mouth affected: traditional risks affect the anterior portion of the mouth, but a new demographic of persons under 50 develop cancers in posterior oral sites and are associated with immune suppression and human papillomavirus 16 (HPV16).

HEALTHY PEOPLE 2030 GOAL

Healthy People 2030 (2024a) includes oropharyngeal cancer within the category of cancer.

GOAL

The 2030 goal is to increase the percentage of oropharyngeal cancers detected at the earliest stages.

OBJECTIVES

The 2030 objective for oropharyngeal cancer is to increase the proportion of oropharyngeal cancers detected at the earliest stage.

SCREENING

The effectiveness of screening for oropharyngeal cancer is debated. The U.S. Preventive Services Task Force (2023) concluded that the evidence is insufficient to recommend for or against routinely screening adults for oral cancer. However, due to the significant gains in survival when these cancers are diagnosed at an early stage, the ACS (2021a) recommends routine dental screenings, also including a mouth and throat screening. The National Cancer Institute (2024b) noted that the correlation between screening and mortality has not been established. Regular screening, especially at routine dental examinations, is beneficial, especially for those who are at higher risk, such as those who use tobacco, drink alcohol frequently, have had previous oral cancers, or have had heavy sun exposure. Many organizations agree with routine screening, especially in light of HPV as a cause, which makes individuals at risk somewhat hard to identify. Although dentists are often the first line of assessment, many people do not see dentists; thus, nurses can provide this assessment.

RISK ASSESSMENT

Risk factors for oropharyngeal cancer (ACS, 2021b; NCI, 2024a) are as follows:

- Tobacco use (and, possibly, secondhand smoke)
- Alcohol consumption (frequent and heavy)
- Prolonged sun exposure (cancer of the lip)
- HPV virus, especially with oral sex
- Sex assigned at birth (people assigned male at birth are at greater risk)
- Fair skin (lip)
- Age (especially over 45)
- Poor oral hygiene
- Poor diet/nutrition (low in fruits and vegetables)
- Weakened immune system
- Marijuana use
- Chewing betel nut and mixtures of betel nut (often used in South and Southeast Asia; National Cancer Institute (n.d.) Betel quid with tobacco. Available at https://www.cancer.gov/publications/dictionaries/cancer-terms/def/betel-quid-with-tobacco).

CLIENT EDUCATION

Teach Clients

- Avoid smoking cigarettes and e-cigarettes, and using oral tobacco. If currently using, get assistance to stop.
- Avoid excessive alcohol use, especially if you smoke.
- Avoid chewing betel nuts.
- Avoid infection with HPV, which can be transmitted through oral sex or contact with others who are infected, or seek medical assistance if infection suspected. HPV vaccination recommended at age 11 to 12 (CDC, 2021).
- Avoid excessive sun exposure (or tanning booth exposure) to lips. Use adequate sunscreen if unable to avoid sun.
- Eat a generally well-rounded diet that is rich in fruits, vegetables, and vitamin A.
- Practice regular oral hygiene, using a soft toothbrush at least twice per day and dental floss at least once per day, and have routine dental care.
- If you have a weakened immune system, take extra precautions to avoid risks for oral cancer.
- Avoid smoking marijuana, especially if you have any of the other risk factors.

History of Present Health Concern

QUESTION	RATIONALE
Nose and Sinuses	
Do you have pain over your sinuses (cavities around nasal passages)?	Pain, tenderness, swelling, and pressure around the eyes, cheeks, nose, or forehead are seen in acute sinusitis, which is an infection of the sinuses. In chronic sinusitis, the sinuses become inflamed and swollen, but symptoms last 12 weeks or longer even with treatment (Keating et al., 2023). See Box 18-2.
Do you experience nosebleeds? Describe the amount of bleeding you have and how often it occurs. What color is the blood? **CLINICAL TIP** **Refer a client who experiences frequent nosebleeds for further evaluation.**	Causes of epistaxis (nosebleeds) can be divided into local causes (e.g., trauma, mucosal irritation, septal abnormality, inflammatory diseases, tumors), systemic causes (e.g., blood dyscrasias, arteriosclerosis, hereditary hemorrhagic telangiectasia), and idiopathic causes. Local trauma is the most common cause, followed by facial trauma, foreign bodies, nasal or sinus infections, and prolonged inhalation of dry air. A large study of epistaxis found an increase in clients with allergic rhinitis, chronic sinusitis, hypertension, hematologic malignancy, coagulopathy, or hereditary hemorrhagic telangiectasia, an association with older age and colder weather (Cleveland Clinic, 2023).
Do you experience frequent drainage from your nose? Is it continuous or intermittent? Describe the discharge: clear, watery, mucous, bloody, red tinged.	Thin, watery, clear nasal drainage (rhinorrhea) can indicate chronic allergy or, in a client with a past head injury, a cerebrospinal fluid leak. Mucous drainage, especially yellow, is typical of a cold, rhinitis, or a sinus infection. The overwhelming majority of upper respiratory illnesses are viral.
Can you breathe through both of your nostrils? Do you have a stuffy nose at times during the day or night?	Inability to breathe through both nostrils may indicate sinus congestion, obstruction, or a deviated septum. Nasal congestion can interfere with daily activities or a restful sleep.
Have you experienced a change in your ability to smell or taste? **OLDER ADULT INFORMATION** **The ability to smell and taste decreases with age. Medications and some neurodegenerative conditions can also decrease sense of smell and taste in older people.** *Concept Mastery Alert* Although a decrease in the sense of both smell and taste is often experienced as part of the aging process, the nurse should still document any changes the client shares regarding smell and taste because these changes may be due to medications or neurodegenerative conditions.This information is also useful in assessing appetite and dietary needs.	A decrease in the ability to smell may occur with lesions of the optic nerve (I) or facial nerve (VII); head injuries; upper respiratory tract infections; conditions affecting the nasal passages, including nasal polyps and sinusitis; and disorders associated with aging or neurologic illnesses, such as Parkinson disease or Alzheimer disease. Other causes may include aging, hormonal disturbances (including menopause), dental problems, exposure to certain chemicals such as pesticides and solvents, many medications (especially some antibiotics and antihistamines), and radiation treatment for head and neck cancers (National Institute of Deafness and Other Communication Disorders [NIDCD], 2023). Changes in perception of taste and smell also can occur from a zinc deficiency (Mozaffar et al., 2023). Olfactory dysfunction has been linked to mortality in older adults (Choi et al., 2021).

(Continued on following page)

History of Present Health Concern (*continued*)	
QUESTION	**RATIONALE**
Mouth and Throat	
Do you experience tongue or mouth sores or lesions? If so, explore the symptoms using COLDSPA. **C**haracteristics: Describe the size and texture of the lesions. **O**nset: When did they first occur? Do you notice these more when you are under stress or taking certain medications? Did they occur after any injury to your mouth? **L**ocations: Describe exactly where these lesions are located in your mouth. **D**uration: How long have you had these lesions? Have you ever had these before, and if so, did they go away? **S**everity: Do these lesions keep you from eating, talking, or swallowing? **P**alliative/relieving factors: What aggravates these lesions or makes them go away? What over-the-counter remedies and past prescriptions have you used? **A**ssociated Factors: Do you have any other symptoms with these lesions such as stress, pain, bleeding? Describe.	Exploring the symptoms with COLDSPA can provide data to determine whether lesions are related to medications, stress, infection, trauma, or malignancy. Lesions that last for >2 weeks need to be explored further and referred. Painful, recurrent ulcers in the mouth are seen with aphthous stomatitis (canker sores) and herpes simplex (cold sores). Mouth or tongue sores that do not heal; red or white patches that persist; a lump or thickening; or rough, crusty, or eroded areas are warning signs of cancer and need to be referred for further evaluation (Box 18-1).
Do you experience redness, swelling, bleeding, or pain of the gums or mouth? If so, how long has this been happening? Do you have any toothache? Have you lost any permanent teeth? Do you have dentures? Upper? Lower? Dental implants? **OLDER ADULT INFORMATION** **The gums recede, become ischemic, and undergo fibrotic changes as a person ages. Tooth surfaces may be worn from prolonged use. These changes make the older client more susceptible to periodontal disease and tooth loss.**	Red, swollen gums that bleed easily occur in early gum disease (gingivitis), whereas recession of the gums accompanied by tooth loss occurs in more advanced gum disease (periodontitis). Dental pain may occur with dental caries, abscesses, or sensitive teeth. Periodontal disease is highly correlated with cardiovascular disease.
Throat	
Do you have difficulty swallowing or painful swallowing? How long have you had this?	Dysphagia (difficulty swallowing) or odynophagia (painful swallowing) may be seen with tumors of the pharynx, esophagus, or surrounding structures, and narrowing of the esophagus such as in postradiation, gastroesophageal reflux disease (GERD), anxiety, poorly fitting dentures, or neuromuscular disorders. Dysphagia increases the risk for aspiration, and clients with dysphagia may require consultation with a speech therapist. Difficulty chewing, swallowing, or moving the tongue or jaws may be a late sign of oral cancer. Malocclusion may also cause difficulty chewing or swallowing.

