

WOFC 2024



SEARCH & THE FIRST
RESCUE STUDY 3000 RESCUES

People Before Water

FIREFIGHTER DELIVERY VERSION

CURT ISAKSON - ESCAMBIA CO. FIRE

CFT FIRE OPS 



COUNTY FIRE TACTICS



**IT'S WORTH
THE RISK**

People Before Water



**THE YEAR
OF THE
RESCUE**



COUNTY FIRE TACTICS



**IT'S WORTH
THE RISK**

People Before Water



Firefighter Rescue Survey





FIREFIGHTER
RESCUE SURVEY

As of 12/1/2022

- **3,036 completed Rescues Surveys in the data set**
- **559 Rescues Surveys complete for rescues in the first 11 months of 2022**
- **679 total Rescue Surveys completed for rescues that occurred in 2021**

This is a voluntary system; the only limitation is limited engagement.

The 2021 direct contact method and research project increased awareness and response rate. Today we are depending on you!



Firefighter Rescue Survey Value

- "For the fire service to deliberately improve outcomes and not just reduce loss, the mission (saving lives) must match our metrics (lives saved)." Brian Brush
- For decades we have failed to recognize the value of measuring, communicating and learning from our wins. The attitude of "I was just doing the job" has not done the job.
- Everyday an average of 9.8 civilians are rescued from residential fires by the direct actions of American firefighters.
- If we don't start believing and demonstrating that we make a difference everyday, who will?

Science & The Street - Our Future

There are few things more powerful than the convergence of evidence and experience.

Today the work of Underwriters Laboratories Fire Safety Research Institute is making data available to the fire service allowing for evidence-based decision making and standardized best practices like we have never seen before.

The Firefighter Rescue Survey is taking the firsthand accounts from firefighters involved in real life civilian rescues at fires and making experience-based data available to influence training and operations like we have never seen before.



UL FSRI Search & Rescue Tactics Part III: Tactical Considerations



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5.1 Timing of Suppression and Search

Provided effective interior and/or exterior suppression and sufficient resources, consideration should be given to the simultaneous execution of suppression, search, and rescue operations.



Firefighter Rescue Survey Data

- Victims located and removed within eight minutes of fire department arrival have the greatest chance at survival.
- Dedicated primary search crews without possession of a hose line are responsible for the greatest number of rescues and have the highest victim survival rate when compared to fire attack.
- Victims located prior to knock down have a 65% chance of survival compared to 40% post knock down.



FIREFIGHTER
RESCUE SURVEY

5.2 Pre-Suppression Window Initiated Search Into Isolated Space

If an isolated space is identified as part of a thorough size-up, consideration should be given to making entry into that space as part of a window initiated search ahead of suppression. Isolation inhibits the establishment of a flow path between the fire compartment and the newly created vent until the firefighters are prepared to make the opening. If conditions permit searching beyond the compartment of entry, re-isolation upon exiting the space maintains a place of refuge if needed.



Firefighter Rescue Survey Data

If the victim was found by V E S, was the victim found in the initial room of entry?

- 81% YES: The victim was located in the initial room
- 19% NO: The victim was located in a hallway or room beyond the initial entry room

Survival rate for victims located by V E S

- 61% for victims located in the initial room
- 63% for victims located in a hallway or room beyond the initial entry room

The importance of this tactical consideration and terminology change is clear. V E S may be limiting our operations, we may not be looking beyond the initial room enough. Window initiated searches provide quick access and victim removal from single compartments and beyond with comparative survival rates.



5.3 Pre-Suppression Isolation of Spaces

5.4 Pre-Suppression Isolation of Fire Compartment(s)

For window-initiated search into non-isolated spaces prior to suppression, consider isolation of the entry space.

For door-initiated search conducted prior to suppression, consideration should be given to isolating the room being searched from flow paths connected to the fire compartment.

Closure of the fire compartment door can limit the oxygen available for combustion and/or remove the source of higher-temperature, higher-pressure combustion within flow paths inside the structure.



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5.7 Impact of Elevation and Speed During Egress

5.8 Impact of Removal Pathway

During removal of an occupant, consideration should be given to removing that occupant as fast as practical and with the occupant's head at the lowest functional elevation.

For fires where occupant removal may precede suppression, consideration should be given to an egress route that does not pass the fire compartment along the path of travel. This route may differ from that taken by the firefighters who commenced the search.



Firefighter Rescue Survey Data

- Victims located and removed within 8 minutes of fire department arrival have the greatest chance at survival.
- Victims removed from upper floors by ladders had an 84% survival rate versus 71% by interior stairs
- Victims removed by going up stairs (increasing elevation in the atmosphere) only had a 43% survival rate.

The ULFSRI study was limited to a single-story structure. Fire departments must test time to task operations for their organizations and response area to give full consideration to options for managing the impact of elevation and speed on victim exposure and removal pathways.



5.9 Delayed Removal with Isolation in Protected Space

In situations such as the pre-suppression removal of a trapped occupant past a non-isolated fire compartment or an inability for an expedient occupant removal (e.g. hoarder conditions), consideration should be given to delaying removal until the toxic and thermal hazards along the egress path are reduced, provided the occupant is in a space isolated from fire induced flows.



Firefighter Rescue Survey Data



Was the victim ever purposefully sheltered in place for 2 minutes or more during the rescue operation?

- 6% YES: The victim was purposefully isolated
- 94% NO: The victim was not isolated

Survival rate for victims purposefully isolated

- 77% for victims purposefully isolated
- 66% for victims not isolated

Time AND exposure are the enemy. For decades quick location and quick removal of victims was the goal.

