

Module: Developmentally Appropriate Orientation and Mobility

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Module Overview

Visual impairments can have an immediate impact on the motor development of young children with visual impairments, as well as on other developmental domains that form the foundation for orientation and mobility (O&M). In this module, we describe and promote a developmental approach to intervention that will provide the basis for future orientation and mobility. Our approach is based on the premise that the foundation for O&M skills is built during infancy and early childhood. Therefore, the first 3 years of life are the optimal time to facilitate and promote the sensory, conceptual, and motor framework needed for independent travel.

Session 1: Foundations of Developmentally Appropriate Orientation and Mobility

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Introduction

Welcome to Session 1, “Foundations of Developmentally Appropriate Orientation and Mobility,” of the *Developmentally Appropriate Orientation and Mobility* module. In this session, participants will acquire knowledge and skills that will enable them to work collaboratively with families, orientation and mobility specialists, teachers of children with visual impairments, and other early intervention team members. In addition, participants will identify strategies for fostering sensory development and organization, cognitive development, and motor development in order to promote safe and independent movement, exploration, and travel in natural environments for infants and toddlers with visual impairments.

Objectives

After completing this session, participants will

1. define orientation and mobility (O&M) as it applies to infants and toddlers with visual impairments.
2. describe the history of the field of orientation and mobility and how it relates to infants and toddlers with visual impairments.
3. describe a developmental approach to O&M for infants and toddlers and their families, including family-centered practices, natural learning opportunities, and transdisciplinary teaming.
4. describe components of early orientation and mobility.
5. discuss the roles of orientation and mobility specialists (OMSs) and teachers of children with visual impairments (TVIs) in facilitating sensory development and organization, cognitive development, motor development and movement, and assessment of infants and toddlers with visual impairments.
6. describe the relationship between attachment and mobility and strategies for promoting attachment and trust.
7. discuss the importance of and strategies for fostering independent movement and exploration in natural environments for infants and toddlers with visual impairments.
8. describe the significance of and strategies for providing opportunities for safe movement and exploration.
9. describe various protective techniques for early travel and strategies to encourage their use.
10. describe different types of mobility devices and tools and ways to facilitate their use.

Session 2: Sensory Development

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Introduction

In Session 2, “Sensory Development,” of the *Developmentally Appropriate Orientation and Mobility* module, participants will acquire knowledge about the seven types of sensory input and how the development of the senses affects orientation and mobility. Participants will also learn about sensory development as it relates to the assessment, planning, and implementation of appropriate intervention.

Objectives

After completing this session, participants will

1. describe why teachers of children with visual impairment (TVIs) and orientation and mobility specialists (OMSs) should know about sensory development in order to assess, plan, and implement appropriate intervention that will facilitate motor development and orientation and mobility development.
2. describe the seven types of sensory input (visual, auditory, tactile, vestibular, proprioceptive, olfactory, gustatory).
3. describe visual development, the relationship between vision and movement, and strategies for facilitating functional vision within natural learning opportunities and daily routines.
4. describe the importance of hearing for children with visual impairments, the development of hearing and auditory skills, and strategies for promoting the optimal use of hearing for orientation.
5. describe the impact of deafness, hard of hearing, or deafblindness on movement, exploration, and the development of orientation and mobility in young children with visual impairments.
6. describe the importance of the sense of touch in the development of movement, exploration, and play in young children with visual impairments and describe ways TVIs and OMSs can assist in facilitating young children's use of touch, including tool use.
7. describe the proprioceptive and vestibular systems and their role in facilitating movement, exploration, and play in young children with visual impairments within natural learning opportunities.
8. discuss the roles of smell and taste in facilitating development in young children with visual impairments.
9. describe the importance of identifying and providing meaningful sensory experiences that are graded to children's individual needs and tolerance levels.
10. describe the value of assessing sensory abilities and preferences in infants and toddlers with visual impairments.

Session 3: Cognitive Development

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Susan Shier Lowry, M.Ed.
Carla J. Brown, M.Ed.

Introduction

In Session 3, “Cognitive Development,” of the *Developmentally Appropriate Orientation and Mobility* module, participants will acquire knowledge about the potential impact of visual impairments on such areas of cognitive development as body concepts, object concepts, cause and effect, means-end relationships, imitation, environmental concepts, and spatial and positional concepts. Participants will also learn about how these areas of cognitive development are related to motor development and orientation and mobility, and how to facilitate cognitive development within natural learning opportunities and daily routines.

