

# QUIZ TIME

oral physiology

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Lec: 14



**1. Which constellation of structures BEST represents the minimal set required to produce a voiced sound?**

- A. Lungs, trachea, nasal cavity
- B. Larynx, vocal folds, corticospinal tract
- C. Lungs, vocal folds, cortical motor control
- D. Diaphragm, tongue, cranial nerve III
- E. Nasal cavity, teeth, Brodmann area 17

**Correct Answer: C**

**2. Damage to which neural pathway would MOST selectively impair articulation while preserving vocal fold vibration and respiration?**

- A. Corticospinal tract
- B. Corticobulbar tract
- C. Spinocerebellar tract
- D. Vestibulospinal tract
- E. Reticulospinal tract

**Correct Answer: B**

**3. A patient can produce vocal sounds normally but cannot coordinate them into intelligible speech. Which cortical region is MOST likely affected?**

- A. Brodmann area 17
- B. Brodmann area 4
- C. Brodmann area 22
- D. Brodmann area 44
- E. Brodmann area 41

**Correct Answer: D**

**4. Which of the following BEST distinguishes aphasia from dysarthria?**

- A. Presence of slurred speech
- B. Impairment of linguistic comprehension
- C. Dysfunction of cranial nerves VII and XII
- D. Impaired vibration of vocal folds
- E. Reduced respiratory drive

**Correct Answer: B**

*Dysarthria: articulation problem, comprehension preserved. Aphasia: language comprehension/production impaired.*

**5. A patient has difficulty understanding spoken language, even though hearing is normal. Speech is fluent but often meaningless. Which brain area is MOST likely damaged?**

- A. Broca's area (44–45)
- B. Primary auditory cortex (41–42)
- C. Wernicke's area (22)
- D. Angular gyrus (39)
- E. Motor cortex (4)

**Correct Answer: C**

**6. A unilateral lesion in the corticobulbar tract above the level of the facial nucleus would MOST likely result in which clinical finding?**

- A. Complete paralysis of both sides of the face
- B. Lower facial weakness on the contralateral side
- C. Inability to phonate due to vocal fold paralysis
- D. Loss of auditory perception
- E. Hypernasal speech due to bilateral palatal paralysis

**Correct Answer: B**

**7. Which system is primarily responsible for shaping raw laryngeal sound into distinguishable speech?**

- A. Respiratory system
- B. Phonatory system
- C. Articulatory system
- D. Auditory cortex
- E. Vestibular apparatus

**Correct Answer: C**

Articulatory structures (lips, teeth, tongue, palate) shape sound.

**8. Which scenario BEST illustrates the functional interaction of the three speech systems (respiratory, phonatory, articulatory)?**

- A. Whispering without vocal fold vibration
- B. Tongue protrusion without phonation
- C. Vocal fold adduction with no airflow
- D. Airflow from lungs causing vocal fold vibration modified by the oral cavity
- E. Pure nasal airflow with closed mouth

**Correct Answer: D**

**9. A patient presents with fluent but nonsensical speech and poor comprehension. Which Brodmann area is MOST likely damaged?**

- A. 4
- B. 22
- C. 44
- D. 45
- E. 40

**Correct Answer: B**

**10. Damage to the hypoglossal nerve (CN XII) would MOST likely interfere with which component of speech production?**

- A. Control of vocal fold tension
- B. Resonance in the nasal cavity
- C. Fine articulation of lingual consonants
- D. Initiation of respiratory airflow
- E. Auditory feedback correction

**Correct Answer: C**

\*CN XII controls tongue muscles essential for articulating sounds like /t/, /d/, /l/, /n/. \*