History of Present Health Concern	
QUESTION	**RATIONALE**
Do you have a sore throat? Describe. How long have you had it? How often do you get sore throats?	Sore throat refers to pain, itchiness, or irritation of the throat. Hoarseness may be present as well. Throat irritation and soreness are commonly seen with **viral infections** such as the flu, colds, measles, chicken pox, whooping cough, croup, or infectious mononucleosis, with bacterial infections such as *Streptococcus*, and are often present with HIV. Additional causes include: • Allergies to pollens, molds, cat and dog dander, house dust • Irritation due to dry heat, chronic stuffy nose, pollutants, and voice straining • Reflux of stomach acids up into the back of the throat • Tumors of the throat, tongue, and larynx with pain radiating to the ear and/or difficulty swallowing • Tonsillitis A sore throat that persists without healing may signal throat cancer.
Do you experience hoarseness? For how long?	Hoarseness is associated with upper respiratory infections, allergies, hypothyroidism, overuse of the voice, smoking or inhaling other irritants, and cancer of the larynx. If hoarseness lasts 2 weeks or longer, refer the client for further evaluation.
Personal Health History	
Have you ever had any oral, nasal, or sinus surgery?	Present symptoms may be related to past problems or surgery.
Do you have a history of sinus infections? Describe your symptoms. Do you use nasal sprays? What type? How much? How often?	Some clients are more susceptible to sinus infections, which tend to recur. Overuse of nasal sprays may cause nasal irritation, nosebleeds, and rebound swelling.
Have you been diagnosed with seasonal environmental allergies (e.g., hay fever), drug allergies, food allergies, or insect allergies? Describe the timing of the allergies (e.g., spring, summer) and symptoms (e.g., sinus problems, runny nose, or watery eyes).	Pollens cause seasonal rhinitis, whereas dust may cause rhinitis year round (Box 18-2).
Do you regularly use any treatments or medications for conditions that affect the mouth, throat, or nose to control pain in the mouth, nose, throat, or sinuses (e.g., saline spray or use of over-the-counter nasal irrigations, nasal sprays, throat spray, ibuprofen)? What are the results?	It is important to know what remedies have worked for the client in the past and what has been used that does not relieve symptoms.
Family History	
Is there a history of nose, sinus, mouth, or throat cancer in your family?	There is a genetic risk factor for mouth, throat, nose, and sinus cancers (especially those with genetic syndromes such as Fanconi anemia or dyskeratosis congenita) (ACS, 2021b)

(*Continued on following page*)

Lifestyle and Health Practices

QUESTION	RATIONALE
Do you smoke, vape, use e-cigarettes or smokeless tobacco? If so, how much? Are you interested in quitting this habit?	Cigarette, pipe, or cigar smoking and use of smokeless tobacco increase a person's risk for oral cancer. Cancer of the cheek is linked to chewing tobacco. Smoking a pipe is a risk factor for lip cancer. E-cigarette aerosol can contain harmful substances including nicotine, cancer-causing chemicals, heavy metals, volatile organic compounds; more studies are needed to better understand the short- and long-term health effects of vaping (CDC, 2024). Clients who want to quit using tobacco may benefit from a referral to a smoking cessation program (Box 18-1).
Do you drink alcohol? How much and how often?	Excessive use of alcohol (>21 standard drinks per week) increases a person's risk for oral cancer (The Oral Cancer Foundation, 2024a).
Do you grind your teeth?	Grinding the teeth (bruxism) may be a sign of stress or of slight malocclusion. The practice may also precipitate temporomandibular joint problems and pain.
Describe how you care for your teeth or dentures. How often do you brush and use dental floss? When was your last dental examination?	Brushing twice a day with a soft bristle toothbrush and fluoride toothpaste, flossing between teeth once a day, eating a healthy diet, and seeing a dentist regularly can prevent dental caries and gum disease (American Dental Association [ADA], 2022).
If the client wears braces: How do you care for your braces? Do you avoid any specific types of foods?	It is important that clients follow their orthodontist's prescribed routine for cleaning and caring for their teeth while wearing braces to avoid staining and cavities. Clients with braces should avoid crunchy, sticky, and chewy foods when wearing braces. These foods can damage the braces and the teeth.
If the client wears dentures: How do your dentures fit? **OLDER ADULT INFORMATION** **Older adults and some clients with a disability may have difficulty caring properly for teeth or dentures because of poor vision or impaired dexterity.**	Poorly fitting dentures may lead to poor eating habits, a reluctance to speak freely, and mouth sores or leukoplakia (thick white patches of cells). Leukoplakia is a precancerous condition.
Do you brush your tongue?	Cleaning the tongue is a way to prevent halitosis (bad breath) resulting from bacteria that accumulates on the posterior tongue.
How often are you in the sun? Do you use lip sunscreen products?	Exposure to the sun is the primary risk factor associated with lip cancer.
Describe your usual dietary intake for a day.	Poor nutrition increases one's risk for oral cancers (ACS, 2021).

BOX 18-2 EVIDENCE-BASED HEALTH PROMOTION AND DISEASE PREVENTION: SINUSITIS

INTRODUCTION

There are two types of sinusitis: acute and chronic. *Acute sinusitis* refers to symptoms that last <3 weeks, often begin with a common cold, and usually go away within 10 days (Harvard Health, 2023a). Sometimes, however, a bacterial infection develops. Chronic sinusitis (or chronic rhinosinusitis) usually lasts >12 weeks despite medical treatment. Sinusitis may also be caused by an infection, a fungus, a deviated nasal septum, nasal polyps, or, in rare cases, an immune system deficiency. Individuals who suffer from chronic rhinitis or asthma are at higher risk for chronic sinusitis due to prolonged inflammation of the airways.

Symptoms of Sinusitis

Typical symptoms of sinusitis include the following (Keating et al., 2023; Mayo Clinic, 2023):

- Thick yellow-green nasal discharge (which may drain into throat)
- Postnasal drip, often with a bad taste
- Cough
- Toothache
- Fever (in cases of acute sinusitis)
- Nasal obstruction or congestion, causing difficulty breathing through your nose
- Pain, tenderness, and swelling around your eyes, cheeks, nose, or forehead
- Frontal headache
- Reduced sense of smell and taste

Other signs and symptoms can include the following:

- Ear pain
- Aching in upper jaw and teeth
- Cough, which may be worse at night
- Sore throat
- Bad breath (halitosis)
- Fatigue or irritability

Common causes of, or risk factors for, chronic sinusitis include the following:

- Nasal polyps or tumors: These tissue growths may block the nasal passages or sinuses.
- Allergic reactions: Allergic triggers include fungal infection of the sinuses.
- Deviated nasal septum: A crooked septum—the wall between the nostrils—may restrict or block sinus passages.
- Trauma to the face: A fractured or broken facial bone may cause obstruction of the sinus passages.
- Dental infection.
- Other medical conditions: The complications of cystic fibrosis, GERD, or HIV and other immune system–related diseases may result in nasal blockage.
- Respiratory tract infections: Infections in your respiratory tract—most commonly, colds—can inflame and thicken your sinus membranes, blocking mucus drainage and creating conditions ripe for growth of bacteria. These infections can be viral, bacterial, or fungal in nature, especially dangerous for immunocompromised persons.
- Allergies such as hay fever, chronic rhinitis, or asthma: Inflammation that occurs with allergies may block sinuses.
- Immune system cells: With certain health conditions, immune cells called *eosinophils* can cause sinus inflammation.

HEALTHY PEOPLE 2030 GOAL

Healthy People 2030 (2024b) has a category for respiratory diseases (asthma and chronic obstructive pulmonary disease [COPD]), but does not include sinusitis.

SCREENING

There are no recommended screening guidelines for acute or chronic sinusitis.

RISK ASSESSMENT

Risk assessment for sinusitis includes the following (Mayo Clinic, 2023b):

- Nasal passage abnormality, such as a deviated nasal septum or nasal polyps
- Aspirin sensitivity that causes respiratory symptoms
- Medical condition, such as cystic fibrosis or COPD
- Immune system disorder, such as HIV/AIDS or cystic fibrosis
- Hay fever or another allergic condition, including chronic rhinitis, that affects your sinuses
- Asthma—about one in five people with chronic sinusitis have asthma
- Regular exposure to pollutants, such as cigarette smoke

CLIENT EDUCATION

Teach Clients

Teach clients the following (Harvard Medical School, 2023; Mayo Clinic, 2023b):

- Avoid catching colds or influenza.
- Avoid allergy triggers and indoor contamination (keep windows closed and use high-efficiency particulate air [HEPA] filter in air conditioner; in car drive with external vents closed and air conditioner on; take shower or wash hair before bed; dry clothes inside whether in dryer or on line; minimize activities with heavy exposure to pollens; avoid exposure to pollutants such as tobacco smoke, polluted air, or known sources of allergens).
- Carefully manage allergies; work to keep symptoms under control.
- Drink enough fluids to stay hydrated.
- Inhale steam or rinse nose with saline solution regularly (may help prevent symptoms).
- Use good hygiene, including frequent hand washing.
- Follow recommendations for getting an influenza vaccine.
- For frequent allergies, seek advice from your health care provider about allergy testing.
- For asthma sufferers, follow asthma protocols prescribed by your health care provider.
- Use a humidifier if home is dry (but take precautions to keep it in excellent condition to avoid growth of bacteria or other organisms).

