

# MOHAVE COUNTY SHERIFF'S OFFICE SEARCH AND RESCUE



## Autism Spectrum Disorder and Search Strategies

Prepared by Bob Rose

September 2018

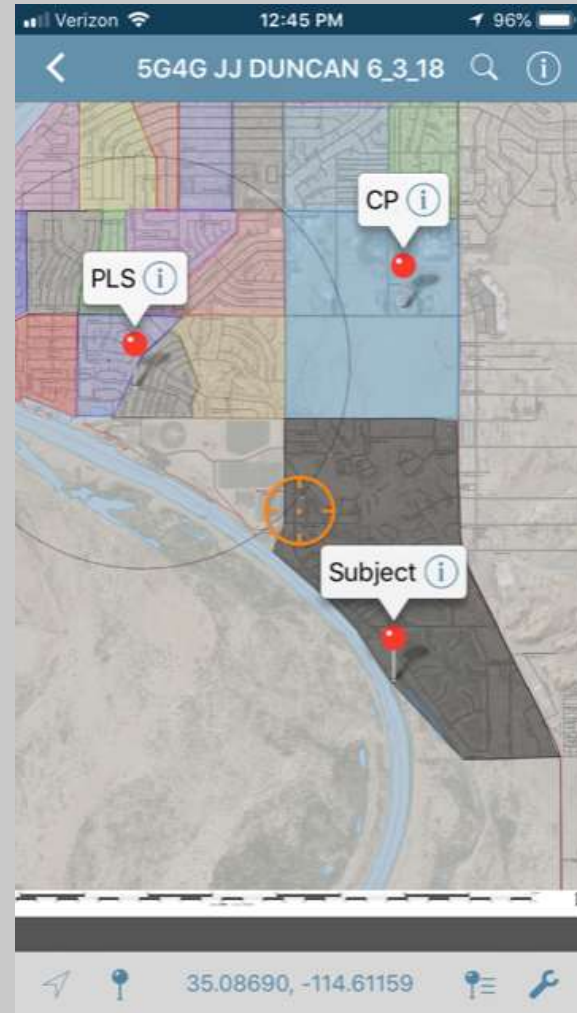
Updated December 2021

# Autism Spectrum Disorder Mission Summary 2018-670

- 7 year old male, autistic, missing, reported to 911 at 0915 hrs 6/2/18. Possibly missing since 0800 hrs.
- SAR resources requested by BHCPD, 1114 hrs, SAR callout approved. Resources deployed.
- Search continued throughout the day, including approximately 1000 spontaneous volunteers. Multiple agencies involved.
- Route and location search, door-to-door search, tracking, multiple air resources, multiple boats.
- Overnight containment and roving patrols.
- Search resumes following morning 0700, resources deployed including swift water techs on foot and in kayaks to check shoreline of Colorado River.

# Autism Spectrum Disorder Mission Summary 2018-670

- Subject found in river by civilian kayaker as resources deployed to assignments, approximately 0800.



