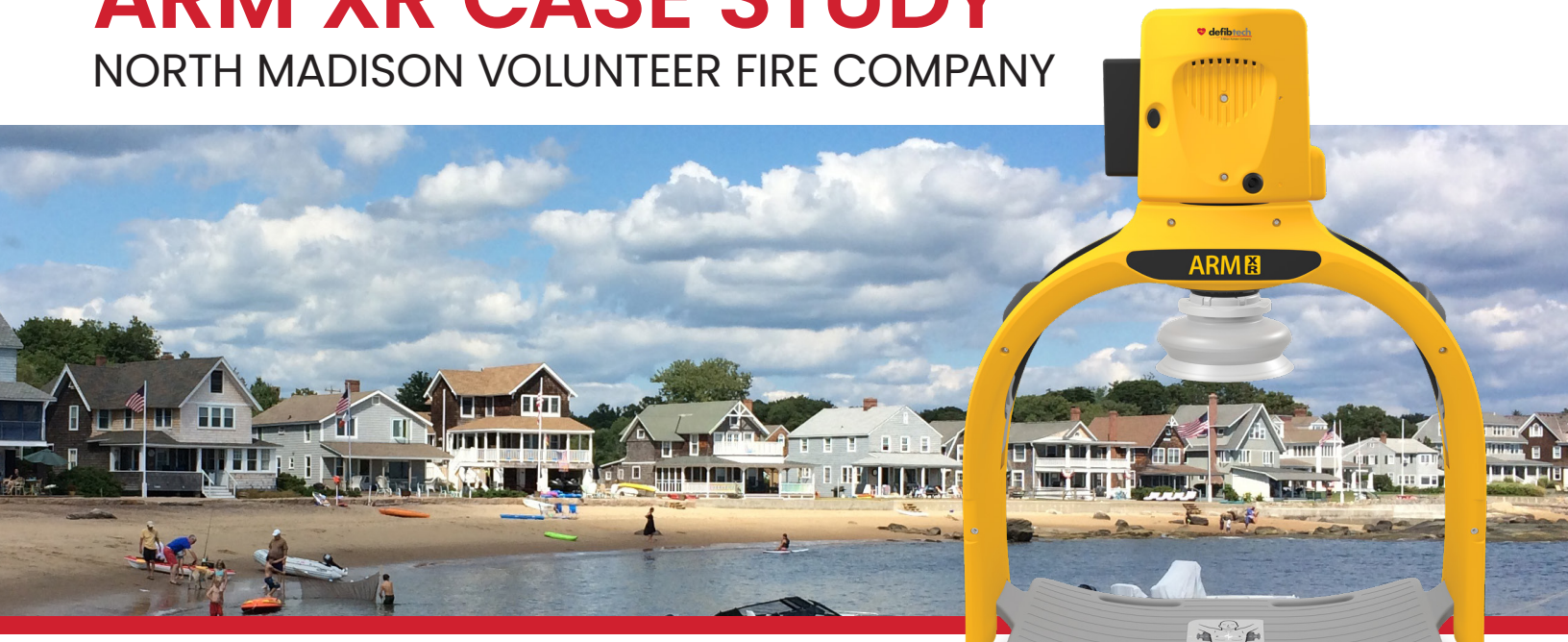
# ARM XR CASE STUDY

## NORTH MADISON VOLUNTEER FIRE COMPANY




## COMMUNITY OVERVIEW

The Town of Madison is an idyllic shoreline community nestled in southeastern Connecticut. Named after President James Madison, the town was officially incorporated in 1826 and has a rich history rooted in fishing, shipping, shipbuilding, farming, and crayon manufacturing. Today, Madison is home to approximately 17,000 residents.

The North Madison Volunteer Fire Company (NMVFC), a volunteer department, proudly serves this population and celebrated its 100th Anniversary in 2025.

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*Chief Mike Penders poses with the ARM XR, donated by a local charitable organization.*

## A YEAR WITH THE ARM XR

Over the past year, the North Madison Volunteer Fire Company has been using a groundbreaking tool that has transformed their cardiac arrest response: the Defibtech ARM XR Automated Chest Compression Device.

Donated to the department by a local charity, the ARM XR has enabled their responders to deliver consistent, high-quality CPR from the moment they arrive on scene, until a patient reaches the hospital.

