



When Seconds Matter: How Boundary Community Hospital's TSE System Saves Lives

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In the world of emergency medicine, seconds count. This is particularly true when it comes to time sensitive emergencies (TSEs) like strokes, heart attacks, and serious trauma. For residents of Boundary County, access to rapid, high-quality emergency care can mean the difference between life and death, full recovery or permanent disability.

Boundary Community Hospital (BCH) stands as one of only nine hospitals in Idaho to hold designations in all three TSE categories, positioning it as a vital healthcare resource for the community. The hospital holds Level IV Trauma, Level III Stroke, and Level II STEMI (ST-elevation myocardial infarction) designations, demonstrating its comprehensive ability to address the most critical time-sensitive medical emergencies.

Melissa Ball, Program Manager for Idaho's Time Sensitive Emergency program, notes the significance of this achievement: "Out of the 27 Critical Access Hospitals, Boundary Community was the 4th to be designated in trauma, stroke, and STEMI." This places BCH among the early adopters and leaders in rural emergency care in the state having received its initial designation in 2017 for Trauma, and 2019 for STEMI and Stroke.

What is the TSE System?

The Idaho Time Sensitive Emergency (TSE) System was established by the Idaho Legislature in 2014 to address three of the leading causes of preventable death in the United States: trauma, stroke, and heart attack. The system creates a seamless network of care that includes public education, 911 access, emergency response, hospital treatment, rehabilitation, and continuous quality improvement.

Dr. Chuck Newhouse of BCH explains: "Idaho's Time Sensitive Emergency program is directed toward three of the leading causes of preventable death in our country: heart attacks, stroke, and unintentional injury or trauma. These are called Time Sensitive Emergencies for a reason, and that's because with each one of these, seconds count."

What Does TSE Designation Mean?

Being designated as a TSE facility means that a hospital has demonstrated its ability to provide critical emergency care according to established standards. These designations aren't awarded lightly—they require rigorous assessment, specialized equipment, trained staff, and proven protocols.

"Boundary Community Hospital has met the requirements to be designated as a center for initial treatment for these emergencies where the first steps are critical and need to be done quickly," says Dr. Newhouse. "The requirements for that designation include having the capability to provide those first steps. We have the equipment and the know-how to perform the specialized scans and imaging needed. We have tissue plasminogen activators (tPA), clot-busting medications, on hand and ready to use."

For BCH, these designations mean the hospital can:

- Rapidly employ specialized imaging to help diagnose strokes, evaluate brain circulation, and plan the right treatment
- Administer time-critical fibrinolytic "clot-busting" medications for strokes and heart attacks when needed
- Stabilize trauma patients with life-threatening injuries
- Coordinate with regional medical centers when more advanced care is needed

Multiple hallmark studies on fibrinolytic use in stroke treatment have shown a clear and consistent pattern that patients can benefit substantially from these medicines. In one study, patients treated with tissue plasminogen activator (tPA) were at least 30% more likely to have minimal or no remaining disability from a stroke when tested three months after the stroke event. This research underscores the importance of having these treatments readily available at community hospitals like BCH.

A Coordinated System of Care

TSE designation goes beyond having the right equipment and medications. It places BCH within a coordinated system of emergency care that spans the entire state.

"We are part of a network of hospitals throughout our region and across the state where all are trained in the latest care for these emergencies," Dr. Newhouse explains. "All are regularly assessed and evaluated by experts who are looking to ensure that we follow the latest and most advanced protocols, and meet standards of care for quality and timeliness in treating those life-threatening emergencies."

This system ensures that whether a patient first encounters Boundary Ambulance, arrives at BCH's emergency department, or needs transfer to a higher-level facility, the transition will be smooth and focused on providing the right care at the right time.

Real Success Story: TSE System in Action

A recent case demonstrates how the TSE system works in practice: A 72-year-old patient experienced sudden severe chest pain. Concerned, his wife drove him directly to BCH. Within just two minutes of arrival, an EKG was performed, revealing a STEMI—considered the most serious type of heart attack.

The hospital's TSE protocol was immediately activated. Life Flight was summoned while the patient received medication to relieve his chest pain and IV medications to prepare him for an emergency heart catheterization. Laboratory work was quickly obtained, and the cardiology specialist at Kootenai Health in Coeur d'Alene was contacted with the patient's information and treatment details.

Just 33 minutes after walking through BCH's doors, the patient was loaded into the Life Flight helicopter and on his way to Kootenai Health. Upon arrival, he went directly to the heart catheterization lab where a stent was placed to open his blocked artery, immediately restoring blood flow to his heart muscle. After just two days in the hospital, he was doing well and returned home to Bonners Ferry.

This seamless coordination exemplifies how the TSE system is designed to work, with each component—from initial recognition and treatment to rapid transfer and specialized intervention—functioning together to save lives.

What Happens During a TSE?

When someone experiences a potential time sensitive emergency, the response begins immediately. If Boundary Ambulance responds to a call and identifies a potential stroke, heart attack, or serious trauma, they alert the hospital while providing initial care and rapid transport.

Once that alert is received, BCH activates its TSE protocol. Staff prepare the emergency room, gather necessary supplies and medications, and position themselves to receive the patient. X-ray technicians, laboratory staff, and other critical personnel report directly to the emergency department.

Upon arrival, patients are quickly assessed and moved to appropriate testing—stroke patients go immediately for specialized brain scans, potential heart attack patients receive urgent EKGs, and trauma patients are evaluated and sent for necessary imaging. All while simultaneously receiving lab work.

"Our hospital team gets several of these patients every month, and we are well coordinated in getting all the necessary steps going in the fastest, most efficient way possible," notes Dr. Newhouse. "All the while, we keep a close eye on the clock once those patients arrive, as

research shows that the chances for best possible outcomes depend on meeting treatment steps and goals within certain time frames."

The Right Care at the Right Place

Medical professionals emphasize that in time sensitive emergencies, patients should be taken to the closest facility capable of providing appropriate care. For Boundary County residents, this is often BCH.

The accepted standard for care of a Time Sensitive Emergency is that a patient should be transported to the closest facility with the capability to provide necessary tests and treatment. Going to a more distant facility, even if it's a larger hospital, can waste precious minutes when treatments like "clot-busting" medications must be administered within strict time windows.

When needed, BCH coordinates with Life Flight, which can typically arrive within about 20 minutes, or with Boundary Ambulance for patients requiring transfer to specialized centers for surgical intervention or other advanced care.

Through its TSE designations and participation in Idaho's coordinated emergency care system, Boundary Community Hospital continues to ensure that county residents receive rapid, high-quality care when minutes matter most.

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