



IMPORTANT INFORMATION

If you experience technical difficulties during our presentation, please call:
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402-416-7583 (Kathy Karsting)

Please keep your microphone on MUTE unless you wish to speak to our presenter.

Thank you for not interrupting our presentation with background noise or technical difficulties.

TESH

Program materials are available at:

http://dhhs.ne.gov/publichealth/Pages/schoolhealth_tesh.aspx

Autism in Nebraska Requirements for Credit

- To receive **1.5** contact hours for attending today's event you **must**:
 - Sign in, completing all fields of the sign in sheet
 - Be present for the entire event
 - Complete and return an evaluation
 - Keep our program “Green!” Please give us your email address and we will issue your certificate electronically!

Autism in Nebraska Requirements for Credit

- Contact hours are available for independent study.
- **Contact hour approval for this event expires February 11, 2015.**
- For more information about TESH, Telehealth Education for School Health, please contact:
kathy.karsting@nebraska.gov.

Autism in Nebraska Required Disclosures

- The members of the TESH planning committee and our presenters today disclose they have no real or perceived conflicts of interest, or financial or commercial influences, that might bias the content of our program.
- There will be no discussion of off-label or unapproved use of medication in this program.

Autism in Nebraska Disclaimer

- The opinions and viewpoints expressed in this program are the sole responsibility of the presenter, and do not necessarily reflect the views, policies, or positions of:
 - The Nebraska Department of Health and Human Services;
 - The Nebraska Statewide Telehealth Network or our participating member locations; or
 - The Georgia Nurses' Association, the accredited continuing education approver for our presentation today.

Overview

- Describe the prevalence and etiology of autism spectrum disorders.
- Identify early warning signs and diagnostic criteria of autism spectrum disorder.
- Identify three action steps for school nurses in making an impact on autism spectrum disorder in Nebraska.
 - Increased understanding of how symptoms of ASD present difficulties for children in school.
 - Increase knowledge about Academic Interventions
 - Awareness of Medications used for children with ASD
- Identify appropriate referral resources for children and adolescents with developmental concerns and/or diagnosed with autism spectrum disorder.

Autism In Nebraska

- www.asdinnebraska.org

Autism Spectrum Disorders (ASD)

- Prevalence
 - Approximately 1 in 88 children at age 8
 - 4.6 : 1 ratio males to females
 - Higher prevalence in white compared to Hispanic and non-Hispanic black
- Cognitive impairment
 - Impaired intellectual functioning (IQ < 70) - 38%
 - Borderline (IQ 75-71) – 24%
 - Normal IQ (>85) - 38%

• (MMWR, March 2012)

Autism Spectrum Disorders (ASD)

- Causes for higher prevalence
 - Better assessment and diagnostic tools
 - Improved recognition by community health care providers
 - Increased public awareness
 - Still possibly some disparities in identifying all children with ASD
 - Other causes unknown (MMWR, 2012)

Etiology

- Genetic
 - Numerous genes involved
 - Chromosomal abnormalities much higher rate in children with autism
 - Rate of occurrence in siblings - 4 - 10%
 - Monozygotic twins – 60%
 - Dizygotic twins – 30% (Bertoglio & Hendren, 2009)

Syndromes and Related Health Problems

- Fragile X
- Epilepsy
- Tuberous sclerosis
- Fetal alcohol syndrome

Risk Factors

- Possible perinatal complications associated with autism
 - Low apgar scores
 - Intrapartum hypoxia
 - Gestational age less than 35 weeks
 - Advanced maternal & paternal age
 - Exposure to viral infections
 - Maternal hypertension & pre-eclampsia
 - (Larsson et al, 2005; Kolvezon et al., 2007; Bilder, 2009; Gardener et al, 2009)

Characteristics of ASD (DSM – IV – TR)

- Qualitative impairment in social interaction (at least 2)
 - Impaired nonverbal behaviors
 - Failure to develop peer relationships at same age level
 - Lack of seeking to enjoy interests or achievement
 - Lack of social or emotional reciprocity

Characteristics of ASD (DSM – IV – TR)

- Qualitative impairment in communication (at least one)
 - Delay or lack of spoken language
 - Impaired ability to initiate or sustain conversation
 - Stereotyped and repetitive use of language
 - Lack of varied or spontaneous play

Characteristics of ASD (DSM – IV – TR)

- Restricted repetitive and stereotyped patterns of behavior, interests and activities (at least one)
 - Preoccupied with stereotyped or restricted interest
 - Inflexible to nonfunctional routines or rituals
 - Stereotyped or repetitive movements
 - Persistent preoccupation with parts of objects