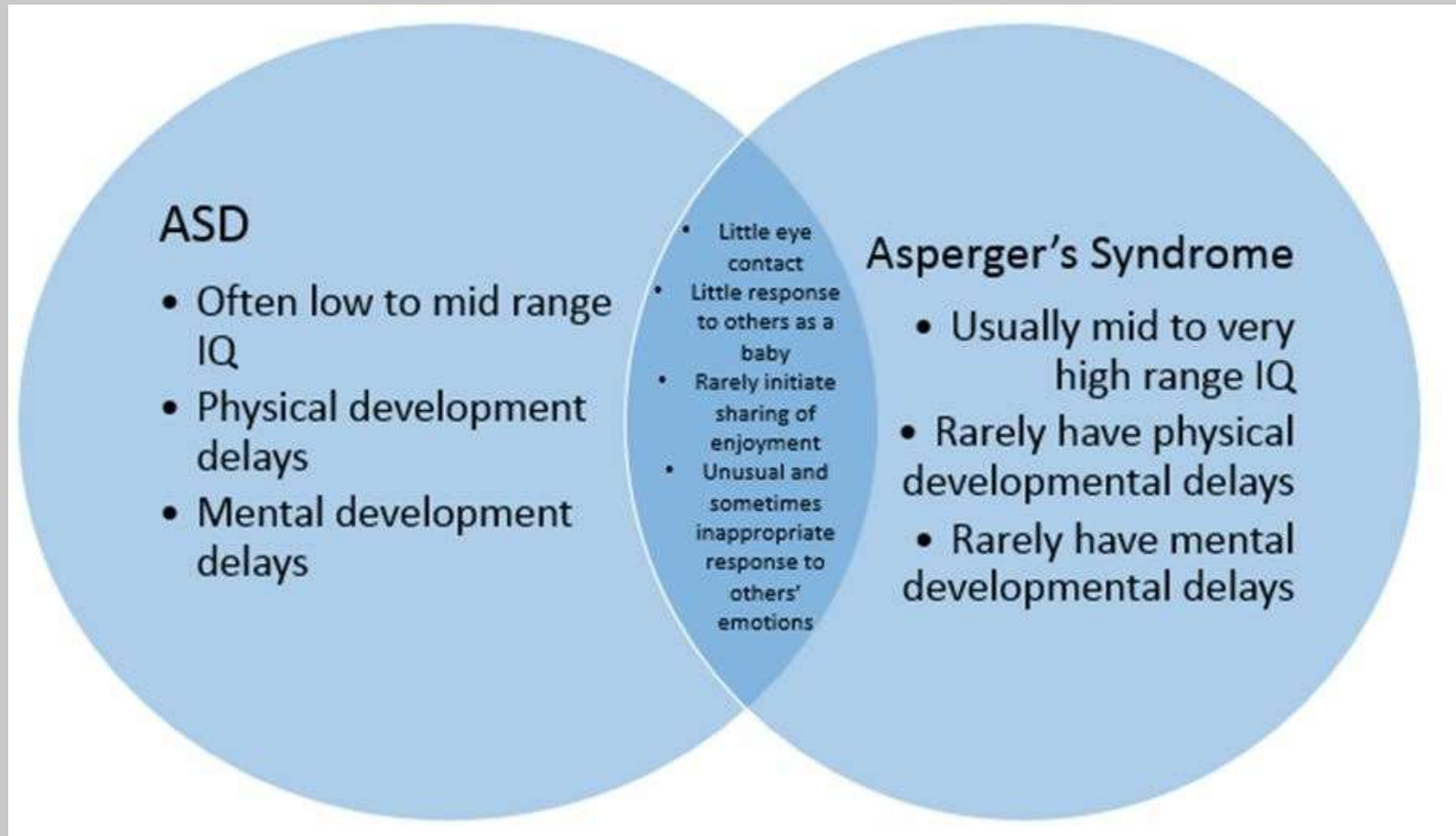
# Autism Spectrum Disorder

## What is Autism?

- Autism, or Autism Spectrum Disorder (ASD), refers to a range of conditions characterized by challenges with social skills, repetitive behaviors, verbal communication, processing of information, altered response to pain or danger.
- Autism is not a mental disorder. It is a neurological disorder.
- Usually diagnosed between ages two to four.
- No known single cause. Potentially a combination of genetic and environmental factors.
- Children with ASD may be high (Asperger's Syndrome) or low functioning.

