



# **uBEATS Teacher's Guide:**

## **Medical Terminology Module #5**

### **Medical Suffixes**

This teacher guide is a supplementary text to support the use of the uBEATS Medical Terminology Module #5 – Medical Suffixes for grades 6-12.

To help students develop the knowledge necessary for an incredible future in health care, we created UNMC Building Excellence in Academics Through STEM (uBEATS), an online health science resource for students.

UNMC uBEATS modules are short (15 minutes or less), interactive online health science modules to support curriculum taught in grades 6 – 12. These do not replace curriculum but provide support for teachers and students incorporating evidence-based information and UNMC expert guided material. Each module is chunked into sections with formative and summative assessments with immediate feedback provided.

Tips on how to utilize uBEATS modules:

- **Internet access is required to view uBEATS modules.**
  - For those who have access to one-to-one technology, modules can be used in or outside of the classroom as a topic introduction, extension, or review. For classrooms without individual student devices, modules can be used in whole group instruction. Formative assessment questions can use the teacher's preferred call-and-response method and summative assessment questions can be displayed on the board and answered individually by students or printed and distributed to students after viewing the module.

## **Objectives**

- Identify and define useful diagnostic suffixes.
- Identify and define useful procedural suffixes.
- Apply medical terms in real-life clinical situations.

## **Introduction**

You have already learned that when you analyze a medical term you begin at the end of the word. The ending is called a suffix. All medical terms contain suffixes. The suffix in “lipoma” is “-oma”, which means “tumor” or “mass.” Next, look at the beginning of the term. “Lip” is the word’s root. The root gives the essential meaning of the term. In this case, the root “lip” means “fat.” The third part of this term, which is the letter “o”, has no meaning of its own but serves as a connector between the root and the suffix. It is called a combining vowel. The letter “o” is the most commonly used combining vowel in medical terms, although it is dropped when a suffix begins with a vowel. Putting the pieces together, “lipoma” means a “tumor or mass of fat.” Similarly, in the term “adenocarcinoma”, the suffix “-carcinoma” means “cancerous tumor.” The combining form, which is the root plus the combining vowel, “adeno” means “gland.” So “adenocarcinoma” refers to a “cancerous tumor of glandular tissue.” In this module you will practice connecting suffixes to roots and combining forms to create medical terms.

## **Prior Knowledge**

Before beginning this module, the teacher should understand the Next Generation Science Standards (NGSS) featuring [Three-Dimensional Learning](#).

### **Science and Engineering Practices [NGSS](#)**

8. Obtaining, evaluating, and communicating information

### **Crosscutting Concepts [NGSS](#)**

1. Patterns
6. Structure and function

## **Key Terms/Vocabulary**

Suffix, root, combining vowel, lipoma, adenocarcinoma, diagnostic suffix, procedural suffix, clinical situation, inflammation, otitis, appendicitis, hepatitis, gastritis, dermatitis, nephritis, arthralgia, arthritis, arthropathy, angiogram, cardiogram, mammogram, arteriogram, cholecystogram, myelogram, arthrogram, encephalogram, renogram, cardiocentesis, cardioplasty, cardiectomy, cardioscopy, cardiography, cardiotomy, angiography, rhinoplasty, hysterectomy, bronchoscopy, ischemia, necrosis, myocardial infarction, cerebrovascular accident, -tomy, -ectomy, -stomy, anastomosis, craniotomy, laparotomy, tonsillectomy, oophorectomy, colostomy, ileostomy, vascular anastomosis, intestinal anastomosis, anemia, tracheotomy, osteoporosis, cholecystostomy.

## **Standards**

Nebraska's College and Career Ready Standards for Science 2024 [Nebraska Science Standards](#)

- SC.HS.6.1 Structure and function
  - Gather, analyze, and communicate evidence of the relationship between structure and function in living things.

National Consortium for Health Science Education [NCHSE](#)

- Foundation Standard 1. Academic Foundation: Human Anatomy and Physiology
  - 1.1.1. Describe the organization of the human body and directional terms.
  - 1.2.1. Describe etiology, pathology, diagnosis, treatment, and prevention of common diseases and disorders.
- Foundation Standard 2. Communications: Medical Terminology.
  - 2.2.1. Use common roots, prefixes, and suffixes to communicate information.

## **Extensions of the lesson**

To help students become more familiar with the Key Terms of this module, the teacher can use the vocabulary list for a classroom Word Wall or integrate the vocabulary into review sessions.

As student misconceptions become apparent, the teacher may need to reinforce these concepts:

- Medical words are like individual jigsaw puzzles. Once you divide the terms into their component parts and learn the meaning of the individual parts, you can use this knowledge to understand many new terms.

- When analyzing the meaning of medical terms, go to the end of the word and start with the suffix, then go back to the beginning of the term, and finally read across.
- The root gives the essential meaning of the term.
- A combining vowel connects roots to suffixes and roots to other roots.
  - Drop the combining vowel before a suffix that starts with a vowel.
  - Keep the combining vowel between root words, even if the second root begins with a vowel.
- A combining form is the combination of the *root* and the *combining vowel*.
- Diagnostic suffixes are used to describe disease conditions or their symptoms.
- Procedural suffixes describe procedures used in patient care.
- In clinical situations, the medical suffix identifies the type of procedure.
  - -tomy: incision or section
  - -ectomy: excision or resection
  - -stomy: the creation of a new opening to the outside of the body
  - anastomosis: a surgical connection between channels of the body

## **Enrichment**

- Visit [Medical Terminology Games to Boost Student Motivation](#) for ideas about active classroom participation.
- [EZmedlearning.com](#) offers a 13-minute video [Medical Terminology: List of Suffixes, Examples, and Meanings](#).
- [Medicalbillingandmedicalcoding.com](#) provides a comprehensive list of medical suffixes: [Medical Terminology: Suffixes](#).
- Do an online search for “classroom activities medical suffixes” to explore possibilities.
- Do an online search for “videos medical suffixes.”