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# **Adapted Learn to Swim: Challenges. Trends. and Evidence**

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# LEARNING OBJECTIVES

1. Identify evidence on at least three best practices and outcomes of adapted learn-to-swim programs.
2. Identify at least three current trends in adapted learn-to-swim programs including training and credentials of aquatic professionals
3. Discuss three challenges that aquatic professionals face in the provision of adapted learn-to-swim programs





Please take a moment to  
tell us about your  
experience in adapted  
aquatics...

<https://go.fiu.edu/FRPA2022>



# Drowning & Water Safety Facts from the CDC

Drowning is a leading cause of death for children.



In the United States:

- More children ages 1–4 die from drowning than any other cause of death except birth defects.
- For children ages 1–14, drowning is the second leading cause of unintentional injury death after motor vehicle crashes.<sup>1</sup>

While children are at highest risk, anyone can drown.

Every year in the United States there are an estimated:

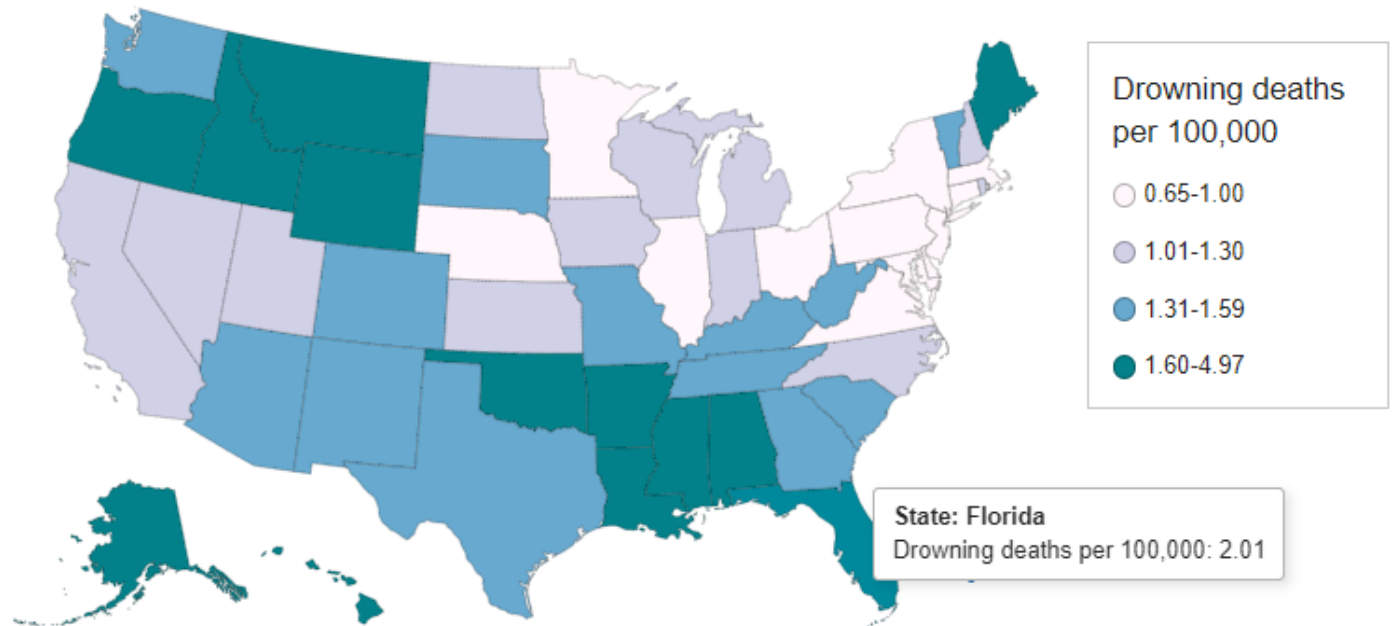
- 3,960\* fatal unintentional drownings, including boating-related drowning—that is an average of 11 drowning deaths per day.
- 8,080+ nonfatal drownings—that is an average of 22 nonfatal drownings per day.