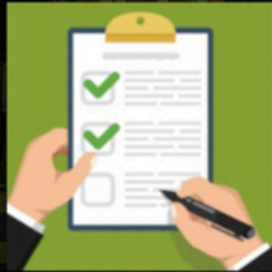
If the victim location allows for local isolation and ventilation, consideration should be given to protecting them in place versus the removal through the unprotected interior.

This data may indicate a need to provide more education and training of this tactic.

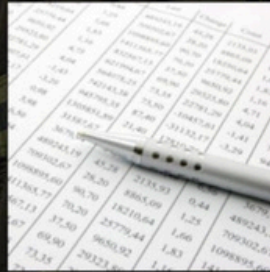


FIREFIGHTER RESCUE SURVEY

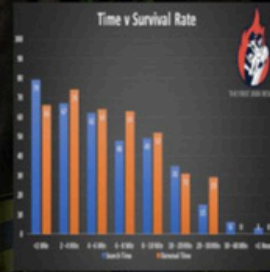
TO RAISE AWARENESS AND DEMONSTRATE THE VALUE OF FIREFIGHTING RESCUE REPORTING FOR THE IMPROVEMENT OF CIVILIAN OUTCOMES AND FIREGROUND OPERATIONS.



RECORD A RESCUE



SEE THE NUMBERS



BREAKDOWN OF THE FIRST 2000

www.FirefighterRescueSurvey.com



PEOPLE BEFORE WATER



The Mission of the Firefighter Rescue Survey

- How many civilians are rescued by Firefighters.
- Firefighters rescued 2,173 civilians in the United States in 2021
- Collection method mirrors USFA civilian fire fatality collection through news reports.
- Firefighter Rescue Survey only received 651 completed surveys.





PEOPLE BEFORE WATER



The Mission of the Firefighter Rescue Survey

- No prior method existed to collect fire service grab data.
- This is the best tool showing how and where FF's rescue civilians.
- Survey data can drive training, policy, and procedures for locating and removing civilian fire victims.





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2023 Goal - Collect 1,000 More Surveys

“Document Our
Wins For Them”

Data is “PROOF” of Progress





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Civilian & Firefighter Lives depend on Solid Fireground Tactics.

Tactics Win the War against Fire and its destruction of Buildings.





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**Fire Prevention is the First
Challenge, but at the moment it
fails, we must bridge the gap.**

**When Smoke Detectors
Fail, We Cannot Fail**





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My Challenge to the American Fire Service

Get Annual Civilian Fire Fatalities Below 2,000





PEOPLE BEFORE WATER



2023 is the Time to Update Your Search & Extinguishment Culture

For Example, VES used to be seen as an “Urban Tactic.” Now FD’s of all sizes and staffing use it, to make successful grabs.

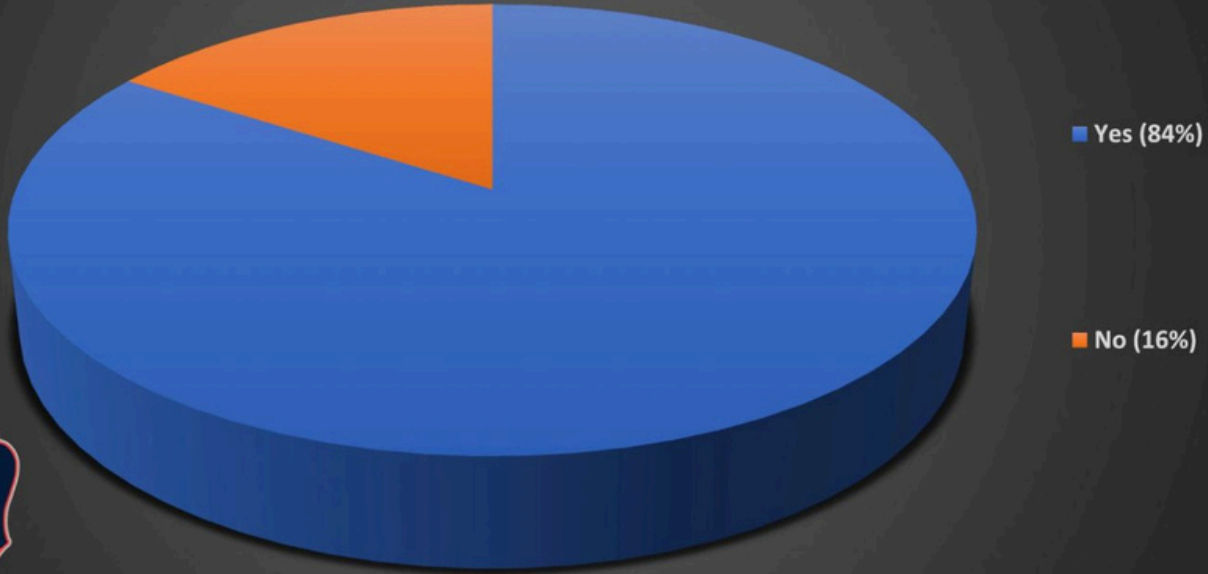




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Was Victim Found in Initial Room of Entry (VES)
v Total Recorded Rescues



