Teaching Safety Skills to Individuals with Autism

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Today...

- Safety issues and autism
- Why are children with autism at risk?
- Research-base addressing safety
- Skills to teach to increase safety
- Developing an individualized safety plan
Alpine Student...

- Four year old Sarah
- Wanted to go to the library
- Left her house unassisted
- Missing for over an hour
- Crossed a major highway
- Found by a police officer walking home with a book
Alpine Student...

- Seven year old Billy
- At family vacation home
- Lake in the backyard
- Parent was in another room
- Billy walked out the back yard and drowned in the lake
What Are Some Safety Concerns?

- Elopement
- Wandering in the community
- Failure to understand safety (climbing, Ingestion of poisonous substances and medications, weapons)
What Are Some Safety Concerns?

- Abduction
- Sexual assault
- Drowning
- Fire safety
Why are individuals with autism at risk?

- Comprehension of language
- Communication deficits
- Lack of social/environmental awareness
- Difficulty making discrimination
- Difficulty with generalization
- Limited observational learning
- Compliance to adult requests
Why are individuals with autism at risk?

- Challenging behavior
  - Climbing
  - Pica
  - Destructive behavior
  - Darting / pacing
  - Escape - related behavior
Why are individuals with autism at risk?

- Preoccupation with:
  - Water - drowning risk
  - Locks or latches or keys - elopement
  - Fire - fire
  - Eating / mouthing Objects - poisoning
  - Electronic / mechanical objects - electrocution
  - Cars / trains - elopement, accident
Why are individuals with autism at risk?

- “Sensory sensitivities” leading to escape related behavior, may prevent normal safety practices (e.g., failure to use safety belts in cars and bike helmets when riding bikes and scooters)

<table>
<thead>
<tr>
<th>Survey of Parents</th>
<th></th>
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<tbody>
<tr>
<td>Has there ever been a safety skill listed as an instructional goal on your child’s IEP?</td>
<td>NO = 81%</td>
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<tr>
<td>Parents who considered safety skills to be a very important part of their children’s educational experience</td>
<td>93%</td>
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What can Parents and Professionals do?

- assess home and individual
- be proactive
- address behavior and teach skills
Elopement

- Wandering away from caregiver without consent
- Leaving area to go somewhere without permission
- Escaping something unpleasant
- Darting / running / pacing (self-stimulatory)
How prevalent is elopement?

- Honbergers, Scott, Bennett and Frain (2011) found over 80% of children with ASD elope.
Research on Elopement

  - Survey to 1218 of parents of ASD and 1076 of their siblings
  - 49% had attempted to elope at least once after age 4
  - 26% long enough to cause concern
  - 24% in danger of drowning
  - 65% in danger of traffic injury
  - Increased risk associated with autism severity (increasing on average 9% for every 10-point increase in Social Responsiveness Scale T Score)
  - Significantly lower risk for unaffected sibling
Research on Elopement

- Functional Analysis of Elopement:
  e.g., Piazza, Hanley, Bowman, Ruyter, Lindauer & Saiontz (1997)

  * Elopement may serve a function:
    - access to social attention
    - to escape demands/ something aversive
    - for a tangible item

  * Treatments based on function:
    - functional communication training
    - blocking
    - differential reinforcement
    - noncontingent reinforcement
Research on Elopement

- Call et al. (2011). Differential reinforcement with and without blocking as a treatment for elopement. Journal of Applied Behavior Analysis
Preventing elopement: Safety begins at home

- Safety locks on windows and doors
- Door chimes or alarms to indicate when the door or window opens
- Window guards
- Gates locked on yard fences
Home security products

Keep emergency responders informed

- Have parents inform local non-emergency telephone personnel to note in the 911 database that someone with autism lives at the address. Provide them with a picture and information for the file (e.g., at risk of wandering).

- Consider using the Autism Elopement Form that can be found at www.awaare.org, or a Kind Find Form at www.kind-find.com
Parents can order an I.D. Kit which includes:

- Step-by-step instructions detailing how to take fingerprints
- An area to practice fingerprinting
- A standard fingerprint area that can be used by law enforcement
- Sections for recording the child’s physical description and identifying marks
- Space for a current photograph
- Sections for recording a doctor’s phone number
- DNA envelope
- Wallet sized laminated card

Each I.D. Kit costs $9.95 and can be ordered online at: [www.childidprogram.com](http://www.childidprogram.com)
Know about “awaare”

- [www.awaare.org](http://www.awaare.org)

- The Autism Wandering Awareness Alerts Response and Education (AWAARE) Collaboration is a group of 6 national non-profit autism organizations whose mission is to reduce autism-related wandering incidents and deaths.