# Autism Spectrum Disorder

## High and Low Functioning



# Autism Spectrum Disorder Characteristics and Prevalence

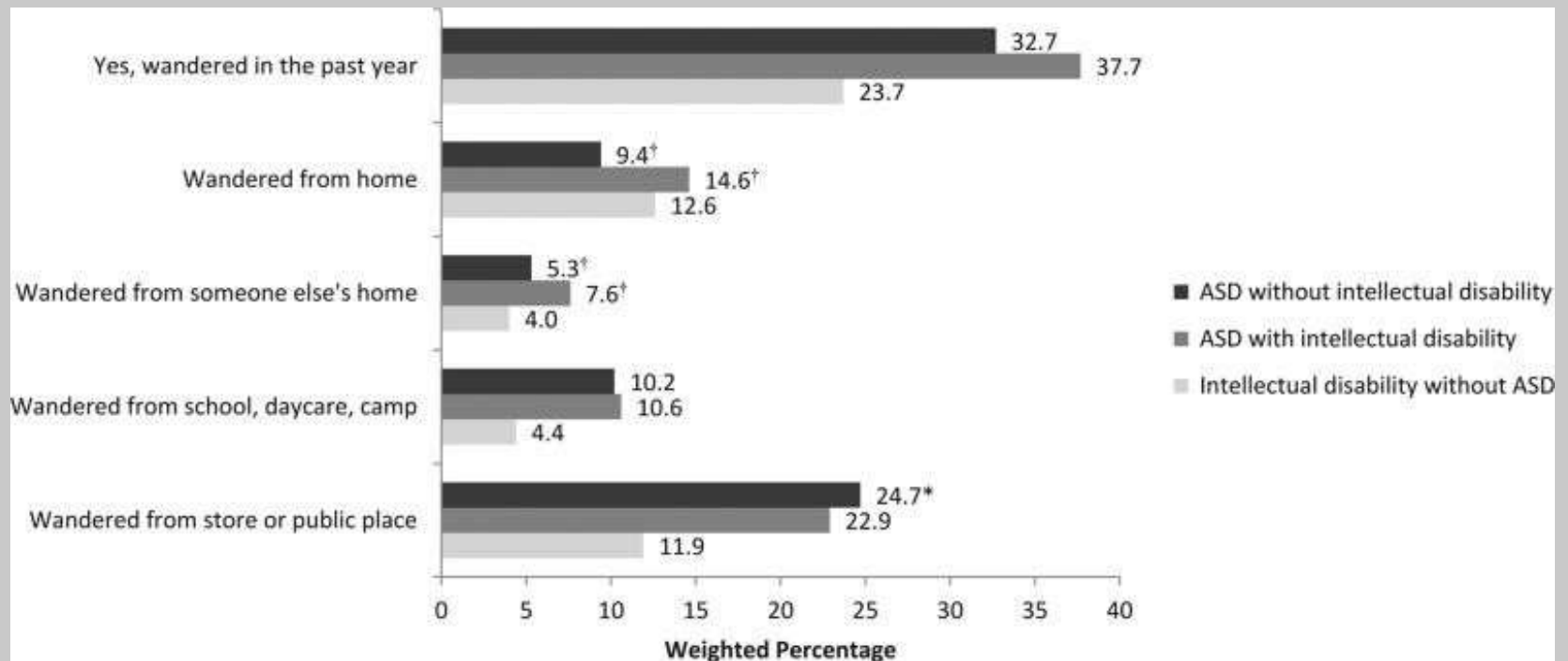
- In 2021, reported prevalence is 1 in 44 children, aged eight years old in 11 communities across the US (2018 data).
- In 2020 reported prevalence was 1 in 54 children. (2016 data)
- In 2018 reported prevalence was 1 in 59 children. (2014 data)
- In 2016 reported prevalence was 1 in 68 children. (2013 data)
- In 2004 reported prevalence was 1 in 178 children.
- Research is slow. Reporting of prevalence will be several years after collection of data.
- ASD was 4.3 times as prevalent among boys as among girls.
- One third remain non-verbal.
- One third of people with autism have an intellectual disability.
- Certain medical conditions often accompany autism: GI disturbances, seizures, sleep disturbances, ADD/ADHD, anxiety and phobias.

# Autism Spectrum Disorder Characteristics and Statistics

- **49% of children with ASD have a tendency to wander or bolt from safe settings** (*Pediatrics*, 2012).
- 37.7% low functioning ASD children wandered (*Journal of Pediatrics*, 2016).
- Individuals with autism cannot be identified by appearance. They are identified by behavior.
- 50% of individuals with ASD are non-verbal. **That does not mean they cannot hear-** they just don't speak.
- May not feel cold, heat, or pain in a typical manner.
- May not make eye contact.
- Increased risks are associated with autism severity.