(*Continued on following page*)

BOX 18-2 EVIDENCE-BASED HEALTH PROMOTION AND DISEASE PREVENTION: SINUSITIS (Continued)

Seek medical advice for the following conditions:

- Repeated episodes of sinusitis that do not respond to treatment
- Sinusitis symptoms last >7 days

Seek medical care immediately for the following:

- Pain or swelling around eyes
- Swollen forehead
- Severe headache
- Confusion
- Double vision or other vision changes
- Stiff neck
- Shortness of breath

CASE STUDY: ASSESSMENT OF CLIENT'S MOUTH, NOSE, THROAT, AND SINUSES: SUBJECTIVE DATA

The nurse interviews Ms. Miller using specific probing questions. The client reports that she experiences severe throat pain when swallowing. She also reports bad breath, headache, neck pain and "knots" on both sides of her neck, chills, fever, no appetite, and fatigue. The nurse explores Ms. Miller's health concerns using the COLDSPAA mnemonic.

Mnemonic	Question	Client Response
Character	Describe the sign or symptom (feeling, appearance, sound, smell, or taste if applicable).	"My throat feels like I am swallowing razor blades, and I have horrible-smelling breath."
Onset	When did it begin?	"Last night."
Location	Where is it? Does it radiate? Does it occur anywhere else?	"My throat hurts when I swallow, and my neck hurts when I turn my head. I have knots on both sides of my neck."
Duration	How long does it last? Does it recur?	"The throat pain is constant. My neck only hurts when I turn my head."
Severity	How bad is it? How much does it bother you?	"I'm miserable. On a scale of 1 to 10, I would rate the throat pain at 6. When I swallow, the pain goes to 8 or 9 of 10."
Pattern	What makes it better or worse?	"Ibuprofen helps some, but the pain never goes away completely." Upon further questioning, Jasmine reports that her throat pain decreased to 2–3 of 10 after taking two ibuprofen 400 mg last night before bed.
Associated factors/how it **A**ffects the client	What other symptoms occur with it? How does it affect you?	"Headache, 101°F fever, and chills. I don't have an appetite and I just want to sleep."

After exploring Jasmine's descriptions of sore throat, neck pain and "knots," fever and chills, no appetite, and feeling tired, the nurse continues with the health history.

She reports she had wisdom teeth removed at age 16. Denies nasal or sinus surgery. Denies any known history of sinus infections or allergies to drugs, food, environment, or insects. Denies use of nasal sprays. Reports using ibuprofen 400 mg two tablets every 8 hours as needed for pain. Reports two episodes of what she calls strep throat when in elementary school. Denies family history of mouth, throat, nose, or sinus cancer. Nutritional history reveals that she eats a lot of fast food or whatever she can heat up out of a can. Twenty-four-hour diet recall: Described a typical 24-hour diet as breakfast: cereal, one glass of milk, and two cups of coffee; lunch: a medium-sized hamburger, order of fries, and a 16-ounce soda; dinner: microwaved spaghetti and meatballs with a piece of bread. Reports drinking two to six beers on weekend nights. No known food allergies.

Denies smoking or use of smokeless tobacco or electronic cigarettes. Denies grinding teeth. Brushes teeth two times daily and sees dentist every 6 months for cleaning. Uses floss one to two times weekly. Last dental examination was 3 months ago, and results indicated no cavities. Uses lip sunscreen in the summer and when on annual ski vacation.

Collecting Objective Data: Physical Examination

Examination of the mouth and throat can help the nurse detect abnormalities of the lips, gums, teeth, oral mucosa, tonsils, and uvula. This examination also allows for early detection of oral cancer. Examination of the nose and sinuses assists the nurse with detection of a deviated septum, patency of the nose and nasopharynx, and detection of sinus infection. In addition, assessment of the mouth, throat, nose, and sinuses provides the nurse with clues to the client's nutritional and respiratory status.

The mouth and nose examination can be useful to the nurse in many situations, both in the hospital and the home. Detection of impaired oral mucous membranes or a poor dental condition may require a change in the client's diet. Additional mouth care may be needed to facilitate ingestion of food or to prevent infection of the gums (gingivitis). Detection of nasal septal deviation may help the nurse determine which nostril to use to insert a nasogastric tube or how to suction a client. In addition, assessing for nasal obstruction may explain the reason for mouth breathing.

Assessment of the mouth, throat, nose, and sinuses usually follows the examination of the head and neck. Techniques for this examination are fairly easy to perform. However, the nurse develops proficiency in interpreting findings with continued practice.

Preparing the Client

Ask the client to assume a sitting position with the head erect. It is best if the client's head is at your eye level. Explain the specific structures you will be examining, and tell the client who wears dentures, a retainer, or rubber bands on braces that they will need to be removed for an adequate oral examination. The client wearing dentures may feel embarrassed and concerned about their appearance and over the possibility of breath odor on removing the dentures. A gentle yet confident and matter-of-fact approach may help the client to feel more at ease.

Equipment

Nonlatex gloves (wear gloves when examining any mucous membrane).

- 4 × 4 in gauze pad
- Penlight
- Short, wide-tipped speculum attached to the head of an otoscope
- Tongue depressor
- Nasal speculum

Physical Assessment

When preparing to examine the nose and mouth:
Be able to identify and understand the relationship among the structures of the mouth and throat, nose, and sinuses.

- Know age-related changes of the oral cavity and nasal and sinus structures.
- Refine examination techniques.

General Routine Screening or Focused Specialty Assessment for the Mouth, Nose, Throat, and Sinuses

The extent to which nurses perform an assessment of the mouth, nose, throat, and sinuses varies with the setting specialty area and the situation in which they are practicing. The nurse would routinely be able to note any abnormality of the external mouth, nose, throat, and sinuses when interacting with the client on a daily basis. For instance, the nurse may notice the client has an oral or tongue lesion or rhinorrhea (runny nose). While talking with the client, the nurse may notice the client has poor oral hygiene and missing teeth. This would require a more in-depth assessment of the mouth and throat. If the client voices concern about a sore throat, the nurse would inspect the internal mouth and throat. Further examination of the nose and sinuses may be needed if drainage is noted in the throat. If the nurse is providing mouth care, it is an opportunity to assess some of the client's internal mouth structures. When feeding clients, it is important to assess their swallowing abilities. When inserting a nasogastric tube, the nurse needs to assess for any nasal obstructions in addition to other assessments before inserting the tube. Inspection of the sinuses may be useful in a home or school setting when a client voices nasal stuffiness and a headache.

General Routine Screening

- Inspect the lips
- Note odor from the mouth
- Inspect the teeth, gums, tongue, and buccal mucosa
- Inspect the external nose
- Check patency of air flow through the nostrils
- Inspect the throat

Focused Specialty Assessment

- Palpate the buccal mucosa and tongue
- Assess the ventral surface and sides of the tongue
- Inspect for Wharton ducts and Stensen ducts
- Check the strength of the tongue
- Check the anterior tongue's ability to taste
- Inspect the hard (anterior) and soft (posterior) palates
- Assess the uvula, tonsils, and posterior pharyngeal wall
- Inspect the internal nose with an otoscope and nasal speculum
- Palpate, percuss, and transilluminate the sinuses

ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
Mouth		
INSPECTION AND PALPATION		
Inspect the lips. Observe lip consistency, moisture, and color. Check for lesions or ulcers.	Lips are smooth and moist without lesions or swelling. **VARIATION INFORMATION** **Pink lips are normal in light-skinned clients, as are bluish or freckled lips in some dark-skinned clients, especially those of Mediterranean descent.**	Dry, cracked lips are seen with dehydration. Lesions or ulcers of the lips are seen with viral infections. **Lip cancer** can occur anywhere on the lips but is most common on lower lip. Most lip cancers are squamous cell carcinomas. Pallor around the lips (circumoral pallor) is seen in anemia and shock. Bluish (cyanotic) lips in clients with lighter skin may result from cold or hypoxia. Increased redness of the lips may be seen in clients with ketoacidosis, carbon monoxide poisoning, and chronic obstructive pulmonary disease (COPD) with polycythemia. Swelling of the lips (edema) is common in local or systemic allergic or anaphylactic reactions. Additional abnormal findings are pictured in Abnormal Findings 18-1.
Inspect the teeth. Ask the client to open the mouth (Fig. 18-6). Note the number of teeth, color, and condition. Note any repairs such as crowns and any cosmetics such as veneers. Ask the client to bite down as though chewing on something and note the alignment of the lower and upper jaws.	Thirty-two pearly whitish teeth with smooth surfaces and edges. Upper molars should rest directly on the lower molars, and the front upper incisors should slightly override the lower incisors. Some clients normally have only 28 teeth if the four wisdom teeth do not erupt. No decayed areas; no missing teeth. Client may have appliances on the teeth (e.g., braces). Client may have evidence of repair work done on teeth (e.g., fillings, crowns, or cosmetics such as veneers). Jaws are aligned with no deviation seen with biting down.	Clients who smoke, drink large quantities of coffee or tea, or have an excessive intake of fluoride may have yellow or brownish teeth. Tooth decay (caries) may appear as brown dots or cover more extensive areas of chewing surfaces. Missing teeth can affect chewing as well as self-image. A chalky white area in the tooth surface is a cavity that will turn darker with time. Malocclusion of teeth is seen when upper or lower incisors protrude. Poor occlusion of teeth can affect chewing, wearing down of teeth, speech, and self-image. Brown or yellow stains or white spots on teeth may result from antibiotic therapy or tooth trauma.
Put on gloves and retract the client's lips (Fig. 18-7) to palpate the inside of the cheeks and gums for moisture and any lesions.	Tissues along cheeks and gums are smooth and moist. No lesions or masses. **OLDER ADULT INFORMATION** **In older clients, the teeth may appear longer because of age-related gingival recession, which is common.** **VARIATION INFORMATION** **The number of teeth and their size vary widely, with many such variations having little clinical significance.**	Receding gums. Red, swollen gums that bleed easily are seen in gingivitis, scurvy (vitamin C deficiency), and leukemia. Receding red gums with loss of teeth are seen in periodontitis. Enlarged, reddened gums (hyperplasia) that may cover some of the normally exposed teeth may be seen in pregnancy, puberty, leukemia, and with use of some medications, such as phenytoin. A bluish-black or gray-white line along the gum line (Burton line) is seen in lead poisoning (Mayo Clinic, 2022; Yamaguchi & Yamaguchi, 2021). There is a significant link between periodontal disease and cardiovascular disease (Harvard Health, 2021).