(CDC, 2021)

# Drowning & Water Safety Facts from the CDC

## Drowning Data



Data Table: Click on each column header below to sort

Location	Drowning deaths per...
Alaska	4.97
Hawaii	2.90
Louisiana	2.20
Florida	2.01
Mississippi	1.88



# Drowning Facts

People who have a higher risk of drowning:

- Children ages 1-4 (with most drownings happening in swimming pools)

- Males (80% of people who die from drowning are male)

- American Indian or Alaska Native people ages 29 and younger are 2 times higher than the rates for White people

- In swimming pools, Black children ages 10-14 years drown at rates 7.6 times higher than White children.



# Drowning Statistics in Disability

- Drowning is the most common cause of unintentional injury death in people with seizure disorders such as epilepsy, with the bathtub being the most common site of drowning (CDC, 2021).
- Autism Spectrum Disorder (ASD) and heart conditions are associated with a higher risk of drowning (CDC, 2021):
  - The risk of unintentional drowning is twice as high for children with ASD compared to peers (CDC, 2021).
  - Unintentional drowning accounts for 91% of wandering related injuries or deaths for children with ASD under 14 (National Autism Association, 2017).
  - In children with ASD, drowning most often occurs in natural bodies of water such as: ponds (52.2%), rivers (13%), and lakes (13%) (Guan & Li, 2017)

# Why Learn-to Swim (LTS) is an Important Solution

- Not being able to swim is a risk factor for drowning (CDC. 2021).
- The World Health Organization (WHO. 2017) recommends teaching school-age children swimming and water safety as one of 10 interventions to prevent drowning.
- Many adults and children across the US report that they can't swim or that they are weak swimmers (CDC. 2021)
  - National U.S. data suggests that 74% of the time, casualties due to fatal drowning occur among individuals who do not know how to swim (Eichelberger et al.. 2004)
- Participation in formal swimming lessons can reduce the risk of drowning among children and adults (CDC. 2021)
- Children who have had swimming lessons still need close and constant supervision when in or around water (CDC. 2021)





# Why Teaching Children to Swim is Necessary



- Drowning is the leading cause of death for children 1-4 years of age in the U.S.
- Florida leads the nation in drowning deaths of children ages 1-4. according to the Florida Dept. of Health.
- If the child survives a near drowning. ~10% will suffer permanent brain damage.
- There are 1.2 million backyard and public pools and tens of thousands of natural bodies of water in Florida where possibility of drowning can occur.



# Teaching Children with Disabilities to Swim Can Be Challenging

## Slower pace

Takes more time to develop complex motor skills

## Barriers

Sensory, cognitive, behavioral, or physical

## Fear

Misconception that learning to swim → more comfortable near water → increased risk

## Specialized Training

In both swim instruction and disabilities.  
Higher staff to participant ratio

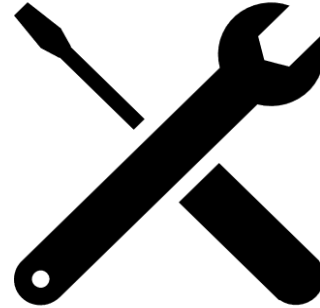
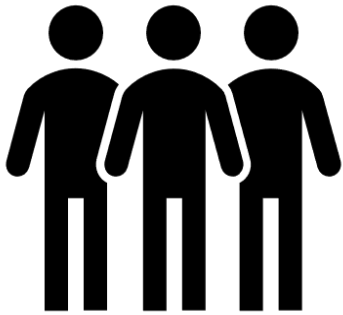
## Different Progression

Swim skill progression and strokes might look different and may require adaptations