THE FIRST 3000 RESCUES





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Mesa, AZ





PEOPLE BEFORE WATER

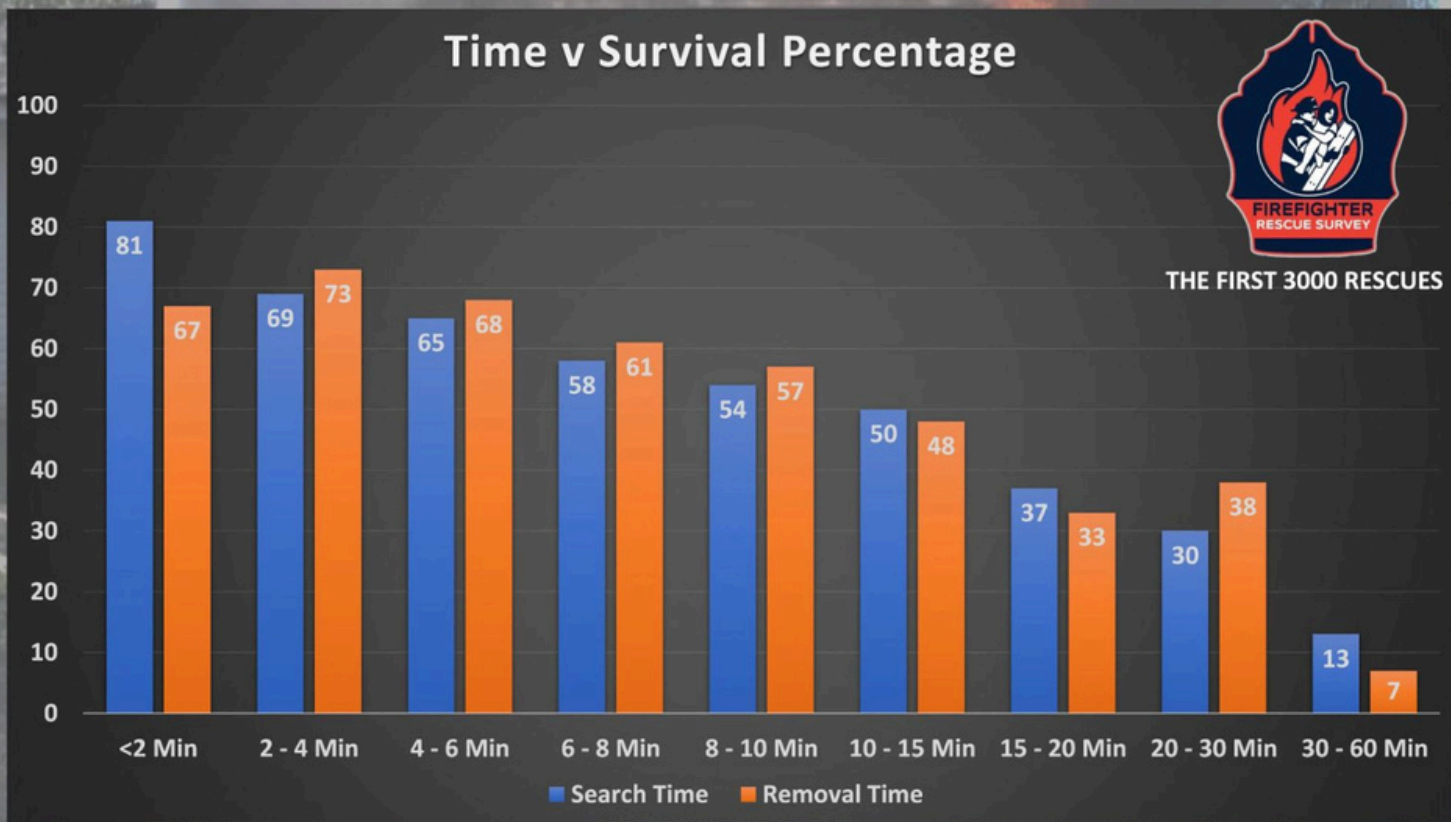


People Before Water is all about **CIVILIANS** and **SURVIVAL.**





PEOPLE BEFORE WATER



THE FIRST 3000 RESCUES





PEOPLE BEFORE WATER



We must commit to rapidly placing enough firefighters at the fire scene.