FIGURE 18-6 Inspecting the general condition of the teeth.

FIGURE 18-7 Lower gingiva (gums).

ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
Mouth		
Inspect the buccal mucosa. Use a penlight with your nondominant hand and tongue depressor with your dominant hand to retract the lips and cheeks to check color and consistency (Fig. 18-8).	Moist with no lesions, ulcers, swelling, or inflammation. **VARIATION INFORMATION** **The buccal mucosa should appear pink in light-skinned clients; tissue pigmentation typically increases in dark-skinned clients, which may include freckling or dark pigmentation on ventral surface of tongue and floor of mouth; hard and soft palate may also be darkly pigmented.** In all clients, tissue is smooth and moist without lesions. **OLDER ADULT INFORMATION** **Oral mucosa is often drier and more fragile in the older client because the epithelial lining of the salivary glands degenerates.**	Leukoplakia (chalky white raised patches) may be seen in chronic irritation, heavy smoking, and alcohol use. These are precancerous lesions and should be referred to the client's primary health care provider for further assessment. Whitish, curd-like patches that scrape off over reddened mucosa and bleed easily indicate thrush (*Candida albicans*) infection. Koplik spots (tiny whitish spots that lie over reddened mucosa) are an early sign of measles. Canker sores may be seen. Brown patches may appear inside the cheeks of clients with Addison disease (chronic adrenocortical insufficiency). See Abnormal Findings 18-1.

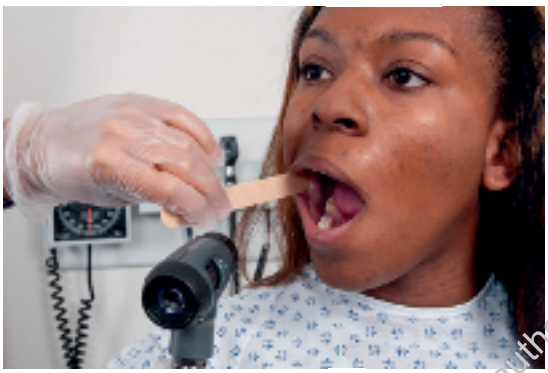

FIGURE 18-8 Inspecting the buccal mucosa.

Inspect Stensen ducts (parotid ducts), openings of the parotid salivary glands—located on the buccal mucosa across from the second upper molar.	Stensen ducts are visible with flow of saliva. No redness, swelling, pain, or moistness in area. Fordyce spots or granules, yellowish-whitish raised spots, are normal ectopic sebaceous glands.	Reddened opening of Stensen ducts is seen with mumps.

FIGURE 18-9 Inspecting the tongue. **(A)** Inspecting the dorsal surface of the tongue. **(B)** Inspecting the ventral surface of the tongue.

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ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
Inspect and palpate the tongue. Ask client to stick out the tongue (Fig. 18-9A). Inspect for color, moisture, size, and texture. Observe for fasciculations (fine tremors), and check for midline protrusion. Palpate any lesions present for induration (hardness). **CLINICAL TIP** **People who smoke may have a yellow-brown coating on the tongue, which is not leukoplakia.**	Tongue should be light to dark pink, moist, and a moderate size, with papillae (little protuberances) present. No lesions or ulcerations present. A common variation is a fissured, topographic map–like tongue, which is not unusual in older clients (Fig. 18-10A). No lesions are present. Fordyce granules (ectopic sebaceous glands) (Fig. 18-10B) are papules, which are a common variation seen in the oral cavity. They are yellowish-white papular lesions scattered across the oral mucous membrane of the cheeks, tongue, or lips.	Significant color changes of the tongue may indicate an underlying health condition. Abnormalities include the following: dry; nodules, ulcers present; papillae or fissures absent; asymmetrical. Deep longitudinal fissures are seen in dehydration; *black hairy tongue* seen with conditions causing hyposalivation, heavy smoking, alcohol intake, use of antibiotics that inhibit normal bacteria leading to fungus, use of mouthwashes; also seen with bismuth subsalicylate intake (Mayo Clinic, 2023a); smooth, red, shiny tongue seen in niacin or vitamin B12 deficiency (see Abnormal Findings 18-1). Raised whitish feathery areas on sides of tongue that cannot be scraped off suggest hairy leukoplakias seen in HIV infection and AIDS. A smooth, reddish, shiny tongue without papillae is indicative of niacin or vitamin B12 deficiencies, certain anemias, and antineoplastic therapy (Stanford Medicine, 2024; Abnormal Findings 18-1). An enlarged tongue suggests hypothyroidism, acromegaly, or Down syndrome, and angioneurotic edema of anaphylaxis. A very small tongue suggests malnutrition. An atrophied tongue or fasciculations point to cranial nerve (hypoglossal, cranial nerve XII) damage. Leukoplakia, persistent lesions, ulcers, or nodules may indicate cancer and should be referred. Induration increases the likelihood of cancer.

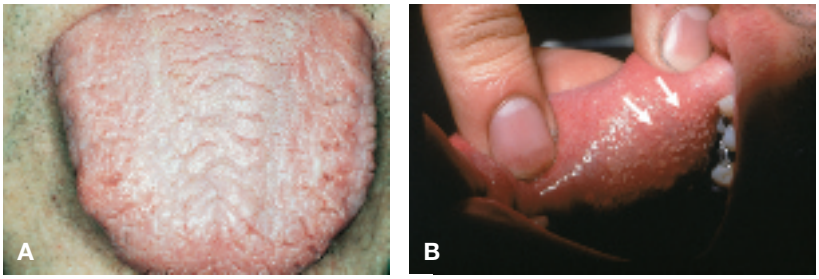

FIGURE 18-10 Normal tongue variations. **(A)** Fissured tongue. **(B)** Fordyce granules. (A: Courtesy of Dr. Michael Bennett. B: Reprinted with permission from Jensen, S. [2019]. *Nursing health assessment: A best practices approach* [3rd ed., Fig. 17-16]. Wolters-Kluwer.)

Assess the ventral surface of the tongue. Ask the client to touch the tongue to the roof of mouth, and use a penlight to inspect the ventral surface of the tongue, frenulum, and area under the tongue (Fig. 18-9B).	The tongue's ventral surface is smooth, shiny, pink, or slightly pale, with visible veins and no lesions.	

FIGURE 18-11 Palpating area under the tongue.

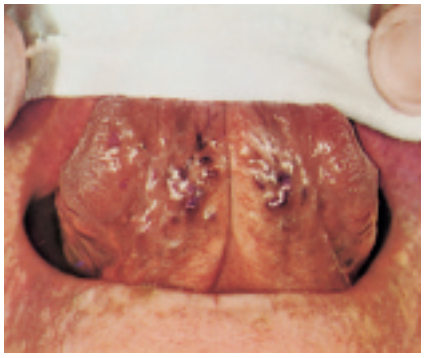

FIGURE 18-12 Varicose veins on ventral surface of the tongue.

ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
Palpate the area (Fig. 18-11) if you see lesions, if the client is over age 50, or if the client uses tobacco or alcohol. Note any induration. Check also for a short frenulum that limits tongue motion (the origin of "tongue-tied").	**OLDER ADULT INFORMATION** **The older client may have varicose veins on the ventral surface of the tongue (Fig. 18-12).**	**CLINICAL TIP** **The area underneath the tongue is the most common site of oral cancer.**
Mouth		
Inspect for Wharton ducts—openings from the submandibular salivary glands—located on both sides of the frenulum on the floor of the mouth.	The frenulum is midline; Wharton ducts are visible, with salivary flow or moistness in the area. The client has no swelling, redness, or pain.	Abnormal findings include lesions, ulcers, nodules, or hypertrophied duct openings on both sides of frenulum.
Observe the sides of the tongue. Use a square gauze pad to hold the client's tongue to each side (Fig. 18-13). Palpate any lesions, ulcers, or nodules for induration.	No lesions, ulcers, or nodules are apparent.	Canker sores may be seen on the sides of the tongue in clients receiving certain kinds of chemotherapy. Leukoplakia, persistent lesions, ulcers, or nodules may indicate cancer and should be further evaluated medically. Induration increases the likelihood of cancer (Abnormal Findings 18-1). **CLINICAL TIP** **The side of the tongue is the most common site of tongue cancer.**
Check the strength of the tongue. Place your fingers on the external surface of the client's cheek. Ask the client to press the tongue's tip against the inside of the cheek to resist pressure from your fingers. Repeat on the opposite cheek.	The tongue offers strong resistance.	Decreased tongue strength may occur with a defect of cranial nerve XII—hypoglossal—or with a shortened frenulum that limits motion.
Check the anterior tongue's ability to taste. Place drops of sugar and salty water on the tip and sides of tongue with a tongue depressor.	The client can distinguish between sweet and salty.	Loss of taste discrimination occurs with trauma, viral infections, sinusitis and polyposis, increasing age, neurologic illnesses such as Parkinson or Alzheimer and zinc deficiency, or use of certain medications that affect smell threshold (Johns Hopkins Medicine, 2024; Mozaffar et al., 2023; NIDCD, 2023; Shmerling, 2021).
Inspect the hard (anterior) and soft (posterior) palates and uvula. Ask the client to open the mouth wide while you use a penlight to look at the roof. Observe color and integrity.	The hard palate is pale or whitish with firm, transverse rugae (wrinkle-like folds). **VARIATION INFORMATION** **A bony protuberance called a torus (Fig. 18-14) is a normal variation. Tori, both palatinus (in the midline of the hard palate) and mandibular (in the lower jaw), tend to occur more in Native American people, Inuit people, Norwegian people, and Thai people (Cleveland Clinic, 2023).**	A candidal infection may appear as thick white plaques on the hard palate. Deep purple, raised, or flat lesions may indicate a Kaposi sarcoma (seen in clients with AIDS; Abnormal Findings 18-1). A yellow tint to the hard palate may indicate jaundice because bilirubin adheres to elastic tissue (collagen). An opening in the hard palate is known as a cleft palate.

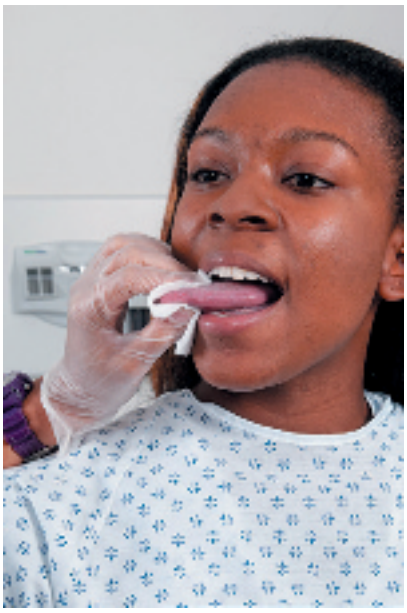

FIGURE 18-13 Inspecting the side of the tongue.

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ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
	Palatine tissues are intact; the soft palate should be pinkish, movable, spongy, and smooth.	

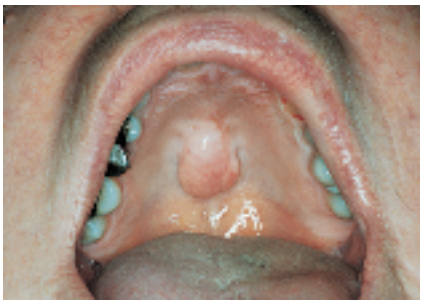


FIGURE 18-14 Torus palatinus. (Courtesy of Dr. Michael Bennett.)

Note odor. While the mouth is wide open, note any unusual or foul odor.	No unusual or foul odor is noted.	Fruity or acetone breath is associated with diabetic ketoacidosis. An ammonia odor is often associated with kidney disease. Foul odors may indicate an oral or respiratory infection, or tooth decay. Alcohol or tobacco use may be identified by breath odor. Fecal breath odor occurs in bowel obstruction; sulfur odor (fetor hepaticus) occurs in end-stage liver disease.
Assess the uvula. Apply a tongue depressor to the tongue (halfway between the tip and back of the tongue) and shine a penlight into the client's wide-open mouth (Fig. 18-15). Note the characteristics and positioning of the uvula. Ask the client to say "aaah," and watch for the uvula and soft palate to move. **CLINICAL TIP** **Depress the tongue slightly off-center to avoid eliciting the gag response.**	The uvula is a fleshy, solid structure that hangs freely in the midline. No redness of or exudate from uvula or soft palate. Midline elevation of uvula and symmetric elevation of the soft palate. **VARIATION INFORMATION** **Native American individuals and Asian individuals may have a split (or bifid) uvula (Fig. 18-16) (Cleveland Clinic, 2022).**	Asymmetric movement or loss of movement may occur after a cerebrovascular accident (stroke). With cranial nerve X (vagus) paralysis, palate fails to rise and uvula deviates to normal side.

FIGURE 18-15 Inspecting the uvula.

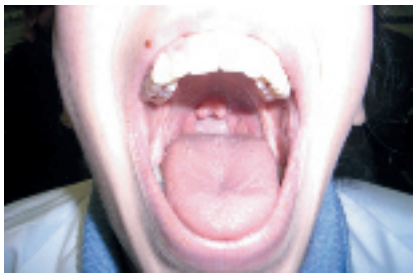


FIGURE 18-16 Bifid uvula. (Reprinted with permission from Paul S. Matz. MD, Advocare Haddon Pediatric Group, Mullica Hill, NJ.)

ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
Inspect the tonsils. Using the tongue depressor to keep the mouth open wide, inspect the tonsils for color, size, and the presence of exudate or lesions. Grade the tonsils.	Tonsils may be present or absent. They are normally pink and symmetric and may be enlarged to 1+ in healthy clients (Fig. 18-17). No exudate, swelling, or lesions should be present.	Tonsils are red, enlarged (to 2+, 3+, or 4+), and covered with exudate in tonsillitis. They also may be indurated with patches of white or yellow exudate (Abnormal Findings 18-1). Grading of tonsils in tonsillitis is depicted in Abnormal Findings 18-2.
Mouth		

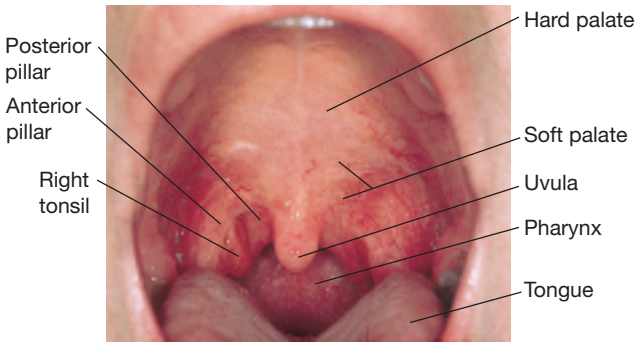


FIGURE 18-17 The normal tonsils and pharynx. (Reprinted with permission from Bickley, L. S. [2016]. *Bates' guide to physical examination and history taking* [12th ed., Fig. 7-64]. Wolters-Kluwer.)

Inspect the posterior pharyngeal wall. Keeping the tongue depressor in place, shine the penlight on the back of the throat. Observe the color of the throat, and note any exudate or lesions. Before inspecting the nose, discard gloves and perform hand hygiene.	Throat is normally pink, without exudate or lesions (Fig. 18-17).	A bright red throat with white or yellow exudate indicates pharyngitis. Yellowish mucus on throat may be seen with postnasal sinus drainage (Abnormal Findings 18-1).
Nose		
INSPECTION AND PALPATION		
Inspect and palpate the external nose. Note nasal color, shape, consistency, and tenderness.	Color is the same as the rest of the face; the nasal structure is smooth and symmetric; the client reports no tenderness.	Nasal tenderness on palpation accompanies a local infection.
Check patency of air flow through the nostrils by occluding one nostril at a time and asking client to sniff or exhale.	Client is able to sniff through each nostril while the other is occluded.	Client cannot sniff through a nostril that is not occluded, nor can they sniff or blow air through the nostrils. This may be a sign of swelling, rhinitis, or a foreign object obstructing the nostrils. A line across the tip of the nose just above the fleshy tip is common in clients with chronic allergies.
Inspect the internal nose. To inspect the internal nose, use an otoscope with a short wide-tip attachment, or you can also use a nasal speculum and penlight (Fig. 18-18). Use your nondominant hand to stabilize and gently tilt the client's head back. Insert the short wide tip of the otoscope into the client's nostril without touching the sensitive nasal septum (Fig. 18-18). Slowly direct the otoscope back and up to view the nasal mucosa, nasal septum, the inferior and middle turbinates, and the nasal passage (the narrow space between the septum and the turbinates).	The nasal mucosa is dark pink, moist, and free of exudate. The nasal septum is intact and free of ulcers or perforations. Turbinates are dark pink (redder than oral mucosa), moist, and free of lesions. The superior turbinate will not be visible from this point of view (Fig. 18-19). A deviated septum may appear to be an overgrowth of tissue (Fig. 18-20). This is a normal finding as long as breathing is not obstructed.	Nasal mucosa is swollen and pale pink or bluish gray in clients with allergies. Nasal mucosa is red and swollen with upper respiratory infection (URI). Exudate is common with infection and may range from large amounts of watery discharge to thick yellow-green, purulent discharge. Purulent nasal discharge is seen with acute bacterial rhinosinusitis. Bleeding (epistaxis) or crusting may be noted on the lower anterior part of the nasal septum with local irritation. Ulcers of the nasal mucosa or a perforated septum may be seen with use of cocaine, trauma, chronic infection, or chronic nose picking. Small, pale, round, firm overgrowths or masses on mucosa (polyps) are seen in clients with chronic allergies (Abnormal Findings 18-3).

