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## Wearing Life Jackets While Swimming in Open Water

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Wearing Life Jackets While Swimming in Open Water  
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### **Background**

Drowning continues to be a leading cause of injury death in Washington State and the USA. In Washington State, adolescents and young adults have the highest drowning rates, most of which occur while swimming in lakes and rivers where emergency medical services are not quickly available. While boaters' use of a personal flotation device (PFD or life jacket) reduces the risk of drowning by 50% (Cummings & Mueller, 2011), we do not yet know the efficacy of life jackets when used by swimmers. Studies by the US Army Corps of Engineers and King County Flood Control both indicate that swimmers are willing to wear a life jacket if required to do so. We sought to determine life jacket use by swimmers.

### **Method**

We employed three components to determine acceptability of life jackets while swimming:

- An observational study of life jackets and other flotation device use in four designated swim areas on lakes with no lifeguard.
- A survey of Washington State pool and beach operators to identify current policies allowing life jacket use for swimmers.
- A review of educational materials and news reports mentioning life jackets for swimmers

### **Results**

In the observational study of life jacket and other flotation device use in swim areas, 25% of all age groups used some type of flotation device while in the water. Life jacket use was highest (50.5%) in children less than 6 years and more likely in boys than girls. Overall wear rates were not related to the child's distance from the supervising adult. However, among children further than arm's-length, boys were much more likely than girls to wear life jackets (66.7% vs. 37.8%). Life jacket use among swimmers and those playing in open water decreased dramatically with increasing age. Life jacket wear rates in the swim area among teenagers (3.1%) and adults (2.2%) while in the water was very low compared to unmandated teenage wear rates in boats of 45% in this state (Mangione, et al, 2015).

Results of the policy survey showed that while 100% of beaches and pools allow life jackets, 72% required that they be US Coast Guard approved and only 50% of open water sites allowed them in the deep end (vs 74% of pools).

In a scan of internet education resources and news reports, life jackets for swimmers are recommended by multiple national organizations including the American Red

Cross, US Army Corps of Engineers, Centers for Disease Control and Prevention, and local organizations including health departments, parks departments, and sheriff marine patrols. Life jacket wear by swimmers in open water is mentioned sporadically in news reports.

### Discussion

Given the evidence that exists about the efficacy of life jackets in preventing drowning among boaters, it is reasonable to promote life jackets or approved flotation devices for recreational swimmers as well, especially in a non-lifeguarded waters. Observational studies, policy reviews, and educational materials all indicate that life jackets for swimmers have some acceptability among both users and prevention specialists and aquatic organizations. Importantly, many swimmers already use some type of flotation although it is usually not approved for drowning prevention. We need to change how life jackets are referenced, from the present primary focus for boating to include use for swimming. Policy and system change strategies could include allowing life jacket use in the deep end of pools and open water life guarded swim areas, increased presence of life jacket loan stations, increased focus on life jackets during swim lessons and availability of more styles of life jackets or other types of approved flotation especially designed for and acceptable to swimmers.

### References

- Cummings, P., Mueller, B., & Quan, L. (2011). Association between wearing a personal flotation device and death by drowning among recreational boaters: A matched cohort analysis of United States Coast Guard data. *Injury Prevention*; 17(3), 156-159. doi: 10.1136/ip.2010.028688.
- Quan, L., Mangione, T., Bennett, E., & Chow, W. (2018). Use of life jackets and other types of flotation for in-water recreation in designated swim areas in Washington State. *Injury Prevention*;24(2),123-128; doi: 10.1136/injuryprev-2016-042296.
- Stempski, S., Schiff, M., Bennett, E., & Quan, L. (2014). A case control study of boat-related injuries and fatalities in Washington state. *Injury Prevention*, 20 (4): 232-237; doi: 10.1136/injuryprev-2013-041022
- Mangione, T., & Chow, W. (2014). Changing life jacket wearing behavior: An evaluation of two approaches. *Journal of Public Health Policy*, 35(2): 204-218; doi:10.1057/jphp.2013.51
- Peden, A., Demant, D. Hagger, M. & Hamilton, K. (2018). Personal, social, and environmental factors associated with lifejacket wear in adults and children: A systematic literature review. *PLoS One*, 13(5): e0196421 (Epub 2018 May 2).

Elizabeth ‘Tizzy’ Bennett, MPH, MCHES is Director, Community Health and Engagement, at Seattle Children’s Hospital and is a clinical instructor at the University of Washington’s School of Public Health, USA. She has led drowning prevention programmes for over 25 years including Stay on Top of It, Everyone Swims, lifejacket loaner programmes and a policy change strategy. Her evaluation of Stay on Top of It is one of the only published evidence-based programmes to increase lifejacket use.



Linda Quan, MD, is Professor Emeritus, Pediatrics, University of Washington School of Medicine and pediatric emergency medicine physician at Seattle Children’s Hospital, USA. Her research has evaluated life jacket efficacy and drowning risk factors, including age, other injuries, prehospital medical care, and their effect on medical outcomes. She has conducted numerous drowning prevention campaigns aimed at parents of young children, at teens, and ethnic minorities. A national and international leader in drowning prevention, she received the Irish Lifesaving Foundation’s 2011 Ireland Medal and the International Lifesaving Federation Award for Distinguished Service to Drowning Prevention.