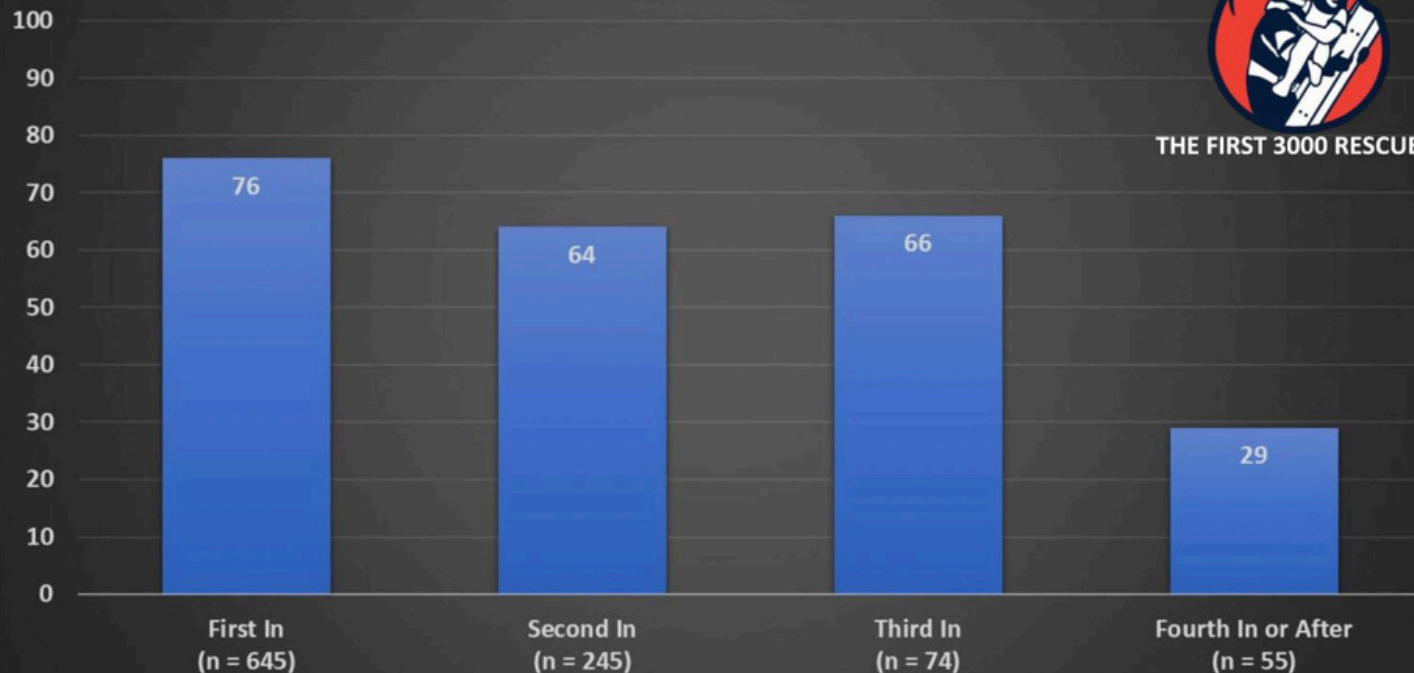




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Arrival Order of Crew That Located Victim v Survival Percentage



THE FIRST 3000 RESCUES





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**Aggressive
Firefighting
Saves Lives !!!**

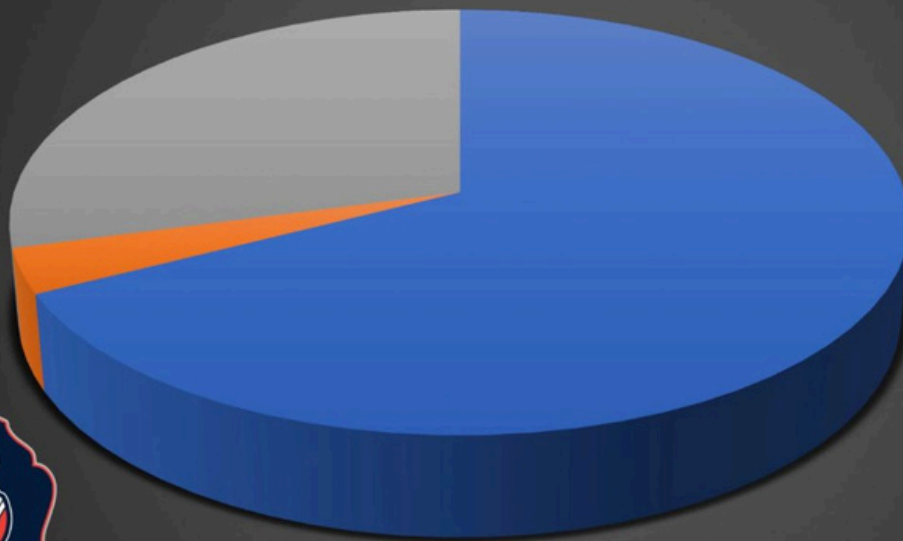




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Victim Reports v Total Recorded Rescues



■ Yes - Report of Victim(s) (67%)

■ Yes - Report of Everyone is Out (3%)

■ No - No Report at All (29%)



THE FIRST 3000 RESCUES





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How to Achieve The Cultural Shift For THEM

- Place six firefighters on the scene a fire in six minutes.
- The firefighters must be operationally engaged in a short time.
- Place eight firefighters on the scene of a fire in eight minutes.
- They will complete fire attack and search in a residential dwelling.





PEOPLE BEFORE WATER



How to Achieve The Cultural Shift For THEM



Six Firefighters on the scene in Six minutes.





PEOPLE BEFORE WATER



How to Achieve The Cultural Shift For THEM



Eight Firefighters on the scene in Eight minutes.

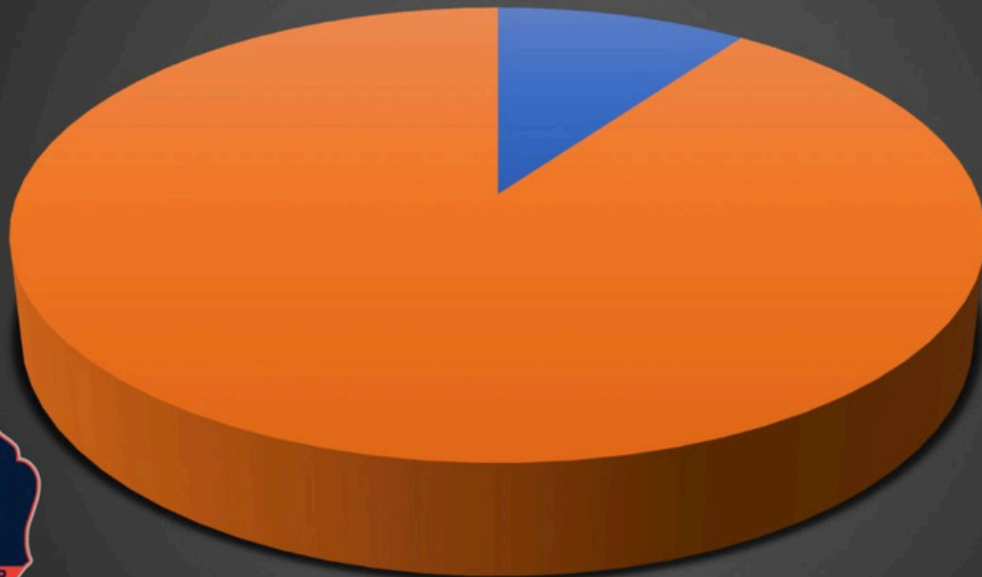




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Did Search Crew Have a Hoseline
v Total Recorded Rescues