Asperger's syndrome

- Asperger's syndrome
 - Qualitative impairment in social interaction (at least two)
 - Restricted repetitive and stereotyped pattern of behavior, interests and activities (at least one)
 - No clinically significant language delay
 - No clinically significant delay in cognitive development, self-help skills or adaptive behavior (other than social interaction)

PDD, NOS

- Severe impairment in the development of reciprocal social interaction
- Impaired verbal or nonverbal communication skills
- Presence of stereotyped behavior, interests, and activities
- Criteria are not met for other PDD
 - Late Onset
 - Atypical symptomatology
 - Subthreshold symptomatology

Autism Spectrum Disorders

- Proposed DSM – V
 - Deficits in social communication and social interactions (blends social with communication)
 - Restricted, repetitive patterns of behavior
 - Symptoms are present in early childhood
 - Symptoms impair functioning in daily activities

Characteristics of Autism

<http://www.youtube.com/watch?v=FeGaffUvHM>

Behavior Problems

- Aggression (physical and verbal)
- Temper tantrums
- Impulsivity
- Crying
- Oppositional
- Refusal to work
- Perseveration

Comorbid Conditions

- Anxiety
 - Withdrawn
 - Avoidance of Feared Conditions
- Depression
 - Withdrawal
 - Irritability
 - Poor concentration
- Attention Deficit and Hyperactivity Disorder
 - (DSM-V)
- Oppositional Defiant Disorder

Early Warning Signs

- ASD can be diagnosed as early as 18 months
- Developmental Milestones:
 - Behaviors that most children can do by a certain age
 - Act as markers along the course of typical development
 - Examine how children play, learn, speak and act at a certain age
 - **All children develop at their own pace and some will reach a certain milestone slightly late or early**

Developmental Resources

- CDC's Learn the Signs. Act Early. www.cdc.gov/actearly

"Learn the Signs. Act Early."



CDC's national campaign to help parents and professionals learn the signs of healthy development, warning signs of delay, and the importance of acting early on developmental concerns.

Milestone Moments booklet



Milestone Moments
Learn the Signs. Act Early.

You can follow your child's development by watching how he or she plays, learns, speaks, and acts. Look inside for milestones to watch for in your child and how you can help your child learn and grow.

Understanding Milestone Moments

Your baby at 6 Months

Cognitive (learning, thinking, problem-solving) <ul style="list-style-type: none"> Looks around at things nearby Shows curiosity about things and tries to get things that are out of reach 	<ul style="list-style-type: none"> Brings things to mouth Reaches to pass things from one hand to the other 	How you can help your child learn and grow <ul style="list-style-type: none"> Put out new things to your baby and name them. Show your baby bright pictures in a magazine and name them. Hold your baby so while she sits or support her with pillows. Let her look around and give her toys to look at while she sits. Put your baby on his tummy or back as often as possible to strengthen his back and neck muscles.
Movement/Physical Development <ul style="list-style-type: none"> Rolls over in both directions (front to back, back to front) When standing, supports weight on legs and right balance 	<ul style="list-style-type: none"> Reaches to sit without support Rocks back and forth, sometimes crawling backward or even forward 	Development tips <ul style="list-style-type: none"> Signs to sit without support Rocks back and forth, sometimes crawling backward or even forward
Act early by talking to your child's doctor if your baby: <ul style="list-style-type: none"> Doesn't try to get things that are in reach Doesn't respond to sounds around him Has difficulty getting things to mouth Seems not excited to play with toys Seems very stiff, with tight muscles 	Warning Signs and Referral Information <ul style="list-style-type: none"> Doesn't roll over in either direction Doesn't make vowel sounds ("ah", "eh", "oh") Doesn't laugh or make cooing sounds Seems very stiff, with tight muscles 	Warning Signs and Referral Information <p>Tell your child's doctor or nurse if you notice any of these signs of possible developmental delay for this age, and talk with someone in your community who is familiar with services for young children in your area, such as your state's public early intervention program. For more information, go to www.cdc.gov/actearly or call 1-800-CDC-INFO.</p>

Your Child at 1 Year

Child's Name: _____ Child's Age: _____ Today's Date: _____

How your child plays, learns, speaks, and acts offers important clues about your child's development. Developmental milestones are things most children can do by a certain age.

Check the milestones your child has reached by his or her 1st birthday. Take this with you and talk with your child's doctor at every visit about the milestones your child has reached and what to expect next.

