



# Engaging Nurses and Bedside Staff in Injury Prevention Efforts

Sarah Beth Dinwiddie, MPHc, BSN, RN, Stephanie Lareau, MD, FAWN, FACEP, DiMM, Randy Howell DHS, PA-C  
Carilion Roanoke Memorial Hospital



## Carilion Roanoke Memorial Hospital

One of the largest hospitals in the Commonwealth of Virginia, Carilion Roanoke Memorial Hospital (CRMH) is the region's only Level 1 Trauma Center, serving as a regional resource and providing access to comprehensive trauma services since 1983. CRMH features a 703-bed academic medical center, including Carilion Children's, a full service, 92-bed "hospital within a hospital", that provides specialized intensive care for neonatal, pediatric and adolescent patients. CRMH is part of Carilion Clinic Roanoke Campus, which has been Magnet® designated four times. System-wide, Carilion Clinic serves nearly one million patients across western Virginia and parts of West Virginia and North Carolina.



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## Statement of Problem

Few communities are equipped to offer basic safety and drowning prevention in moving water. Roanoke has several rivers commonly used for recreation, including a hospital sponsored boat launch.

## Purpose

Offer community resources for moving water drowning prevention while increasing health care provider education of the drowning patient.

## Evidence of Need from Literature

- Every day, about ten people die from unintentional drowning. Of these, 20% are children aged 14 or younger. Drowning ranks fifth among the leading causes of unintentional injury death in the United States.<sup>1</sup>
- Where cause of death was known, 76% of fatal boating accident victims drowned. Of those drowning victims with reported life jacket usage, 84.5% were not wearing a life jacket.<sup>5</sup>
- There is currently a national trend encouraging outdoor recreation<sup>4</sup> leading to a growing need for outdoor safety and injury prevention.

## Objectives

Initiate a Moving Water Safety Program uniquely designed to promote a healthy lifestyle for the general population and professional education for the health care provider by incorporating outdoor recreation with best practices for the drowning patient.

- Course participants will be more aware of moving water hazards and teach risk mitigation in order to encourage more people to safely enjoy local blue ways.
- Trauma Outreach Coordinators will have a broader scope of expertise by partnering with stakeholders to provide quality, evidence-based moving water.

## Visuals from Course



Above: Instructors certifying as Level 3 swift water rescue instructors through the American Canoe Association before developing a local moving water safety program.



Above: Course participants learn to wade. A skill used to cross a river or access someone in need of help. They also experience the power behind moving water in this drill.



Above: Participants learn about the forces that moving water can place on a person or a boat and gain insight into risk mitigation when working with pinned people or objects.



Above: Instructors enjoy opportunities to maintain their skills and practice what they preach!

## Project Design

**Step 1** Identify Problem: lack of basic moving water safety education that promotes use of local bluways while also providing patient care education.

**Step 2** Set Goals and Objectives for Problem Solving: Develop a local training group of health care providers who are passionate about providing affordable and practical medical education to outdoor adventurers through hands-on experience.

**Step 3** Identify Stakeholders: Carilion Clinic Emergency Department physicians, Carilion Roanoke Memorial Hospital Trauma Services, Carilion Clinic Community Outreach, Carilion Clinic Wilderness Medicine Fellowship and Blue Ridge Adventure Medicine (local non profit)

**Step 4** Train Stakeholders: 7 health care providers attended a 5 day American Canoe Association Swift Water Rescue Instructor course to gain certification as Level 3: River Safety and Rescue instructors.

**Step 5** Develop Educational programming: 2, 4, or 8 hour courses organized to be able to teach a variety of skill levels and include various levels of medical education into the water safety education.

**Step 6** Implement Education programming: Courses were taught to the general public, nursing units, medical students, residents, and attending physicians.

**Step 7** Evaluate and Adapt Program: Participant evaluations were complimentary of the program but encouraged more simulations and scenarios. Instructors incorporated high fidelity simulations into later courses.

**Step 9** Share What Works/What Doesn't Work: Instructors and participants have had several opportunities to share lessons gained from this outreach opportunity.

**Step 10** Continuing Education: Instructors meet and maintain certifications set by the American Canoe Association, the industry's Gold Standard. They also commit countless volunteer hours in order to continually progress their skill set.

## Conclusion

Incorporating best practice standards for the drowning patient into Moving Water Safety Programming can encourage and empower health care providers to improve work/life balance and pursue outdoor recreation within their skill set while also gaining value insight for patient care.

## Future Steps

- Measure outcomes by developing a pre and post survey that measures confidence, knowledge, and skill gained from the course.
- Expand instructor pool
- Continue to offer affordable, practical medical education to outdoor adventurers through hands-on experiences.

## Special Recognition

Thank you to Carilion Roanoke Memorial Hospital trauma services and emergency department and Carilion Clinic Community Outreach for sponsoring the training that made these programs possible. Thank you to Tom Burroughs with Ozark Safety & Rescue Educators for the instructor program and continued support of this project. Thank you to the 7 instructors- Randy Howell, Stephanie Lareau, Keel Coleman, Mary Lou Legg, Ben Chopski, Joel Bashore, and Sarah Beth Dinwiddie as well as the numerous volunteers and qualified assistants who have dedicated countless volunteer hours to make this program possible.

## References

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## Participant Feedback

*Participant feedback from early courses led to incorporating more scenarios. Health care providers learn about "in the field" treatment for drowning patients and transport to Carilion Clinic's high fidelity sim lab.*



- Definitely going to recommend to my friends!
- Great Job!
- Good basic course for basics of water safety
- Great Class! Made me think about what to do when things happen on the river.
- Excellent course for river safety!
- Excellent class!
- Great job by instructors making important info interesting.