# Adaptive/Adapted LTS

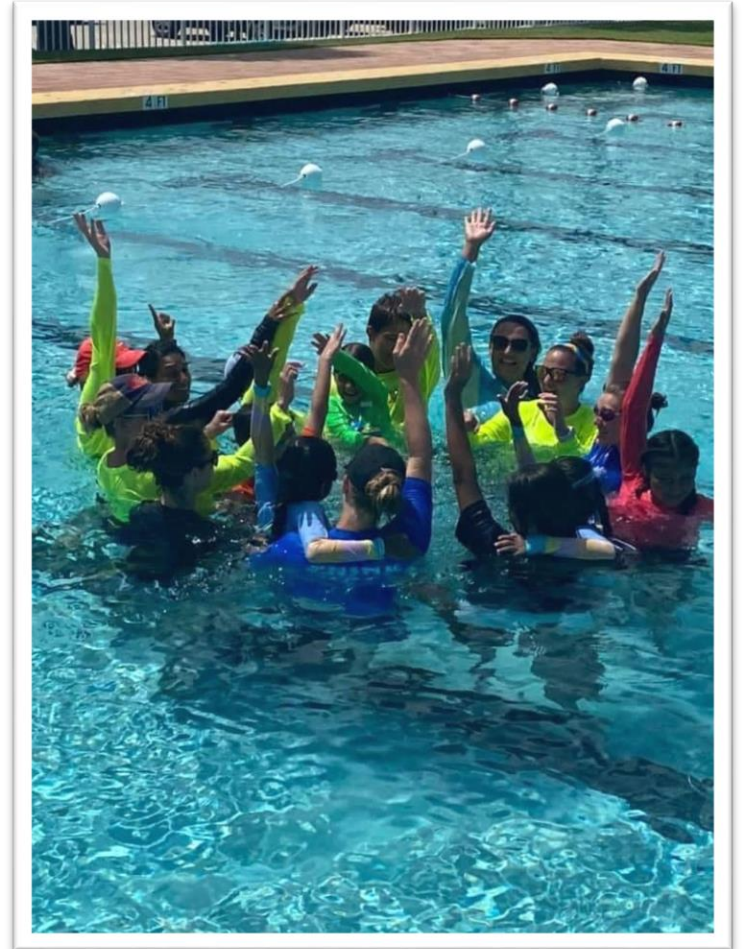
- Designed to meet the needs of people with disabilities
- Adaptations are made, so individuals with a specific diagnosis can successfully participate
- Adapted (changes to the environment/equipment) vs. Adaptive (changes within the person) (Winnick et al., 2005)





# Benefits of Learning to Swim Beyond Drowning Prevention

- ● Children with disabilities may not follow the traditional learn-to-swim progression (Gelinas & Reid. 2000)
- Less access to modified teaching techniques may impact skills and subsequent community participation for children with disabilities (Westendorf. 2019).
- Research shows individuals with disabilities engage less in sports participation than the non-disabled population (Darcy et al.. 2020).
- Learning to swim may provide motor development benefits (e.g.. locomotion, object control skills, gross motor skills) (Rocha et al.. 2016)
- Psychosocial benefits such as improvements in self-esteem (Oates. 2004), social skills (Dail et al.. 2016; Fiorilli et al.. 2016), and well-being (Fiorilli et al.. 2016)





# Reasonable Accommodations

- “State and local governments must provide programs and services in an integrated setting, unless separate or different measures are necessary to ensure equal opportunity.” - ADA
- Modifications don’t necessarily have to cost money. Simple modifications can be beneficial.
- What does this mean for adaptive aquatics? It means that we need to provide inclusive services as well as special recreation:

**"Essential Framework for Adaptive Aquatics"** [Essential Framework for Adaptive Aquatics | Operations | Parks and Recreation Magazine | NRPA](#)



# Examples of Accommodations

**Reasonable accommodations could include allowing the following:**

- Free entry for caregivers
- Access to non-open-swim time if they have sensory sensitivities to loud noises, water features or crowds
- Family members or caregivers assist during a lesson
- Participants join a younger age group that is more at his or her functional level
- Participants use non-coast guard-approved floatation devices to increase functional mobility
- Providing training to staff on how to assist and communicate with swimmers with disabilities





# Trends in Disability

- **Terminology**
  - People first language vs. Labeling by diagnosis (e.g., "person with autism" vs. "autistic person")
  - Special Needs vs. Disabled
  - Differently Abled vs. Disabled
- **Cultural Responsivity includes disability culture**
- **Accessibility < Universal Design**




<https://blog.ai-media.tv/blog/what-is-universal-design>



# **Traditional LTS Instructor Training**

- **American Red Cross Water Safety Instructor (WSI)**
- **Aqua-Tots Swim Schools**
- **Baby Otter Swim School**
- **FAST Swim Program**
- **Gus and Goldie Learn to Swim. Jacksonville. FL**
- **Infant Swimming Resource**

- **International Lifeguard Training Program (ILTP®)**
- **Jeff Ellis Swim Program**
- **Miracle Swimming**
- **National Aquatic Safety Company. Lifeguard Training**
- **PediaSwim**
- **Serenity Swim Network**