(*Continued on following page*)

ASSESSMENT PROCEDURE	NORMAL FINDINGS	ABNORMAL FINDINGS
CLINICAL TIP **Position the otoscope's handle to the side to improve your view of the structures. If an otoscope is unavailable, use a penlight and hold the tip of the nose slightly up. A nasal speculum with a penlight also facilitates good visualization.**		

FIGURE 18-18 Inspecting the internal nose using an otoscope and wide-tipped attachment.

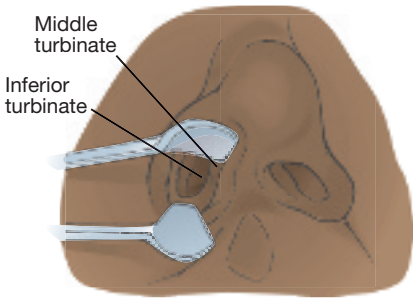


FIGURE 18-19 Normal internal nose.

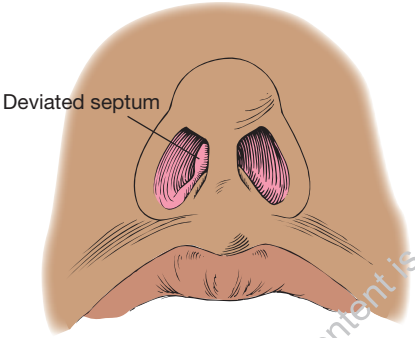


FIGURE 20 Deviated septum.

Sinuses		
PALPATION		
Palpate the sinuses. When an infection is suspected, the nurse can examine the sinuses through palpation and percussion. Palpate the frontal sinuses by using your thumbs to press up on the brow on each side of nose (Fig. 18-21). **Palpate** the maxillary sinuses by pressing with thumbs up on the maxillary sinuses (Fig. 18-22).	Frontal and maxillary sinuses are nontender to palpation, and no crepitus is evident.	Frontal or maxillary sinuses are tender to palpation in clients with allergies or acute bacterial rhinosinusitis. If the client has a large amount of exudate, you may feel crepitus upon palpation over the maxillary sinuses. This may also be present with a viral URI.

FIGURE 18-21 Palpating the frontal sinuses.

FIGURE 18-22 Palpating the maxillary sinuses.

PERCUSSION		
Percuss the sinuses. Lightly tap (percuss) over the frontal sinuses and over the maxillary sinuses for tenderness.	The sinuses are not tender on percussion.	The frontal and maxillary sinuses are tender upon percussion in clients with allergies or sinus infection.

CASE STUDY: ASSESSMENT OF CLIENT'S MOUTH, NOSE, THROAT, AND SINUSES: OBJECTIVE DATA

The nurse performs a physical examination of Jasmine's mouth, throat, nose, and sinuses.

Mouth: Lips are smooth, color appropriate for ethnicity, and dry in appearance. Twenty-eight teeth are pearly white and smooth, with no malocclusion or obvious caries. Gums darkly pigmented, moist, and firm, with tight margins to the teeth. No gum ulcerations, lesions, or masses noted. Buccal mucosa is darkly pigmented. Stensen ducts are visible, with no redness or edema. "Strawberry" tongue with a white membrane and prominent red papillae noted. No tongue lesions, ulcers, or nodules noted. Frenulum is midline. Wharton ducts are visible and surrounded with moistness. Tongue strength 5/5. Able to distinguish between sweet and salty tastes. Hard palate pink and firm, with transverse rugae. Soft palate intact. Breath malodorous.

Throat: Uvula midline, erythemic and edematous. Uvula rises with phonation. Tonsils 3+ bilaterally and covered with patches of white exudate. Posterior pharynx erythemic with white exudates.

Nose: Color of nose matches face. Nose is smooth and symmetric, with no tenderness upon palpation. Nares patent. Nasal mucosa dark pink, moist, and free of exudate. Nasal septum intact and free of ulceration or perforations. Nasal turbinates dark pink, edematous, moist, and free of lesions.

Sinuses: Frontal and maxillary sinuses are nontender, and no crepitus is palpable. No sinus tenderness noted to percussion.

Validating and Documenting Findings

Validate the mouth, throat, nose, and sinus assessment data that you have collected (by asking additional questions, verifying data with another health care professional, or comparing objective with subjective findings). This is necessary to verify that the data are reliable and accurate. Document the assessment data following the health care facility or agency policy.

CASE STUDY: DOCUMENTATION OF CLIENT'S MOUTH, NOSE, THROAT, AND SINUSES DATA

Think back to the case study. The nurse completed the following documentation of their assessment of Jasmine Miller.

Biographic Data: J. M., 22-year-old transgender woman. African American. Full-time student majoring in elementary education. Works part time as a substitute teacher. Alert and oriented. Asks and answers questions appropriately.

Reason for Seeking Health Care: "My throat feels like I am swallowing razor blades. I have horrible-smelling breath, my neck hurts when I turn it and has 'knots' on both sides, I have chills, and a fever, and I am so tired and have no appetite."

History of Present Health Concern: Last p.m., J. M. developed a severe sore throat associated with fever and chills. Reports anorexia and extreme fatigue as well as foul-smelling breath. States she has painful "knots" on both sides of her neck and has pain when turning head. Denies nausea or vomiting. Has been taking sips of soda and water. Urinated this a.m. Took two ibuprofen 400 mg at bedtime last p.m.

Past Health History: Reports she had wisdom teeth removed at age 16. Denies nasal or sinus surgery. Denies history of sinus infections or allergic rhinitis. Denies use of nasal sprays. Reports two episodes of "strep throat" when in elementary school. Denies allergies to drugs, food, environment, or insects. Medications include ibuprofen 400 mg two tablets every 8 hours as needed for pain.

Family History: Father, mother, and sister alive and well. Paternal grandfather with hypertension. Paternal grandmother with rheumatoid arthritis. Maternal grandfather deceased at age 35 due to motor vehicle accident. Maternal grandmother with osteoarthritis, GERD, and dementia. Denies family history of mouth, throat, nose, or sinus cancer.

Lifestyle and Health Practices: Denies smoking or use of smokeless tobacco or electronic cigarettes. Reports drinking two to six beers on weekend nights. Reports usual diet of fast and easy-to-prepare foods. 24-hour diet recall includes only fluids, but typical 24-hour diet is breakfast: cereal, milk, coffee; lunch: hamburger, fries and soda; dinner: microwaved foods. Eats from drive-through fast-food restaurants and whatever she can microwave from a can (soups and tamales). Denies grinding teeth. Brushes teeth two times daily and sees dentist every 6 months for cleaning. Uses floss occasionally. Last dental examination 3 months ago, and results indicated no cavities. Uses lip sunscreen in the summer and when on annual ski vacation.

Physical Examination Findings:

Mouth: Lips are smooth, color appropriate for ethnicity, and dry in appearance. Twenty-eight teeth are pearly white and smooth, with no malocclusion or obvious caries. Gums darkly pigmented, moist, and firm, with tight margins to the teeth. No gum ulcerations, lesions, or masses noted. Buccal mucosa is darkly pigmented. Stensen ducts visible, with no redness or edema. "Strawberry" tongue with a white membrane and prominent red papillae noted. No tongue lesions, ulcers, or nodules noted. Frenulum is midline. Wharton ducts visible and surrounded with moistness. Tongue strength 5/5. Able to distinguish between sweet and salty tastes. Hard palate pink and firm, with transverse rugae. Soft palate intact. Breath malodorous.

Throat: Uvula midline, erythemic and edematous. Uvula rises with phonation. Tonsils 3+ bilaterally and covered with patches of white exudate. Posterior pharynx erythemic with white exudates.

Nose: Color of nose matches face. Nose is smooth and symmetric, with no tenderness upon palpation. Nares patent. Nasal mucosa dark pink, moist, and free of exudate. Nasal septum intact and free of ulceration or perforations. Nasal turbinates dark pink, edematous, moist, and free of lesions.