# Autism Spectrum Disorder Wandering Distribution

Wandering distribution, from Journal of Pediatrics,  
2016





# Autism Spectrum Disorder

## Wandering Types

- **Goal-directed wandering:** wandering with the purpose of getting to something (water, train tracks, park, item or place of obsession).
- **Bolting/Fleeing:** the act of suddenly running or bolting, usually to get away from something, a negative reaction to an event, anxiety, fear, excitement, stress, or uncomfortable sensory input. High frequency noises can create sensory overload, such as the humming of a fluorescent bulb.
- **Other:** nighttime wandering, wandering due to disorientation, boredom, transition or confusion, or simply becomes lost.

# Autism Spectrum Disorder

## Missing Subjects with ASD

- 74% of missing children with ASD were male.
- 65% last known position was at home.
- When children are upset or stressed, they will “bolt.” They will literally run.
- Also will bolt to get to something of interest.
- Attracted to water, lights, reflection. Also attracted to planes, fire trucks, trains, heavy equipment, and traffic.
- They tend to be evasive and non-responsive.
- Have little to no sense of danger.
- **Accidental drownings account for 90% of lethal outcomes.**
- Other dangers include dehydration, heat and cold, falls, traffic injuries, encounters with strangers.

# Autism Spectrum Disorder

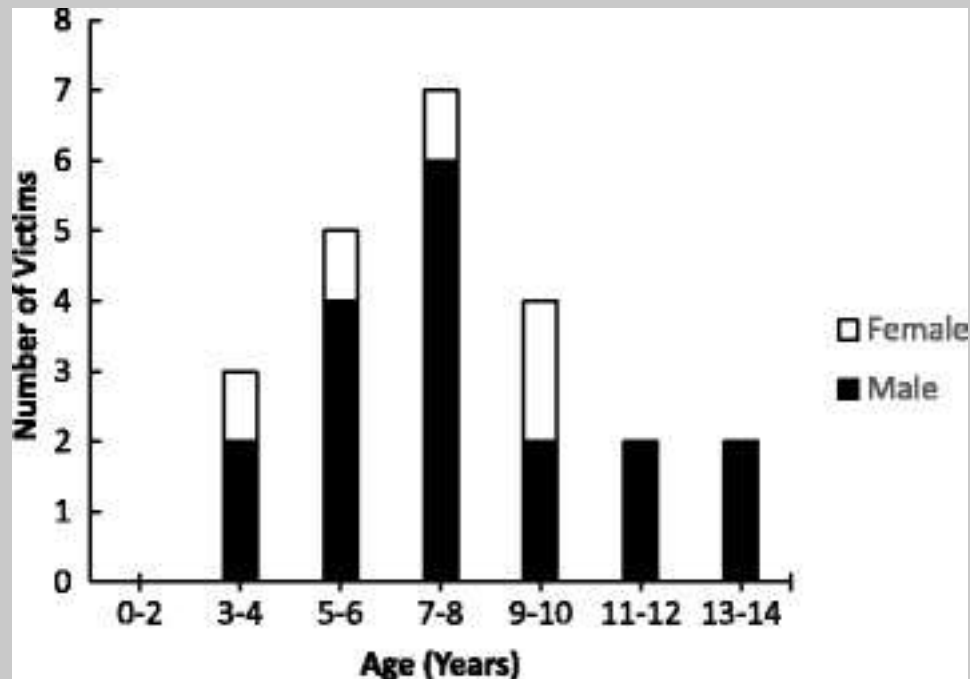
## Searching for Subjects with ASD

- “The worst thing in the world, from a search-and-rescue professional’s perspective is a mobile, non-responsive subject.” –*Robert Koester*
- Half of families report they were never given advice or guidance about elopement. A missing child with ASD does not necessarily indicate “poor parenting.” Many of these children are described as “Houdini.”
- Many children with ASD go directly to water. Treat each case as CRITICAL. Remember, drowning accounts for 90% of lethal outcomes.
- May head toward bright light, blinking lights, reflections.