What most children do at this age:

Social/Emotional <ul style="list-style-type: none"> Is shy or nervous with strangers Cries when mom or dad leaves Has favorite things and people Shows fear in some situations Doesn't you look when you want to have a story Repeats words or actions to get attention Can sit up or lie on his back with strength Plays games such as "peek-a-boo" and "pat-a-cake" 	Movement/Physical Development <ul style="list-style-type: none"> Goes to a sitting position without help Pulls up to stand, walks holding on to furniture ("cruising") May take a few steps without holding on May stand alone
Language/Communication <ul style="list-style-type: none"> Responds to simple spoken requests Uses simple gestures, like shaking head "no" or waving "bye-bye" Makes sounds with changes in tone based upon the speaker Says "mama" and "dada" and understands like "no" and "up" Trills to amuse you 	Act early by talking to your child's doctor if your child: <ul style="list-style-type: none"> Doesn't crawl Can't stand when requested Doesn't reach for things that she sees you hold Doesn't say single words like "mama" or "dada" Doesn't have gestures like waving or shaking head Doesn't point to things Doesn't walk or crawl
Cognitive (learning, thinking, problem-solving) <ul style="list-style-type: none"> Explores things in different ways, like shaking, banging, throwing Picks things that usually Looks at the right picture or thing when it's named Can play games Starts to use things correctly, for example, drinks from a cup, handles a spoon Bangs two things together Puts things in a container, then things out of a container Lets things go without help Plays with other children's toys Follows simple directions like "pick up the toy" 	<p>Tell your child's doctor or nurse if you notice any of these signs of possible developmental delay for this age, and talk with someone in your community who is familiar with services for young children in your area, such as your state's public early intervention program. For more information, go to www.cdc.gov/actearly or call 1-800-CDC-INFO.</p>

www.cdc.gov/actearly 1-800-CDC-INFO

Early Educator Resources



Flyers for Parents

Small Posters

Growth Charts

CD with Fact sheets, Milestones checklists, Tips for talking to parents

Learn the Signs. Act Early. www.cdc.gov/actearly

Other Resources

- Tips for Talking to Parents
- Condition Specific Fact Sheets
- Developmental Awareness Posters
- All Materials are FREE!

Action Steps

- Increased understanding of how symptoms of ASD present difficulties for children in school.
- Increase knowledge about Evidenced Based Intervention and Academic Interventions
- Awareness of Medications used for children with ASD

Challenges for Students with Autism Spectrum Disorders



Academic difficulties

- Strategy use
- Reading
 - Difficulties with abstract thinking and comprehension (main ideas, inference, cause and effect)
- Writing
 - Written expression and graphomotor deficits; difficulties with self regulation
- Mathematics
 - Difficulties with complex problem solving

Behavior Problems

- Children diagnosed with an ASD may present with a range of behavioral concerns
 - Impaired communication can lead to frustration behaviors.
 - Social skill deficits can present difficulties in working with others
 - Routine and rule governed behavior can lead to inflexibility.

The Principles of Behavior

1-2-3s
A-B-Cs

The 1-2-3's of Behavioral Theory

1. Most behavior is learned
2. Behavior can be 'triggered' by events that happen before the behavior
3. The chances of a behavior being repeated in the future depend on what happens after the behavior

ABCs tell us about the FUNCTION of Behavior

A - B - C

Demand
Restricted Access
Low Attention
Physical Discomfort

Escape/Avoidance from Demands/Fears
Access to Tangibles/
Attention
Automatic Reinforcement
(Self stimulatory behavior)

- Remember the symptoms of ASD, & keep in mind how these symptoms impact the behaviors of your children
- At the same time, remember that some behaviors are not okay whether or not a child has ASD!
- Don't take behavior problems personally
- Set reasonable expectations
- Make sure everyone in your classroom or school is aware of the behavior plan

Evidenced Based Interventions

How do I know what is evidenced based practice?

Two Good sources that have looked at all the data and summarized for you!

1. National Standards Project completed by the National Autism Center - www.nationalautismcenter.org
2. Evidenced Based Practice Briefs completed by the National Professional Development Center on Autism Spectrum Disorder - <http://autismpdc.fpg.unc.edu/>

Evidenced Based Intervention

- Practices based upon Behavioral Theory have the most empirical support at this time.
- Applied Behavior Analysis Techniques
 - Principles applied to specific areas of deficits based on each child's unique needs
 - Applied Behavior Analysis employs methods based on scientific principles of behavior to build socially useful repertoires and reduce problematic ones (Cooper, Heron & Heward, 1989)
 - Behavior Analytic treatment for autism focuses on teaching small, measurable units of behavior systematically. (Maurice, Green & Luce, 1996)

Applied Behavior Analysis

- Set of principles that we use to teach skills by targeting direct observable behaviors.
- Examine environmental conditions surrounding a behavior.
- Data based decision making
- Structured and plan consequences

Instructional approaches

- Motivational strategies to keep students engaged in learning
- Providing individualized directions, especially for multistep directions, and checking for understanding.
- Breaking tasks into smaller segments
 - This can be especially helpful if the tasks are broken up visually (i.e., the student can only see a small portion of the work to be accomplished).