Objectives

After completing this session, participants will

1. discuss the relationship of cognitive, motor, and perceptual development and the potential impact of visual impairments on cognitive development and movement during the first 3 years of life.
2. discuss the importance of, and strategies for, developing body concepts for young children with visual impairments and how accurate body concepts are related to cognitive development, motor development, and orientation and mobility.
3. describe the development of object concepts in young children with and without vision, how object concepts are related to cognitive and motor development and orientation and mobility, and how to facilitate concept development within natural learning opportunities and daily routines.
4. describe the development of cause and effect and means-end relationships in young children, how it impacts movement and orientation and mobility, the use of tools, and strategies to facilitate the development of cause and effect and means-end relationships.
5. describe the role of imitation in cognitive and motor development and how visual impairment may affect imitation.
6. describe how children learn about environmental concepts, the potential impact of visual impairments on the acquisition of these concepts, and strategies for helping young children with visual impairments acquire environmental concepts.

7. describe how children learn about spatial and positional relationships, how visual impairments can affect the acquisition of spatial concepts, and strategies to develop spatial concepts for orientation and mobility.
8. describe the impact of an intellectual disability on children with visual impairments as it relates to cognitive skills in orientation and mobility.

Session 4: Motor Development and Movement

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Deborah D. Hatton, Ph.D.

Introduction

Welcome to Session 4, "Motor Development and Movement," of the *Developmentally Appropriate Orientation and Mobility* module. In this session, participants will acquire knowledge about how visual impairments can affect motor development and movement, particularly in such areas as postural control, goal-directed movement, reaching, purposeful movement, transitional movement, crawling, walking, and fine-motor skills. Participants will also learn how defined spaces, natural learning opportunities, mini-routes, adaptive mobility devices, and other tools and strategies can facilitate motor development and movement in infants and children with visual impairments.

Objectives

After completing this session, participants will

1. briefly describe and contrast the following theories of motor development and movement: neural-maturational theories, perceptual-cognitive theories, the dynamic-systems theory, and the ecological theory.
2. briefly describe the processes observed in typical motor development and movement.
3. describe the development of postural control.
4. identify influences of visual impairments on the attainment of postural control in young children.
5. describe the development of goal-directed movement in young children with visual impairments.
6. describe the significance of goal-directed reaching for children with visual impairments and strategies to reinforce the development of reaching.
7. identify how defined spaces assist young children with visual impairment in developing purposeful movement.

8. discuss the impact of visual impairments on transitional movements in young children and methods to develop transitional movement.
9. discuss how visual impairments may affect the development of crawling and how facilitating crawling in young children influences later development.
10. describe the developmental components necessary for young children to learn to walk and how visual impairments, particularly those affecting depth perception, may affect their acquisition.
11. identify ways to facilitate goal-directed movement using natural learning opportunities and individually designed mini-routes.
12. describe the potential impact of visual impairment on fine motor development; fine-motor skills needed for orientation and mobility acquisition, including those required for use of adaptive mobility devices and tools; and strategies for promoting the development of these skills.
13. describe strategies for facilitating motor development and movement of children with visual impairments and additional disabilities.

Session 5: Assessment

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Introduction

In Session 5, "Assessment," of the *Developmentally Appropriate Orientation and Mobility* module, participants will acquire knowledge and skills that will enable them to conduct an orientation and mobility assessment, including a routines-based assessment; a transdisciplinary play-based assessment; a sensory assessment; assessments of cognitive, motor, social-emotional, and communication development; and an environmental assessment. Participants will also learn about formal orientation and mobility assessments tools, including those for adaptive mobility devices and tools, and how to prepare an orientation and mobility assessment report for young children with visual impairments.

Objectives

After completing this session, participants will

1. describe the legal basis for assessing infants and toddlers with visual impairments, including assessment of family, concerns, resources, and priorities.
2. describe the process of an orientation and mobility (O&M) assessment, including gathering background information, conducting a routines-based assessment, completing natural observation, and participating in a transdisciplinary play-based assessment.

3. explain how a routines-based assessment can be used to gather initial information for an O&M assessment.
4. explain how naturalistic observations in multiple environments are necessary to adequately assess a young child's O&M skills and concepts.
5. describe a transdisciplinary assessment and how it can be used as one component of an O&M assessment.
6. describe the process of completing a sensory assessment of young children with visual impairments.
7. describe the process of assessing cognitive development as it relates to orientation and mobility concept acquisition.
8. describe the relevant components of motor assessment, including self-initiated movement.
9. describe the roles of orientation and mobility specialists (OMSs) and teachers of children with visual impairments (TVIs) in assessing children's social-emotional development as related to self-initiated movement and orientation and mobility.
10. describe the assessment of communication skills and how this assessment is related to early orientation and mobility.
11. describe the process of, and rationale for, completing an environmental assessment.
12. describe formal and informal O&M assessment tools for young children, including assessment for adaptive mobility devices and tools.
13. identify and describe the primary components of an O&M assessment report for young children with visual impairments.