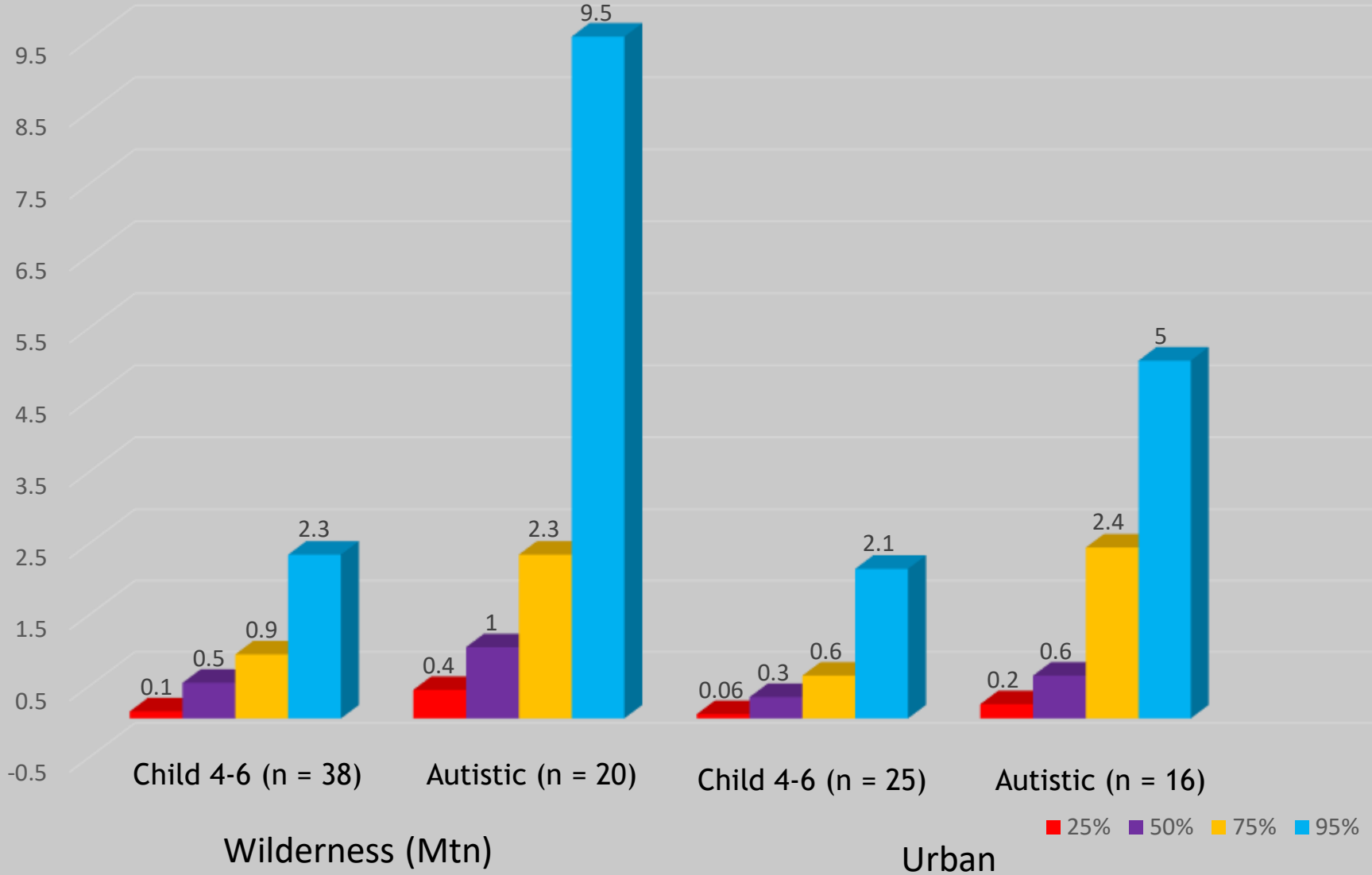
# Autism Spectrum Disorder

## Searching for Subjects with ASD

Age Distribution of Fatal Unintentional Drowning Incidents Involving Children with Autism Spectrum Disorder by Sex as Reported in US Newspapers, January 2000 – May 2017



# Horizontal Distance from the IPP (Miles)



Source: *Lost Person Behavior* by Robert Koester

Prepared by Randy Storms  
LCSO SAR Team

# Autism Spectrum Disorder

## Searching for Subjects with ASD

- Search areas of highest threat first. Water is first priority- rivers, lakes, streams, tanks, pools. “Search the blue lines.”
- Children with autism will seek out tight, enclosed spaces. It is vital to check sheds, cars, crawl spaces, culverts, etc. They may also climb structures/fences.
- Usually will have enough instinctual tendency that if they find a road, trail, or other travel aid they will follow it.
- Some will seek out railroad tracks, neighbors homes, parks, or favorite restaurants.