- **StarGuard. Lifeguard Course**
  - **Swim America**
  - **Swim Babies Swim**
  - **Swim Lesson University**
  - **Swim Life. Swimming Instruction Program**
  - **U Can Swim. Inc.**
  - **YMCA**
- 

# Adaptive LTS Instructor Training

## Experiential Training:

- Angelfish "Swim Whisperers" - 5 levels over 5 years to become a "master instructor"
- iCan Shine – "Adaptive Aquatics Instructor" 5-days hands on and didactic training. must coincide with their summer camp

## Online Training:

- Nicklaus Children's Hospital & Dan Marino Foundation – \$75. review online course manual and video. pass online exam.
- Nurturing Water Therapies – "Adaptive Swim Instructor certification" - online course \$125



Nicklaus  
Children's  
Hospital



NURTURING  
WATER  
THERAPIES



# Published ITS Programs

Program Name	Program Description	Frequency of Sessions	Duration of Sessions	Total Instruction Time	Ages and diagnoses of swimmers	Outcomes	References
iCan Swim	5-day adaptive learn to swim summer camp that utilizes two iCan Shine adapted aquatics instructors and trained volunteers that work at least 1:1 with each swimmer. Campers receive instruction on safe entry/exit, breath control, strokes, floating/gliding, rolling, and safety skills such as identifying a lifeguard, holding onto the wall for support, and using a lifejacket.	5 sessions	45-minutes to 60-minutes (depending on age)	3 hours 45-minutes to 5-hours (depending on age)	3 and up  Children with a primary diagnosis of ASD	-22 of 42 non-swimmers increased to beginner level -17 of 36 beginner swimmers increased to intermediate level, and 1 to advanced level. -6 of 6 intermediate swimmers increased to advanced level.	Munn et al., 2021
Swim Central	Drowning prevention program that teaches 6 swimming and water safety skills: 1) Never swim alone/call for help/ reach, throw, don't go. 2) Enter the water by jumping in. 3) Forward progressive arm stroke. 4) back float-no support- 3 seconds. 5) Jump in/ turn/ kick/ stroke to wall, and 6) Exit water using ladder/ steps/ side	10 sessions	30-minutes	5-hours	3 to 14 with and without disabilities	-Overall improvement in all 6 swimming skills -Parents reported that children retained the learned skills	Forde et al., 2020

# Published LTS Programs

Program Name	Description	Frequency of Sessions	Duration of Sessions	Total Instruction Time	Ages and diagnoses of swimmers	Outcomes	References
KU Sensory Enhanced Aquatics	Individualized swim instruction that meets sensory needs of children based on results from Sensory Profile assessment. Evidence-based instructional methods include visual supports, sensory supports, communication strategies, physical supports, and modeling.	8 sessions	30 minutes	4 hours	4-17 years old  Primary diagnosis of ASD	Most frequent acquisition of swim skills in the Water orientation, Front Stroke, and Backstroke categories  Goggles were the sensory supports used most frequently  Sensory seeking children acquired the most swim skills	Lawson et al., 2017
Let's Go Under	Swimming program with behavioral treatment package consisting of shaping, promoting, and positive reinforcement to teach water submersion to children with ASD	1 year, 1x week	30 minutes	26 hours	4-8 years old  Primary diagnosis of ASD	All participants submerged head underwater and later developed more advanced swimming abilities utilizing underwater submersion	Lewy et al., 2017
Halliwick Method	10-point swimming program which teaches water independence. The 10 points or logical structure for the method are: 1) Mental adjustment, 2) Disengagement, 3) Transversal Rotation Control, 4) Sagittal Rotation Control, 5) Longitudinal Rotation Control, 6) Combined Rotation Control, 7) Uprush, 8) Balance in illnesses, 9) Turbulent Gliding, and 10) Simple Progression and Basic Swimming Stroke	12 sessions	45 minutes	9 hours	7-11 years old  Cerebral Palsy	Increase in mental adjustment to the aquatic environment and ability to move in the water and swim  Improvement in walking, running, jumping, and gross motor functions	Jorgic et al., 2012

## Adaptive LTS at FIU

- At FIU we are working to develop an adaptive learn-to-swim instruction program.
- Building on our training in American Red Cross Water Safety Instruction
- To provide additional hands on and didactic training in water safety and swim instruction for disabilities.







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# Thank You!

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