TABLE 43-3 DECIBEL (LOUDNESS) LEVEL OF COMMON ENVIRONMENTAL NOISE

Source	Decibel (dB)
Weakest sound heard	0
Whisper	30
Normal conversation	55–65
City traffic inside car	85
OSHA monitoring requirement begins	**90**
Jackhammer	95
Subway train at 200 ft	95
Power mower	107
Power saw	110
Painful sound	**125**
Jet engine at 100 feet	140
12-gauge shotgun blast	165
Loudest sound that can occur	194

Abbreviation: OSHA, Occupational Safety and Health Administration.

environmental sounds. High-risk activities for noise-induced hearing loss include use of electrical equipment for wood and metal working and target practice or hunting with small firearms. All internal-combustion and electric engines, including snow and leaf blowers, snowmobiles, outboard motors, and chainsaws, require protection of the user with hearing protectors. Virtually all noise-induced hearing loss is preventable through education, which should begin before the teenage years. Programs for conservation of hearing in the workplace are required by the Occupational Safety and Health Administration (OSHA) whenever the exposure over an 8-h period averages 85 dB. OSHA mandates that workers in such noisy environments have hearing monitoring and protection programs that include a preemployment screen, an annual audiologic assessment, and the mandatory use of hearing protectors. Exposure to loud sounds above 85 dB in the work environment is restricted by OSHA, with halving of allowed exposure time for each increment of 5 dB above this threshold; for example, exposure to 90 dB is permitted for 8 h; 95 dB for 4 h, and 100 dB for 2 h (Table 43-4).

TABLE 43-4 OSHA DAILY PERMISSIBLE NOISE LEVEL EXPOSURE

Sound Level (dB)	Duration per Day (h)
90	8
92	6
95	4
97	3
100	2
102	1.5
105	1
110	0.5
115	≤0.25

Note: Exposure to impulsive or impact noise should not exceed 140-dB peak sound pressure level.

Source: From *https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9735.*

44 Sore Throat, Earache, and Upper Respiratory Symptoms

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Infections of the upper respiratory tract (URIs) have a tremendous impact on public health. They are among the most common reasons for visits to primary care providers, and although the illnesses are typically mild, their high incidence and transmission rates place them among the leading causes of time lost from work or school. Even though a minority (~25%) of cases are caused by bacteria, URIs are the leading diagnoses for which antibiotics are prescribed on an outpatient basis in the United States. The enormous consumption of antibiotics for these illnesses has contributed to the rise in antibiotic resistance among common community-acquired pathogens such as *Streptococcus pneumoniae*—a trend that in itself has an enormous influence on public health.

Although most URIs are caused by viruses, distinguishing patients with primary viral infection from those with primary bacterial infection is difficult. Signs and symptoms of bacterial and viral URIs are typically indistinguishable. Until consistent, inexpensive, and rapid testing becomes available and is used widely, acute infections will be diagnosed largely on clinical grounds. The judicious use and potential for misuse of antibiotics in this setting pose definite challenges.

NONSPECIFIC INFECTIONS OF THE UPPER RESPIRATORY TRACT

Nonspecific URIs are a broadly defined group of disorders that collectively constitute the leading cause of ambulatory care visits in the United States. By definition, nonspecific URIs have no prominent localizing features. They are identified by a variety of descriptive names, including *acute infective rhinitis*, *acute rhinopharyngitis/nasopharyngitis*, *acute coryza*, and *acute nasal catarrh*, as well as by the inclusive label *common cold*.

ETIOLOGY

The large assortment of URI classifications reflects the wide variety of causative infectious agents and the varied manifestations of common pathogens. Nearly all nonspecific URIs are caused by viruses spanning multiple virus families and many antigenic types. For instance, there are at least 100 immunotypes of rhinovirus (Chap. 223), the most common cause of URI (~30–40% of cases); other causes include influenza virus (three immunotypes; Chap. 224) as well as parainfluenza virus (four immunotypes), coronavirus (at least three immunotypes), and adenovirus (47 immunotypes) (Chap. 223). Respiratory syncytial virus (RSV), a well-established pathogen in pediatric populations, is also a recognized cause of significant disease in elderly and immunocompromised individuals. A host of additional viruses, including some viruses not typically associated with URIs (e.g., enteroviruses, rubella virus, and varicella-zoster virus), account for a small percentage of cases in adults each year. Although new diagnostic modalities (e.g., nasopharyngeal swab for polymerase chain reaction [PCR]) can assign a viral etiology, there are few specific treatment options, and no pathogen is identified in a substantial proportion of cases. A specific diagnostic workup beyond a clinical diagnosis is generally unnecessary in an otherwise healthy adult.

CLINICAL MANIFESTATIONS

The signs and symptoms of nonspecific URI are similar to those of other URIs but lack a pronounced localization to one particular anatomic location, such as the sinuses, pharynx, or lower airway. Nonspecific URI commonly presents as an acute, mild, and self-limited catarrhal syndrome with a median duration of ~1 week (range, 2–10 days). Signs and symptoms are diverse and frequently variable across patients, even when caused by the same virus. The principal