# Autism Spectrum Disorder

## Searching for Subjects with ASD

- They are likely evasive and non-responsive.
- In a non-ASD search, the probability of detection increases each time an area is searched, likelihood subject is in that area decreases. This is not true with ASD- it's ok to search the same area multiple times. It's a clean slate each operational period.
- Because children with ASD don't experience pain and danger the same as others, they can survive for an extended period without adequate food and water.
- Children with ASD are 4-5 times as likely to be the subject of a search than children without ASD.

# Autism Spectrum Disorder

## Searching for Subjects with ASD

- It's unlikely they will respond if you call their name. In fact, it may give them more motivation to hide or be evasive.
- Command staff or law enforcement will interview parents or caregivers for information that will help bring search to a resolution.
- Ask if they have a tracking device!
- Information from interview may include favorite places or things, or items to which subject is attracted.
- Conversely, interview will also reveal fears or dislikes that may hinder search effort, such as helicopters or noise.
- **Trackers: ASD children will run on their toes.** Look for forefoot only tracks/sign! At age 5.5 years, non-ASD 4.9%, neuropsych or developmental delay, 41.2%.



# Tracking Devices

- Research published June 2020, *Journal of Developmental and Behavioral Pediatrics*:
- 1459 Participants (aged 4-18 years)
- Electronic Tracking Device use was associated with decreased frequency and duration of elopement and decreased risk for serious injury because of elopement.
- Reasons for discontinuing ETD use: Discomfort/fit (33.3%), burden of use (27.1%). Financial cost (14.6%).
- Barriers to ETD use (non-ETD users): Cost (47.5%), lack of awareness to ETD technology (18.8%).

# Autism Spectrum Disorder

## Searching for Subjects with ASD

- As a searcher in the field, focus on the behaviors we have learned.
- Check bodies of water. This would be backyard pools, streams, stock tanks on equestrian properties. If river or lake, wear swift water PPE as part of a team. Bodies of water are CRITICAL, and are the highest priority.
- “Search the blue lines.” -*Koester*
- Check other areas of attraction, such as flashing lights, reflective surfaces.
- When doing door-to-door searching, check sheds, crawl spaces, culverts, confined spaces, hiding spots. Search property to the extent allowed by homeowners.

# Autism Spectrum Disorder

## Searching for Subjects with ASD

- Be aware that subjects will not respond to calling their name. It may motivate them to conceal themselves.
- Be aware of any attractants that may be employed. Command will notify searchers if this information is available.
- Autistic subjects can survive for a long time. Non-ASD subjects will eventually become uncomfortable and seek help. ASD subjects will not experience discomfort. Maintain sense of urgency and commitment to the search.
- “If you’ve seen one autistic kid, you’ve seen one autistic kid.” Presentations and behaviors can differ.
- Do not become frustrated if you’re asked to search an area a second or third time. Example: October 2011, Robert Wood, Jr. search in Virginia. Subject found after five days in area that had been searched at least six times.

# Autism Spectrum Disorder When the Subject is Found

- Maintain a calm and relaxed environment. Prevent them from bolting.
- Contain the child in a passive way. These children likely have poorly developed upper body structure. Do not restrain physically.
- Bring a parent or guardian ASAP, and tell them they are on the way.
- Approach at child's level, using simple phrases.
- Use "task and reward" to enhance compliance. For example, "First we are going to stay here, then your mom is going to come."
- Use familiar topics and humor. Comment on their clothing, logo on t-shirt, etc.

# Autism Spectrum Disorder Summary

- The search for autistic children presents a unique challenge in the search and rescue environment.
- Bodies of water are the highest search priority.
- Remember the characteristics you have learned about subjects with ASD and remember the search strategies.
- For further reading, see the references page.

END

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