■ Yes (10%)

■ No (90%)



THE FIRST 3000 RESCUES





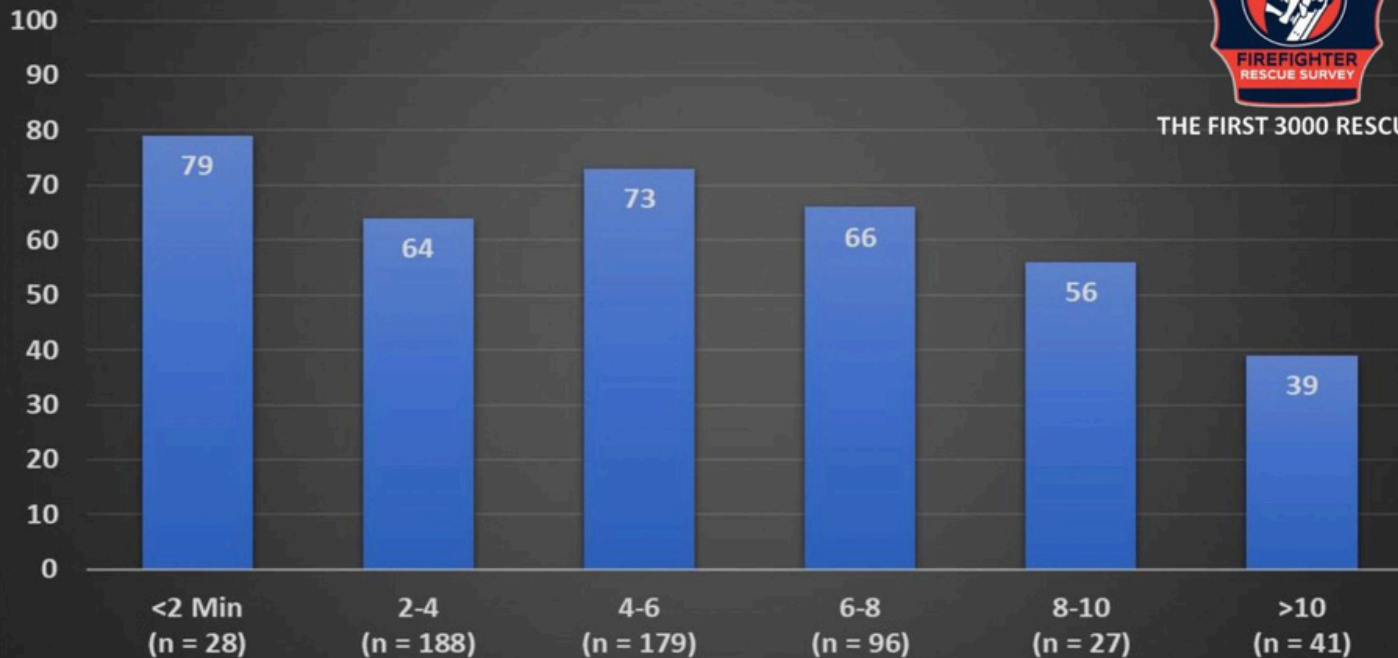
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Time From Dispatch Until FD Arrival
v Survival Percentage