Instructional approaches cont.

- Making sure the tasks are at an instructional level (i.e., can be completed at least 80% correct)
- Provide positive and immediate feedback
- Provide specific directions and a warning prior to giving a consequence
- Familiarize student with academic material before lesson is taught (priming)

Instructional approaches cont.

- Graphic organizers to help sequence and organize writing (e.g., semantic webs)
- Direct instruction for reading comprehension/modifications
- Explanations in simpler terms when discussing concepts of a lesson
- Modify assignments (e.g., using multiple choice for verbal answers, highlight texts, provide notes)

Review

- Brief review of strategies – Please check out resources section for additional information!

Medications

- **Not very effective** in treating the core features of autism
 - Social interaction
 - Impaired communication
 - Repetitive behaviors/restricted interest
- **Can be effective** in reducing specific behavior problems
 - Tantrums, aggression, irritability & self-injury
 - Hyperactivity
 - Anxiety

Medications

- Irritability/Tantrums/Aggression
 - risperidone (Risperdal) FDA approved
 - aripiprazole (Abilify) FDA approved
 - Side effects
 - Weight gain
 - Dyskinesia
 - Elevated lipids/cholesterol
 - Elevated prolactin
 - Elevated glucose
 - Sedation
 - Drooling

Medications

- **Hyperactivity/Impulsivity/Inattention**
 - methylphenidate (Ritalin, Concerta, Focalin, Daytrana) and Amphetamine mixed salts (Adderall, Vyvanse)
 - Effects are small to medium with low doses
 - Helps about 50-60% of patients
 - atomoxetine (Strattera)
 - Inconsistent results
 - guanfacine (Tenex, Intuniv)
 - Used as adjunctive medication

Side Effects

- Stimulants
 - Anorexia
 - Insomnia
 - Increase in repetitive behaviors
 - Aggression
 - Anxiety
- Atomoxetine
 - Nausea
 - Abdominal pain
 - Irritability
- Guanfacine
 - Irritability/tearfulness
 - Sedation
 - Sleep disturbance

Medications

- **Anxiety**
 - Selective serotonin reuptake inhibitors (SSRI) (Prozac, Zoloft, Lexapro, Celexa)
 - Some improvement
 - Effective for OCD symptoms, need for sameness
 - Less effective for repetitive behaviors
 - Side effects
 - Increased energy
 - Hyperactivity
 - GI distress
 - Initial insomnia

Referral/ Resource

- Identify appropriate referral resources for children and adolescents with developmental concerns and/or diagnosed with autism spectrum disorder.

What if you have concerns?

- Bring up concerns Early and Often!
- Discussion with the Parents. (See Tips for Talking to Parents www.cdc.gov/actearly)
- If you have concerns about a student, refer them to the Early Development Network (<http://edn.ne.gov/>) or consult with specialist in your school district.

Nebraska ASD Network

- **The goals of the Nebraska ASD Network are to:**
- Build and enhance the capacity of Nebraska schools and families in supporting children across the autism disorders spectrum
- Provide training and technical assistance to Nebraska educators in providing appropriate services to students across the autism spectrum from birth to age 21

<http://www.unl.edu/asdnetwork>

Parent Support Resources

- Autism Society of Nebraska - The mission of the Nebraska Chapter of the Autism Society of America is to support and advocate for individuals with autism spectrum disorders and their families.

<http://www.autismnebraska.org>

Resources

- Local
 - PTI of Nebraska – PTI Nebraska is a statewide resource for families of children with disabilities or special health care needs, enabling parents to have the capacity to improve the education and healthcare outcomes for their children.

<http://pti-nebraska.org/>

Resources

- Local
 - **Autism Action Partnership** -
 - Autism Action Partnership Resource Center.

www.autismaction.org/resource-center/

Resources

- National
 - CDC's Learn the Signs. Act Early. www.cdc.gov/actearly
 - Autism Speaks - www.autismspeaks.org
 - Autism Society of America - <http://www.autism-society.org>
 - Autism Internet Modules www.autisminternetmodules.org

- Questions?

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