  - Website can provide:
    - Prevention tips
    - Safety tips
    - Resources
    - General Information
    - Sample IEP Letter
    - Autism Elopement Form
Inform Neighbors

- Let neighbors know about your child and propensity to wander:
  - Picture
  - Numbers to call
  - Any concerns (e.g., pool safety)
Know the child’s preferred community locations

- Know the route the child may take to go to one of these places
- Get to know staff at these settings
- Make sure they have a way to contact parent or school
Ensure your child wears Medical Identification

- Some companies that offer identification jewelry:
  - Medic Alert
    www.medicalert.org
  - American Medical ID
    www.IdentifyYourself.com
  - Medic ID’s International
    www.medicid.com
  - Road ID
    www.roadid.com
  - Petite Baubles Boutique (Temporary Tattoos)
    www.petitebaublesboutique.com
Child Tracking Devices

1. Loc8tor Plus
2. Ion Kids Child Tracking System
3. WorldTracker GPRS
4. P-Trac Micro
5. SPOT Satellite Personal Tracker
6. Zoombak GPS Car & Family Locator
7. GPS Snitch
8. Amber Alert GPS
9. WorldTracker PLD
10. Conclusion
These devices are cheaper alternatives to Global Positioning Systems and are useful for community outings, day trips, family functions, vacations, etc...

Global Positioning Systems & Tracking Systems

- Project Lifesaver (not available in all states)
  - Child wears a 1-ounce battery-operated wrist transmitter that emits a silent tracking signal every second
  - The signal can be tracked on the ground or in the air from several miles only by police officers
  - Recently added the PAL (Protect And Locate) Community Program
  - [www.projectlifesaver.org](http://www.projectlifesaver.org)

- Care Trak International
  - Child wears a 1-ounce water-resistant transmitter with a tamper-resistant band that is normally worn on the wrist or ankle
  - You set the Perimeter Alarm, and if the child leaves that area, the signal will be heard and can be tracked from 1 mile away by the person holding the “wand” (e.g., parent)
  - [www.Caretrak.com](http://www.Caretrak.com)

- GPS Child Locator Watch
  - Works like a cellular phone
  - Weighs about five ounces and can be removed only by a special key or by a signal from a communication center
  - [www.ion-kids.com](http://www.ion-kids.com)
Most cell phones have tracking features or apps can be downloaded:

- **GeoFencing** - a feature that enables a cell phone to only start tracking when it has entered or exited a predefined region and can send an alert when the phone crosses a virtual fence.

  - [http://www.mybuddytag.com](http://www.mybuddytag.com)
  - [https://www.life360.com/](https://www.life360.com/)
  - Find Friends (APP)
Clothing products

- **Www.qrcodeid.org** - has a qr code in clothing to scan to see identifying information of the person wearing the clothing.
Every day, 374 children in the United States ages 0 to 19 are treated in an emergency department, and two children die as a result of being poisoned.


- add the National Poison Control number to your phones
  1-800-222-1222
- Be sure to post it near all phones in your home.
Prevent Poisoning

- Expand your idea of what is poison to include anything that will harm the child (not just Drano), medicines, household cleaners, plant food
- Remove poisons from the house or secure them in a locked area
- Label all potential poisons with same label and teach to this label
- Locks on cabinets - in the house and in the garage
- Alarms to garage
- Establish areas of the kitchen as off-limits
LOCK UP MEDICATIONS and SUBSTANCES
Discrimination training

- What is a poison / what is off limits versus what is not.
What does the research tell us about teaching Safety Skills?
Children with autism can be taught safety skills

- Some studies use video modeling and usually in combination with Behavioral Skills Training
- Most studies used a Behavioral Skills Training
  - Instruction
  - Modeling
  - Role Play
  - Feedback
  - Simulated training
  - In situ training
Children with autism can be taught safety skills

- Summers, et al. (2010) - taught three children with autism to get an adult when the door bell rang and another three to leave an area where hazardous chemicals were present and told an adult.
Children with autism can be taught safety skills

