Genetics and Hearing Loss: An Overview

INTRODUCTION

This course includes three recordings to expand audiologists’ and other professionals’ understanding of genetics and its influence on diagnosing and treating various forms of hearing loss. First, we’ll walk through the basic building blocks of genetics—DNA, RNA, and proteins—to understand how organisms grow and function, and how traits and diseases are inherited. The course will then cover current information regarding epidemiologic characteristics of hereditary hearing loss, including incidence and prevalence of genetic hearing loss, summary of etiologies, inheritance patterns, proportion of syndromic versus nonsyndromic forms, important nomenclature, and progress in gene identification. The course will also examine pedigree symbols and construction, and address how to use pedigrees as a tool in clinical practice. These recordings originally appeared in the 2014 online conference “Audiology 2014: Genetics and Hearing Loss.”

LEARNING OUTCOMES

You will be able to:

- compare the structure and function of DNA and RNA, and differentiate a gene from a sequence of DNA
- describe how genetic factors influence hearing loss in infants and school-aged children
- construct basic pedigrees using appropriate symbols and structures
- categorize examples of human pedigrees by mode of inheritance of a trait (autosomal dominant, autosomal recessive, or X-linked recessive)
- discriminate between Mendelian inheritance and mitochondrial (matrilineal) inheritance by evaluating characteristics of pedigrees

EVIDENCE-BASED PRACTICE

It is the position of the American Speech-Language-Hearing Association that audiologists and speech-language pathologists incorporate the principles of evidence-based practice in clinical decision making to provide high-quality clinical care. The term evidence-based practice refers to an approach in which current, high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions.

Participants are encouraged to actively seek and critically evaluate the evidence basis for clinical procedures presented in this and other educational programs.

*Adopted by the Scientific and Professional Education Board, April 2006*
PROGRAM HISTORY and IMPORTANT INFORMATION

Sessions originally from the Audiology 2014: Genetics and Hearing Loss online conference

Online conference dates: October 15–27, 2014
Peer reviewed: October 13, 2015
Available through: October 13, 2018

To earn continuing education credit, you must complete the learning assessment on or before October 13, 2018.

To see if this program has been renewed after this date, please search by title in ASHA’s online store at www.asha.org/shop.

This course is offered for 0.35 ASHA CEUs (Intermediate level, Professional area).