THE FIRST 3000 RESCUES

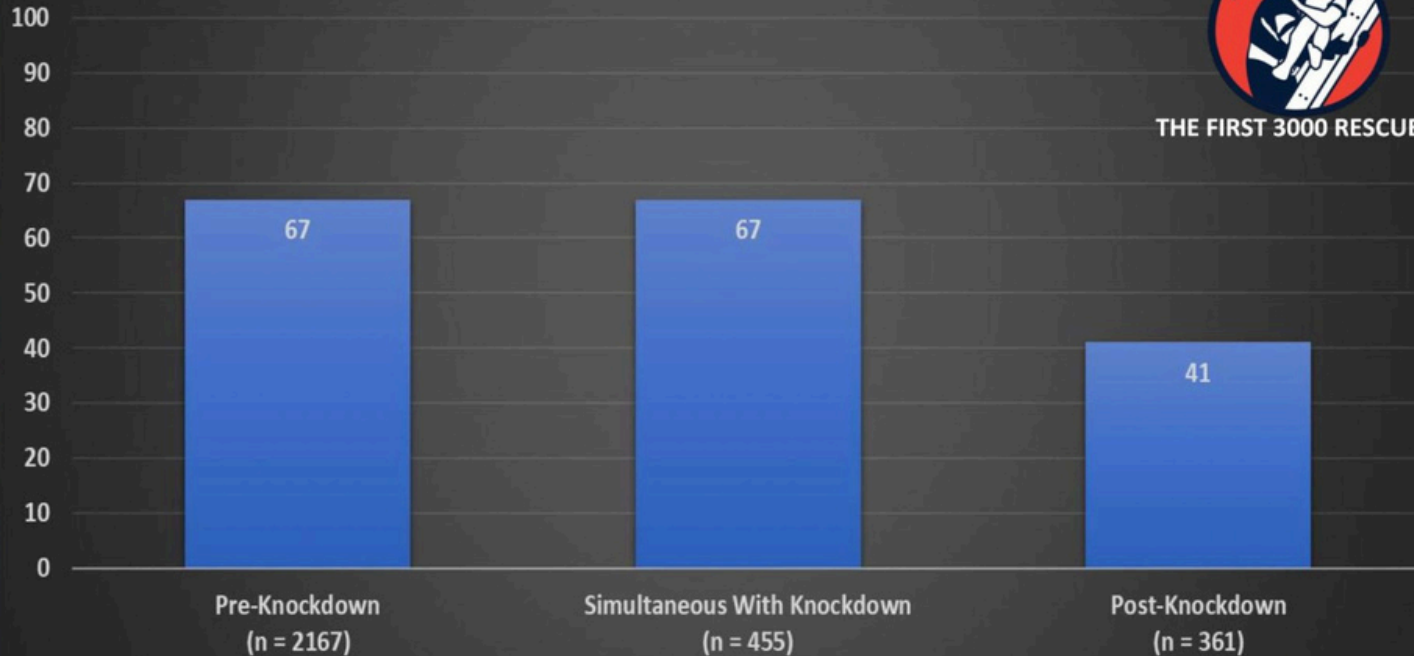




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When Was Search Initiated (Fire Conditions)
v Survival Percentage



THE FIRST 3000 RESCUES





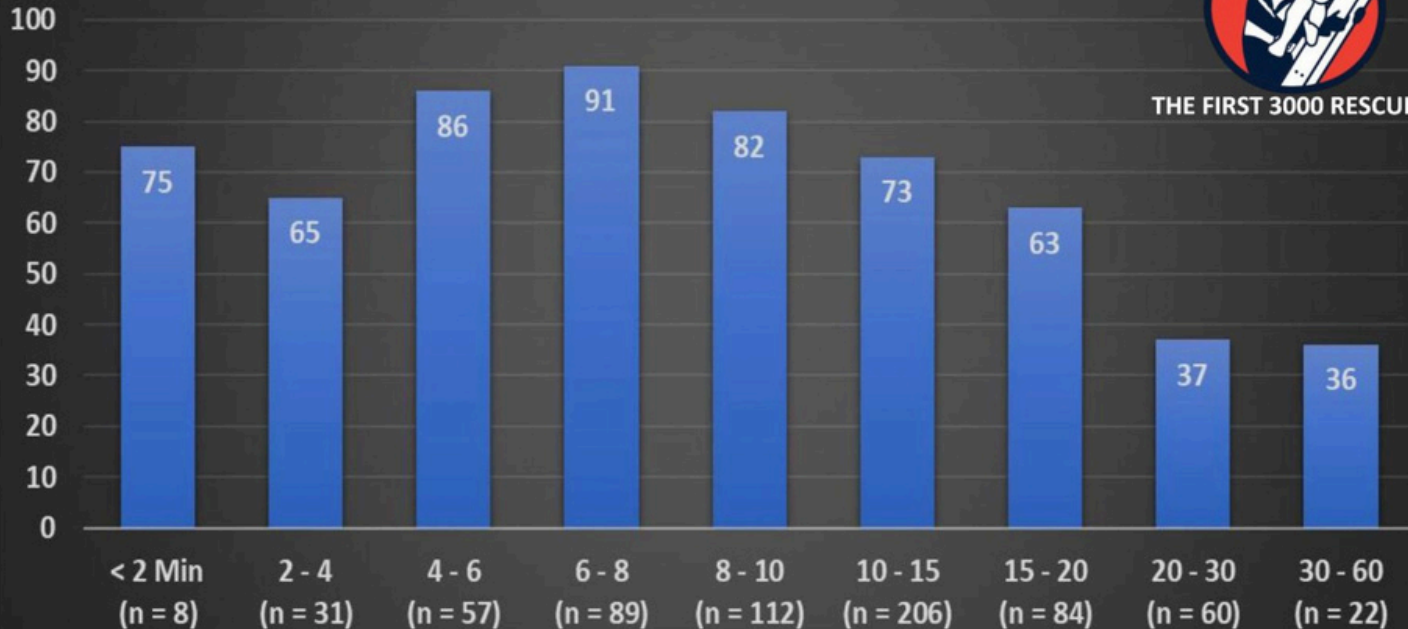
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Time From Dispatch Until Victim Removal
v Survival Percentage