"Prior to receiving the ARM XR device, we would arrive on scene and administer traditional, manual CPR," said Fire Chief Michael Penders. "The ARM XR changed all that. From clinical outcomes to resource deployment, it's been nothing but exceptional."

While the North Madison Volunteer Fire Company saw a rise in cardiac events during COVID, the volunteer department typically responds to around 4-5 cardiac arrests annually. The ARM XR has made a significant impact on each response.

## MAXIMIZING RESOURCES IN A VOLUNTEER DEPARTMENT

As a small, mostly volunteer department, staffing can vary significantly depending on the time of day.

"You could have 4 or 5 people at a cardiac arrest, or you can have one," Penders explained. "Resources are limited, and we serve a large geographic area. The one thing that really has to stay constant in an event is continuous CPR. Without the ARM XR, we wouldn't always be able to provide that."

Performing high-quality CPR manually is difficult even under ideal conditions:

- It's physically exhausting
- It's prone to inconsistency or interruption
- Movement, crowding, or other tasks can interfere

"As a profession, we're really bad at CPR," said Penders. "At least in terms of maintaining quality for an extended period. The ARM XR changes that. It provides uninterrupted, consistent compressions and frees up responders to manage airway, gather information, and prepare for transport."

Additionally, before using ARM XR, the NMVFC would often have to commit a firefighter to ride in and assist the ambulance crew. "It's really helped us to save resources in that way," said Penders. "The device can go with the ambulance instead of a person."

## POSITIVE OUTCOMES

The ARM XR's ability to provide uninterrupted, guideline-compliant compressions[1], at the appropriate depth and with full chest recoil has proven invaluable to NMVFC.

"For us it can be 30 to 45 minutes easily for the average transport to the hospital, Penders explained, and so the device is on a continuous run. Our first two cases where we used the AMR XR were both successful pre-hospital ROSC.  One of the individuals was discharged with no deficits and is alive and well and working out today at the same gym where he had his out-of-hospital cardiac arrest."

## TRAINING & EASE OF USE

Chief Penders emphasized the importance of ease of training and implementation:

"As a fire chief, you want to make sure the team is trained and confident. The ARM XR was an easy device to put into service. Everyone felt comfortable using it quickly. It's by far the most user-friendly (CPR) device I've used in nearly 20 years of EMS."

***"The ARM XR is a game-changer. It allows us to do more with less and ensures our patients receive the best care possible."***

When looking at devices, NMVFC trialed competitors. "The choice to go with the ARM XR was a consensus," Penders explained. "We all have to use it, so we all have to support it, the group overwhelmingly supported the ARM XR."

## RECOMMENDATION

"The ARM XR is a game-changer. It allows us to do more with less and ensures our patients receive the best care possible. Across the board, I recommend it for ease of application, ease of deployment, and solid clinical outcomes. It's a life-saving investment every department should consider."

The NMVFC is extremely grateful for the donation of the ARM XR to their department by the Madison Jaycees. "Without their help, said Chief Penders, purchasing it may not have been an obtainable goal for us in the short term."

1. Defibtech, LLC. (n.d.). RMU-2000 Automated Chest Compression System User Manual (RAC-A2510EN-DC rev B), p. 65. Defibtech. https://www.defibtech.com/site/assets/files/9649/rac-a2510en-dc_rev_b.pdf

Statements attributed to individuals in this case study reflect the opinion(s) of the individuals. For information about the ARM XR indications, contraindications, instructions for use and other important information, refer to the ARM XR User Manual.

USA: The RMU-2000 ACC is intended for use as an adjunct to manual cardiopulmonary resuscitation (CPR) on adult patients when effective manual CPR is not possible (e.g., during patient transport, or extended CPR when fatigue may prohibit the delivery of effective/consistent compressions to the victim, or when insufficient personnel are available to provide effective CPR).

International: The RMU-2000 Automated Chest Compressor (ACC) is to be used for performing external cardiac compressions, as an alternative to manual CPR, on adult patients who have acute circulatory arrest, defined as the absence of spontaneous breathing and loss of consciousness. The RMU-2000 should only be used in situations where chest compressions are likely to help the patient.

Local regulations may require restriction of this device to sale by or on the order of a physician.

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