ANALYZING DATA TO MAKE INFORMED CLINICAL JUDGMENTS

After collecting subjective and objective data pertaining to the mouth, throat, nose, and sinuses, identify abnormal cues and supportive cues (client strengths). Then cluster the cues to reveal any significant patterns or abnormalities. These cues may be used to make clinical judgments about the status of the client's mouth, throat, nose, and sinuses.

Selected Client Concerns

The following is a listing of selected client concerns (opportunity to enhance health, risk, or actual) that you may identify when analyzing the cue clusters.

Opportunity to Improve Health

Opportunity to improve the self-care of the teeth and gums

- Opportunity to improve health habits: Requests information on how to quit smoking

Risk for Client Concerns

- Risk for aspiration associated with decreased or absent gag reflex
- Risk for infection of gums associated with poor oral hygiene
- Risk for injury to teeth and gums associated with active participation in contact sports and lack of knowledge of protective mouth gear

Actual Client Concerns

- Poor oral hygiene associated with lack of knowledge of healthy dental hygiene practices and resources to receive adequate dental care
- Unhealthy oral mucous membranes associated with mouth breathing, dehydration, and poor oral hygiene
- Poor swallowing associated with impaired neurologic or neuromuscular function (e.g., cerebrovascular accident (CVA); damage to cranial nerve V, VII, IX, or X; cerebral palsy; myasthenia gravis; muscular dystrophy)
- Pain associated with chronic sinusitis or inflammation of oral mucous membranes (gingivitis, periodontitis, canker sores)
- Inability to taste effectively associated with impairment of cranial nerve VII or IX, reduction in the number of taste buds secondary to the aging process

Selected Collaborative Problems

After grouping the data, certain collaborative problems may become apparent. Remember that collaborative problems differ from client concerns in that they cannot be prevented by nursing intervention. However, these physiologic complications of medical conditions can be detected and monitored by the nurse. In addition, the nurse can use provider- and nurse-prescribed interventions to minimize the complications of these problems. The nurse may also have to refer the client in such situations for further treatment of the problem. Following is a list of collaborative problems that may be identified when obtaining a general impression. These problems are worded as Risk for Complications (RC) followed by the problem.

- RC: Nosebleed
- RC: Sinusitis (bacterial)
- RC: Stomatitis
- RC: Gum infection (gingivitis, periodontitis)
- RC: Oral lesions
- RC: Laryngeal edema

Medical Problems

After grouping the data, the client's signs and symptoms may clearly require medical diagnosis and treatment. Referral to a primary care provider is necessary.

CASE STUDY: MOUTH, THROAT, NOSE, AND SINUS DATA ANALYSIS AND CLINICAL JUDGMENTS

After collecting and analyzing the data for Jasmine Miller, the nurse determines that the following clinical judgments are appropriate:

Client Concerns

- Risk for poor nutrition associated with busy schedule with little regard to nutrition; anorexia and increased metabolic need secondary to throat pain and systemic response to possible infection
- Pain associated with lack of knowledge of effective pain-management strategies

Potential Collaborative Problems

- RC: Streptococcal infection of throat

Refer to primary care provider to diagnose and treat her throat condition.

Interdisciplinary Verbal Communication of Assessment Findings Using SBAR

SITUATION: J. M., a 22-year-old college student, reports to the campus health service with severe, constant throat pain ("like swallowing razor blades"), which began last night. She reports bad breath, neck pain, and "knots" on both sides of her neck, chills, a fever of 101 °F, constant fatigue, and no appetite. On a scale of 1 to 10, she rates her throat pain at a 6 and 8 to 9 when swallowing. The throat pain was reduced to a 2 to 3 after taking two ibuprofen 400 mg. She has been sipping soda and water but reports no nausea or vomiting.

BACKGROUND: J. M. has been studying "day and night" for final examinations, with one more exam to go. This is the third time she has had these same symptoms this year, but she treated herself the first two times. She denies any known history of sinus infections or allergies. J. M. tends to eat a lot of fast and canned food and drinks two to six beers on weekend nights. She attends college full-time and works part-time as a substitute teacher. She denies smoking or use of smokeless tobacco or electronic cigarettes. She reports using ibuprofen 400 mg, two tablets every 8 hours, as needed for pain. J. M. reports having two episodes of "strep throat" in elementary school.

ASSESSMENT: A "strawberry" tongue with a white membrane and prominent red papillae was noted. The uvula is midline, erythemic, edematous, and rises on phonation. Her tonsils are 3+ bilaterally and covered with patches of white exudates. The posterior pharynx is erythemic with white exudates. The nasal mucosa is dark pink, moist, and free of exudates. No sinus tenderness was percussed. Her breath is malodorous.

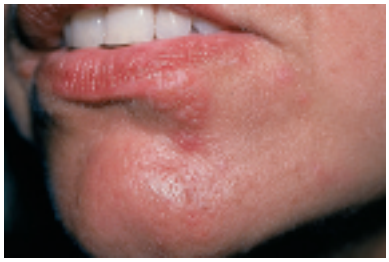
RECOMMENDATION: J. M. is at risk for poor nutrition associated with little regard to nutrition, anorexia, and increased metabolic need secondary to throat pain and the systemic response to a possible infection. She is experiencing pain associated with a lack of knowledge of effective pain-management strategies. She needs to be seen by her primary care provider to diagnose and treat her throat condition.

ABNORMAL FINDINGS 18-1 Abnormalities of the Mouth and Throat

This display depicts common abnormalities of the mouth and throat.

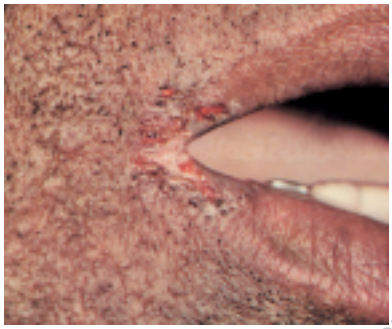
HERPES SIMPLEX TYPE I (COLD SORES)

Clear vesicles surrounded by red indurated base



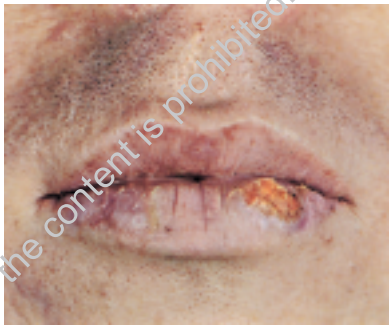
CHEILOSIS OF LIPS

Scaling, painful fissures at corner of lips



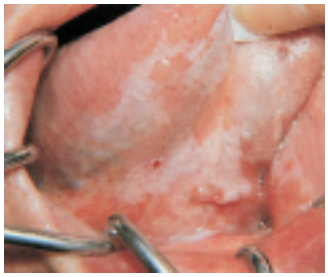
CARCINOMA OF LIP

Round, indurated lesion becomes crusted and ulcerated with elevated border

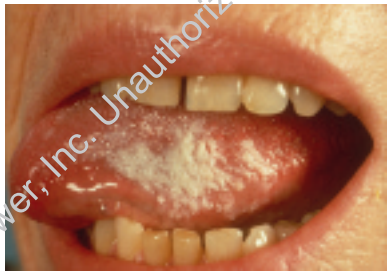


LEUKOPLAKIA (VENTRAL SURFACE)

Thick raised patch does not scrape off; seen in heavy tobacco or alcohol use

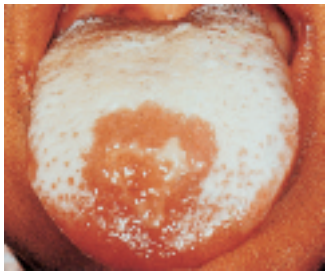


HAIRY LEUKOPLAKIA (LATERAL SURFACE)

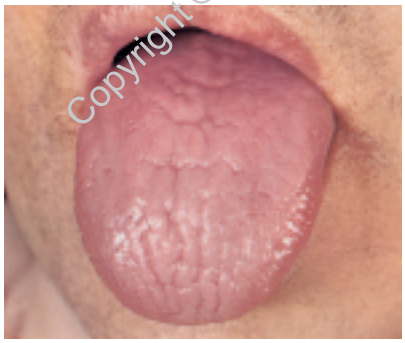


CANDIDA ALBICANS INFECTION (THRUSH)

Curd-like patches easily scrape off, leaving a reddened area

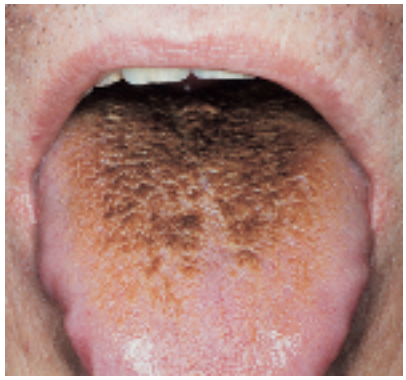


SMOOTH, REDDISH, SHINY TONGUE WITHOUT PAPILLAE DUE TO VITAMIN B12 DEFICIENCY



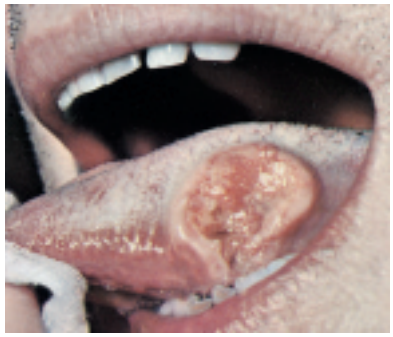
BLACK HAIRY TONGUE

Not hair, but elongated filiform papillae seen with use of antibiotics that inhibit normal bacteria