THE FIRST 3000 RESCUES

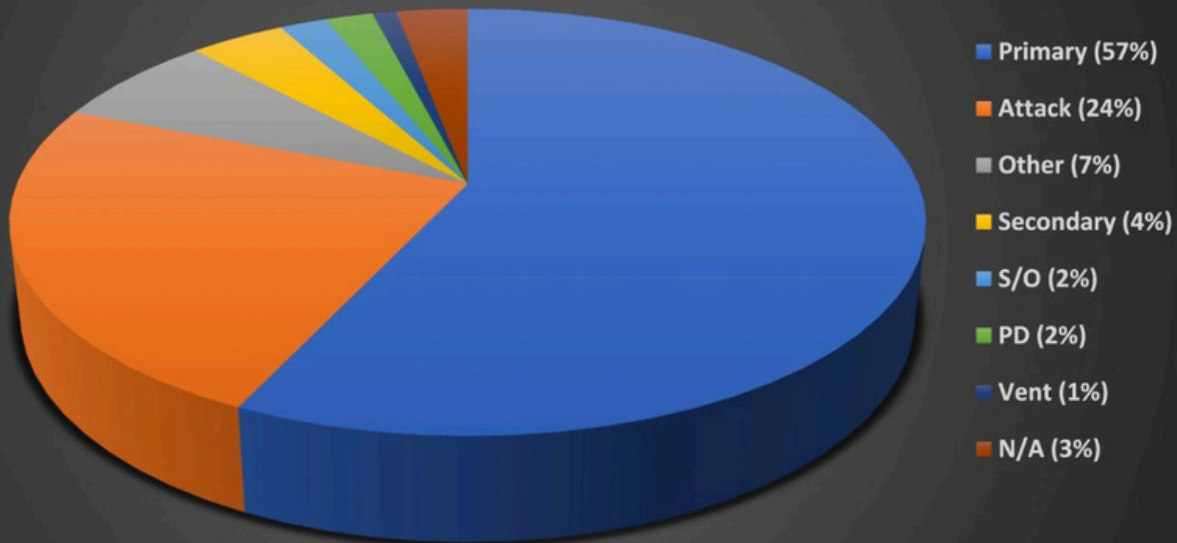




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Crew Locating Victim v Total Recorded Rescues



THE FIRST 3000 RESCUES

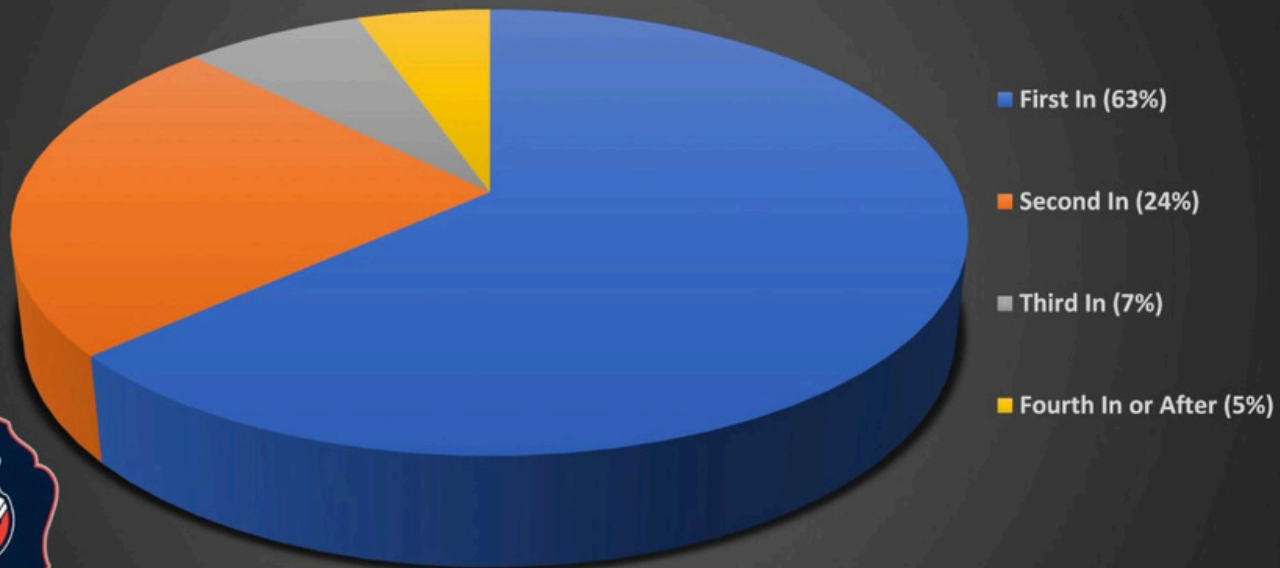




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Arrival Order of Crew That Located Victim
v Total Recorded Rescues



THE FIRST 3000 RESCUES





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How to Achieve The Cultural Shift For THEM

- We bring the booster tank water needed to initiate a rapid attack.
- We must get water on the fire and remove trapped occupants more quickly.
- UL FSRI has shown that the heat release rates of modern fuel packages need immediate water application.
- Water will not remove trapped occupants.





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How to Achieve The Cultural Shift For THEM

- **Booster tank backup supports the fire attack and the search.**
- **UL FSRI used less than 250 gal. for knockdown and suppression in 25 working fire tests.**





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How to Achieve The Cultural Shift For THEM



- At 150 gpm, the first two tanks of water supply 8:20 to 10:00 of continuous flow.
- $750 + 750 = 1500$ gal.
- $750 + 500 = 1250$ gal.





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How to Achieve The Cultural Shift For THEM

- UL FSRI tells the public to close before they doze.
- They create survivable space for us to rescue them through six in six or eight in eight.
- A sustainable continuous water supply is vital for the overall fireground.
- We have to be using water to need water from a hydrant.