- Ergenekon (2014)
  - Video modeling - Taught first aide skills to children with autism
Children with autism can be taught safety skills

- Gunby, Carr & LeBlanc (2010) - taught three children with autism to respond to the lures of strangers
  - Used Behavioral Skills Training
    - Verbal instruction, video modeling, live modeling, rehearsal
      - Varied Lures
      - Children taught to say “No” Run and Tell an Adult
- Akmanoglu & Tekin-Iftar (2011) Taught children with autism how to respond to the lures of strangers
  - Video modeling, graduated guidance, community-based instruction
    - Various Lures: Authority Lures (e.g., “your mother said to come with me”), Incentive Lures (e.g., “come to McDonalds with me”), General/simple (e.g., “Come with me”)
    - Children taught to say “No” and engage in a motor response to leave
Children with autism can be taught safety skills

  - Multiple baseline across participants, BST used
    - Taught participants to refuse, walk away and report
      - Across four types of abduction lures: simple requests, appeals to authority, assistance requests and incentive requests.
Children with autism can be taught safety skills

  - Modeling, rehearsal, to teach Fire safety skills
    - Evacuation, notify adult when fire alarm signals
Children with autism can be taught safety skills


- Bergstrom, Najdowski, & Tarbox (2012)
  - Rules, role play and praise to teach seeking assistance when lost
    - Calling for their mom or dad, locating store employer, informing employer that he is lost
Challenges associated with teaching safety skills

- General learning characteristics and skills deficits of the individual with autism
- Inability to simulate “real-life” scenarios
- Safety concerns prohibit actual simulation (e.g., fire, elopement)
- Limited learning opportunities to practice the skill
- Generalization challenges
- Prioritizing skills
Challenges associated with teaching safety skills

- Skills often require complex discriminations, for example:
  - Stranger Vs. Someone you should talk to or interact with
  - Which items are dangerous and which are not?
  - How far is too far away from parent, teacher, home?
  - Which stimuli signal they are “lost?”
Skills to Teach

- Holds hand of adult
- Walks / stays with an adult
- Responds to “Come here”
- Responds to name
- Responds to “Stop”
- Mands “come with me” to take you to the desired item or location
- Cooperates with wearing medical identification jewelry
- Waits in designated area
- Answers social questions
- Exchanges an identification card in response to variety of questions (e.g., “Are you lost?”)
- Uses augmentative system as a back up or primary mode
- Follows instruction, “Get down, please”
Programs to Teach

- Keeps seat belt on
- Exits location when Fire Alarm Signals
- Asks for permission to leave the house or yard area
- Requests location, people, activities, items
- Swims
- Requests to swim
- Discriminates where to swimming is permitted and where it is not
- Understands Safety signs (e.g., Poison)
- Responds appropriately to safety signs (e.g., does not touch items with Poison and tells an adult)
Programs to Teach

- Waits at curb to cross street and asks for permission to cross
- Understands cross walk signs
- Looks both ways before crossing
- Locks bathroom door / stall
- Labels places
- States current location
- Answers cell phone and follows directions
- Answers cell phone and states location
- Texts location
Programs to Teach

- Takes photo of location and sends photo
- Exchanges an emergency “lost” card to cashiers, etc.
- Identify familiar versus stranger (what is allowed what is not)
- Declines inappropriate instructions
- Says, “no” when offered food or activity from strangers
- Gets parent when doorbell rings
- Labels body parts
- Labels location of injury or pain on self
- Recalls experiences / answers questions about past events
Programs to Teach

- Responds to “lures” from strangers by saying, “no” running away, and telling an adult
- Discriminates “good touch” from “bad touch”
- Requests privacy
- Responds appropriate to emergencies (e.g., leaves location, calls 911)
Stays with an adult

• Teach the child to walk along side you and stay with you when you stop, turn or go in a different direction
  – Use variety of instructions, “Walk with me”, “Stay with me”, “Walk this way”
  – Prompt child to stand along side of you
  – Provide differential reinforcement for staying with you
  – Fade prompts
  – Fade tangible reinforcers
  – Generalize across settings, people
  – Program in the community
  – Train parent
Stops walking or running when told to “Stop”