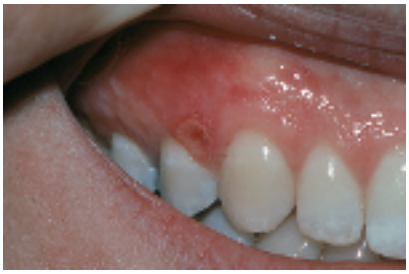
CARCINOMA OF TONGUE

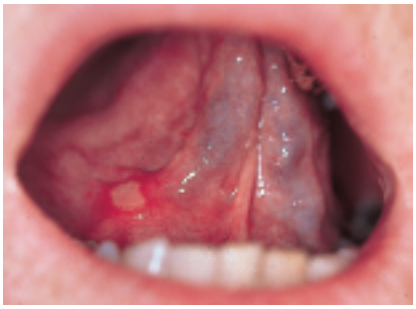
Round indurated lesion becomes crusty and ulcerated with elevated border

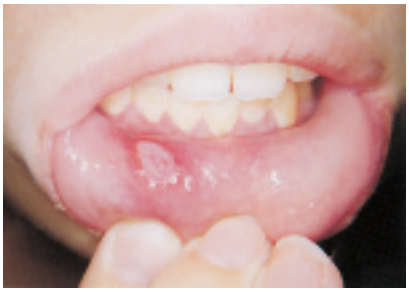


CANKER SORE

Painful small ulcers inside mouth; do not occur on lip surface; noncontagious

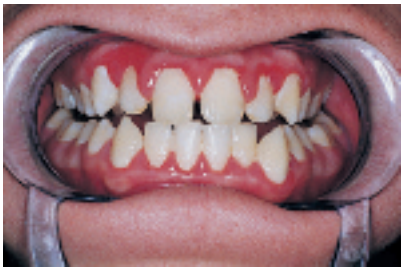






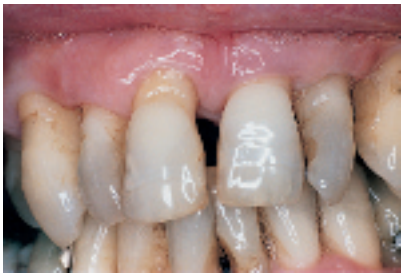
GINGIVITIS

Red, swollen gums that easily bleed



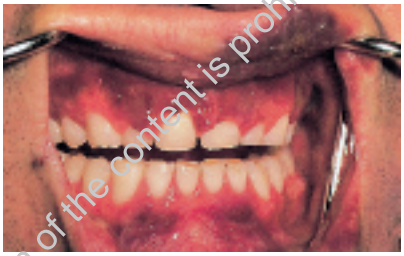
RECEDING GUMS

Gum tissue surrounding tooth pulls back, exposing more of tooth or root of tooth



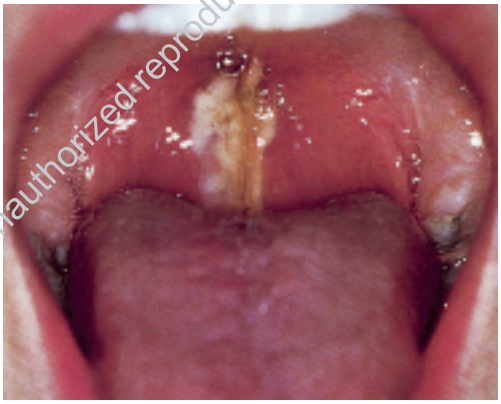
KAPOSI SARCOMA LESIONS

Advanced lesions seen in HIV



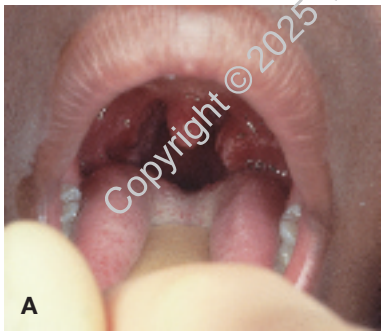
ACUTE TONSILLITIS

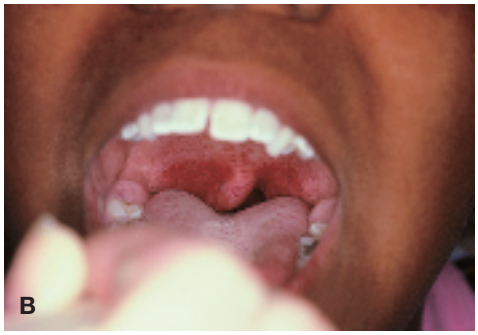
Acute tonsillitis secondary to infectious mononucleosis. Note the marked tonsillar enlargement with erythema and the large white-gray patches.



STREPTOCOCCAL PHARYNGITIS

Characterized by an erythematous posterior pharynx (A), palatal petechiae (B), and a white strawberry tongue (C).





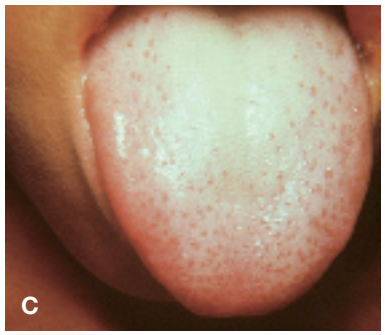
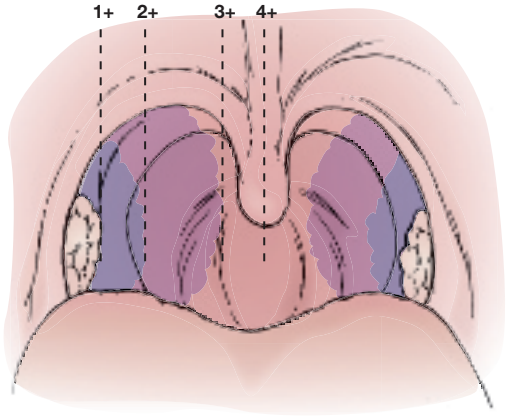


Photo credits: Hairy leukoplakia, reprinted with permission from Goodheart H. P. (2016). *Goodheart's photoguide to common skin disorders* (4th ed.). Wolters Kluwer; Black hairy tongue, gingivitis, receding gums, courtesy of Dr. Michael Bennett; Streptococcal pharyngitis, reprinted with permission from Fleisher G. R., Ludwig W., & Baskin M. N. (2004). *Atlas of pediatric emergency medicine* (Fig. 11.10). Lippincott Williams & Wilkins.

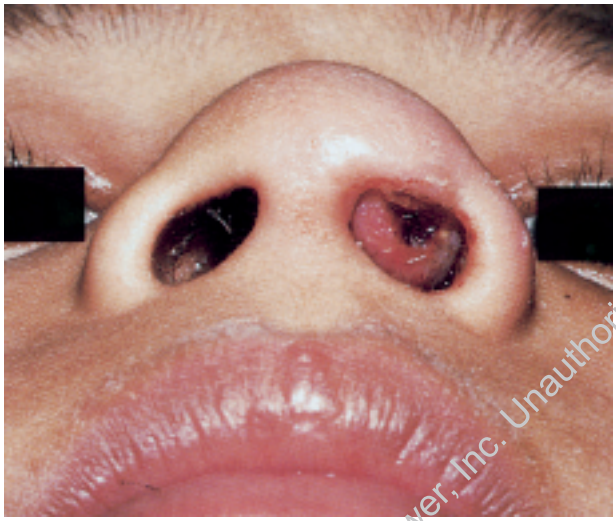
ABNORMAL FINDINGS 18-2 Tonsillitis (Detecting and Grading)

In a client who has both tonsils and a sore throat, tonsillitis can be identified and ranked with a grading scale from 1 to 4 as follows:
1+ Tonsils are visible.
2+ Tonsils are midway between tonsillar pillars and uvula.
3+ Tonsils touch the uvula.
4+ Tonsils touch each other.

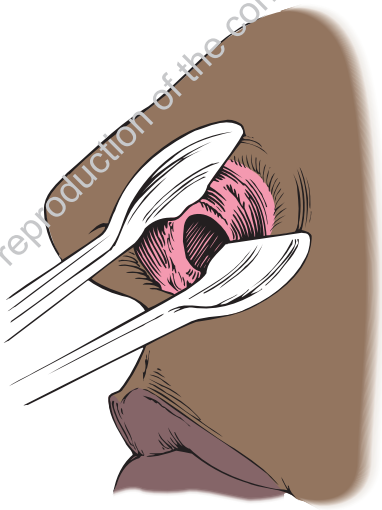


ABNORMAL FINDINGS 18-3 Common Abnormalities of the Nose

NASAL POLYP



PERFORATED SEPTUM



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