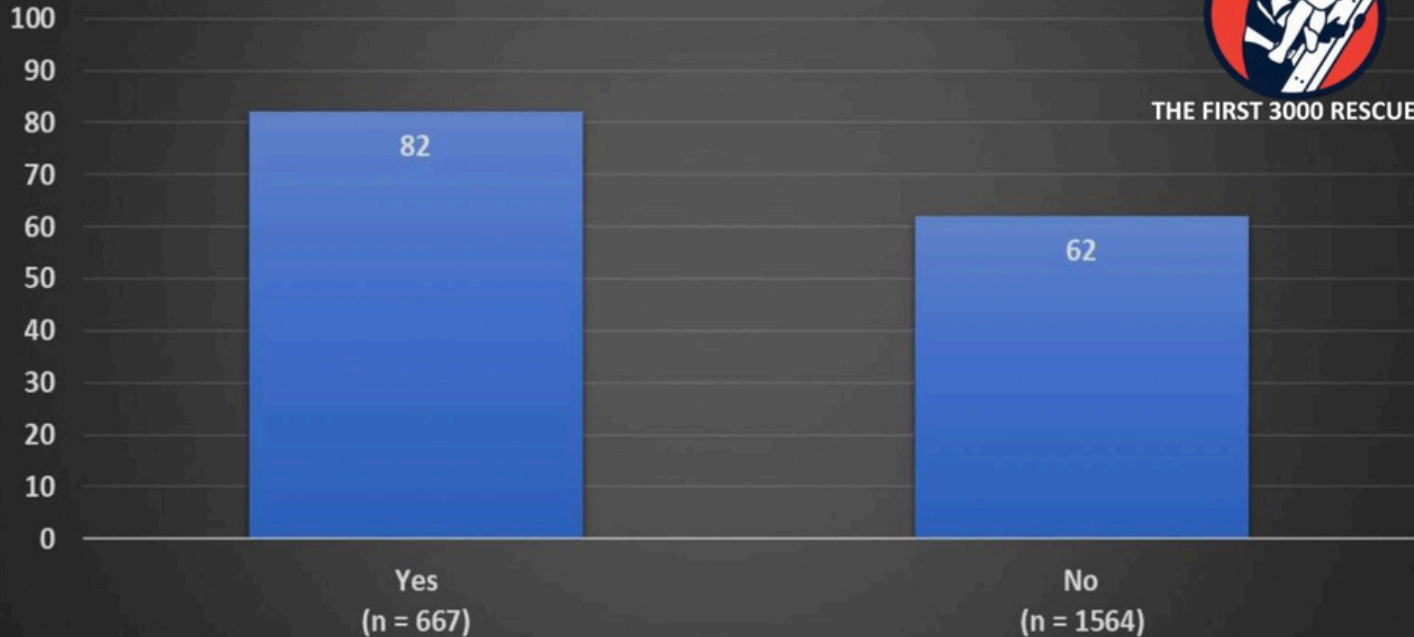




PEOPLE BEFORE WATER



Was the Victim Behind a Closed Door v Survival Percentage



THE FIRST 3000 RESCUES





PEOPLE BEFORE WATER



Perform The Tank Water Challenge

- Do your own evidence based testing with your attack package and fire flow rate.
- Many booster tanks hold a little more than their actual “ratings”.
- Accurately time arrival of the second due unit with a booster tank.
- Use past occurred incidents to show second due average arrival time.





PEOPLE BEFORE WATER



Perform The Tank Water Challenge

- Build in your normal fire ground arrival reflex times.
- Apparatus Placement, Scene Size-Up, Making the Stretch, Forcing the Door



When are YOU REALLY starting to FLOW WATER?





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**Rio Grande Circle
Escambia Co. FL**





PEOPLE BEFORE WATER



Rio Grande Circle, House Fire Rescue Timeline, Exact Date Unknown

- One caller reports a fire in the area of the address.
- 00:00:10 - Battalion Chief 2 arrives.
- 00:00:50 - Ladder 12 arrives.
- 00:02:05 - Ladder 12 makes entry to attack the fire. Engine 3 arrives on the scene.
- 00:02:35 - Engine 3 makes entry to search
- 00:03:15 - Engine 3 locates the victim
- 00:04:10 - Engine 3 removes victim, provides EMS care
- Total Time 00:03:20 - First engine arrival to victim removal.





PEOPLE BEFORE WATER



**North Y Street
Escambia Co. FL**





PEOPLE BEFORE WATER



North Y Street, House Fire Rescue Timeline, January 28th 2021

- 09:53:30 - 911 from single caller reporting a house fire; no other 911 calls were received.
- 09:58:07 - E16 arrives, in under five minutes, tank water placed on fire.
- 09:59:50 - Battalion Chief 2 arrives
- 10:01:17 - L12 arrives, gives tank water to E16 and assigned VES.
- 10:02:13 - Ladder 12 notifies command VES D/C window.
- 10:02:56 - Ladder 12 notifies command victim found.
- 10:04:08 - L12, E11, SQ3 remove the victim, provide EMS care.
- Total Time 00:10:38 - Initial 911 call to victim removal.
- Total Time 00:06:01 - First engine arrival to victim removal.





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Blend Research With Fire Ground Experience

- Train and openly evaluate the tactics and response models of tomorrow.
- Firefighter Rescue Survey
- National Institute of Standards and Technology
- This may drive change in strategy and tactics for your citizens.
- Underwriters Laboratories Fire Service Research Institute





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Evaluate if your current strategies, tactics, response, and deployment models truly put the citizens first.

Together we can get the annual Civilian Fire Fatality Rate below 2,000 this year.





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Evidence-Based Decision Making Training Materials from UL FSRI, NIST, and Firefighter Rescue Survey.

Firefighter Rescue
Survey Website



UL FSRI 2021 Fire
Growth Video



UL FSRI Fire Safety
Academy



NIST Residential
Staffing Study



CFT Timing Your
Tank Water



FDNY Chief Frank
Leeb "Play to Win"



2021 Rescue Survey
Project



UL FSRI Fire
Dynamics



UL FSRI Hose
Stream Mechanics



NIST High Rise
Staffing Study



Firehouse People
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