- Teach the child to stop walking and to wait for you or to come back to you
  - Walk along side the child
  - State instruction, “Stop”
  - Guide child to stop walking by guiding him at the shoulder
  - Provide reinforcement for stopping
  - Have child run alongside of you and then present the instruction
  - Generalize across settings, people
  - Program in the community
- Train parent
Waits in designated area

- Teach the child to wait in a designated location without leaving area
  - Use a stimulus prompt for child to stand on
  - Guide child to stand on the stimulus and say, “Wait here.”
  - Stand at a distance and provide reinforcement for staying on the stimulus
  - Vary location
  - Fade stimulus and proximity to the child
  - Generalize across settings, people
  - Program in the community
  - Train parent
Inhibits opening doors and communicates request for location

- Teach the child to not open doors and windows and to request the location
  - Place stop sign on doors and windows along with communication card
  - Prompt student to read stop sign and to walk away
  - Tell student to go out or to open the door
  - When he gets to the door, prompt him to read stop, to take the communication card and to exchange it with an adult
  - Fade proximity to the child
  - Generalize across settings, people
  - Program in the community
  - Train parent
How Does One Know They Are “LOST”

- Requires a comprehension of a fairly abstract concept
- Knowing location of self in relation to potential location of others
- Motivation to be reunited or to get to a destination
How do we address this?

- If child cannot comprehend that he is lost, he could be signaled or cued to inform him that he is.
- Our research in teaching teenagers to respond to technology to increase their safety in community locations:
  - Hoch, H., Taylor, B. A., & Rodríguez, A. (2009). Teaching teenagers with autism to answer cell phones and seek assistance when lost. *Behavior Analysis in Practice, 2*
Using a Smart Phone

- Answers the phone
  - with a ringer
  - with a vibration?
- Holds the phone to ear
- Follows directions simple
- Follows directions to go to a location
- States location or what he/she see and waits there
- Follows a text message instruction (e.g., “Stay there”)
- Responds to a text message question (e.g., “where are you?”)
- Exchanges a “Lost” card
Indicating location cues

- Facetiming to see location
- Taking photo of location and sending it
- Teach child to “share location” on phone
In our study, we taught...

- Participants were then taught at school to follow the instruction, “You’re lost, find an adult and give him your card”

- Community probes were conducted to determine the participants’ responses in community sites where training did not take place

- Assessed performance with parent in community locations
Percentage of Steps Completed Independently

Sessions

Pre-Baseline  Baseline  Card and Cell Phone Exchange  Card Exchange  Maintenance

Sam  John  Mike

Parent Generalization  Novel Location

Pre-Baseline  Baseline  Card and Cell Phone Exchange  Card Exchange  Maintenance

Sam  John  Mike

Parent Generalization  Novel Location
Community Members' Response

Percentage of Responses at Criterion

Card and Phone Exchange

Card Exchange
Writing a Safety Plan

- Make assessment and treatment of safety a priority
- Assessment should include assessment of the environment, behavior and skills of the individual
- Alpine’s Safety Assessment is available for free at https://sparkforautism.org
- Determine a “Safety Plan” and evaluate the progress on the plan often
- Stay abreast of latest technology and information related to safety
- Maintain skills over time and in different contexts
Example of a safety plan

Name: John Smith
Age: 5 yrs old
Safety Risks: Left house twice unaccompanied by adult, has opened gate in back yard twice, has been found playing with gasoline in garage once, lives near busy highway, will not wear medical ID bracelet, does not answer social questions
Example of a safety plan

Home goals / general
- Install door alarms
- Install window alarms
- Install lock and alarm on garage
- Store gasoline in locked cabinet
- Poison control number should be available
- Stop signs should be placed on doors
- Install lock / latch on gate
- Lock door to garage from outside
- Stop signs should be placed on gate
- Run elopement drills
- Activate child locator services
- Child to wear medical identification
Example of a safety plan

Community goals
- Neighbors should be provided with identifying information
- Emergency responders should be provided with identifying information
Example of a safety plan

Skills to target

- Cooperates with wearing medical ID
- Responds to, “come here”
- Responds to, “stop”
- Answers social questions
- Asks for permission to leave an area
- Avoids dangerous substances
Example of a safety plan

Elopement Plan / Drills
- Mom will call local police and text all necessary people, activate child locator service is one
- Dad will go out looking focusing on known routes to prefer place
- Sister will call neighbors and alert with by following a script
- Brother stay by phone in case of updates
Thank you!