IDAHO TIME SENSITIVE EMERGENCY SYSTEM
TRAUMA | STROKE | STEMI

Level III Stroke Center

Application & Resource Tool Kit

P.O. Box 83720
Boise, ID 83720-0036

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IDAHO DEPARTMENT OF HEALTH & WELFARE

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TSE Frequently Asked Questions

Why a TSE program?

The 2014 Idaho Legislature approved and funded a plan to develop a statewide Time Sensitive Emergency (TSE) system of care that addresses three of the top five causes of deaths in Idaho: trauma, stroke, and heart attack. Studies show that organized systems of care improve patient outcomes, reduce the frequency of preventable death, and improve the quality of life of the patient.

How does the TSE program work?

The Idaho Department of Health and Welfare provides oversight and administrative support for the day-to-day operation of the program.

A governor-appointed TSE Council made up of health care providers, EMS agencies, and administrators of hospitals representing both urban and rural populations is responsible for establishing Rules and Standards for the TSE system. The Council is the statewide governing authority of the system.

The state has been divided into six regions. Each of these has a Regional TSE Committee made up of EMS providers, hospital providers and administrators, and public health agencies. The regional committees will be the venue in which a wide variety of work is conducted such as education, technical assistance, coordination, and quality improvement. The Regional TSE Committees will have the ability to establish guidelines that best serve their specific community, as well as providing a feedback loop for EMS and hospital providers.

What guiding principles are the foundation of the TSE system?

- Apply nationally accepted evidence-based practices to time sensitive emergencies;
- Ensure that standards are adaptable to all facilities wishing to participate;
- Ensure that designated centers institute a practiced, systematic approach to time sensitive emergencies;
- Reduce morbidity and mortality from time sensitive emergencies;
- Design an inclusive system for time sensitive emergencies;
- Participation is voluntary; and
- Data are collected and analyzed to measure the effectiveness of the system.

How often does a center need to be verified?

Every three years.

How much does it cost to be verified and designated?

Verification is done once every three years. The on-site survey fee is $1,500 and must be submitted with the application. Designation is valid for three years. The designation fee may be paid in three annual payments of $500 or in one payment of $1,500.

Whom do I contact if I have questions about the application process?

Idaho Time Sensitive Emergency Program

P.O. Box 83720

Boise, ID 83720-0036

tse@dhw.idaho.gov

http://tse.idaho.gov/

Program Manager

Christian Surjan

surjanc@dhw.idaho.gov

(208) 334-6564

Application Process

To apply for designation as a Level III Stroke Center using the State of Idaho for verification:

1. Complete and print the application. Submit one application per facility. A completed application includes:
   A. Facility and Personnel Profile;
   B. Certification Statement;
   C. Pre-Survey Questionnaire; and
   D. Required Attachments
2. Obtain the required signatures on the Certification Statement.
3. Put the application in a binder with labeled, tabbed dividers between each section: Profile, Certification, PSQ (Pre-Survey Questionnaire), and Attachments.
4. Mail the completed application and on-site survey fee ($3,000) to:

   Make checks payable to: Bureau of EMS and Preparedness

   Bureau of EMS and Preparedness
   Time Sensitive Emergency Program
   P.O. Box 83720
   Boise, ID 83720-0036

   Or for FedEx, UPS, etc.:
   2224 E. Old Penitentiary Road
   Boise, ID 83712

TSE Program staff will notify you within 10 business days of receipt of the application and confirm that the application is complete.

Application for Level III Stroke Center

A. Hospital and Personnel Profile

Hospital Name:		
Mailing Address:	City:	Zip:
Physical Address:	City:	Zip:
Phone:	County:	
Application Contact and Title:		
Phone:	E-Mail:	

Hospital Administrator/CEO:	
Phone:	E-Mail:
Stroke Care Coordinator:	
Phone:	E-Mail:
Stroke Medical Director:	
Phone:	E-Mail
ED Medical Director:	
Phone:	E-Mail:
ED Nursing Director:	
Phone:	E-Mail:

B. Certification Statement

I, _____ (CEO/COO), on behalf of _____ (hospital), voluntarily agree to participate in the Idaho Time Sensitive Emergency system as an Level III Stroke Center. We will work with emergency medical services and other hospitals in our area to streamline triage and transport of stroke patients and participate in our Regional Time Sensitive Emergency Committee.

I certify that:

A. The information and documentation provided in this application is true and accurate.

B. The facility meets the State of Idaho criteria to be designated as a Level III Stroke Center.

C. We will participate in the Idaho TSE Registry; and

D. We will notify the Time Sensitive Emergency Program Manager immediately if we are unable to provide the level of stroke service we have committed to in this application.

_____	_____
Chair, Governing Entity (Hospital Board)	Date
_____	_____
Chief Executive Officer	Date
_____	_____
Stroke Medical Director	Date
_____	_____
Stroke Program Manager	Date

C. Pre-Survey Questionnaire

Answer every question. If you require additional space, please include a separate sheet. Once complete, print and sign the application (Certification Statement). Label all attachments and place them in the "Attachments" section. Do not hesitate to contact the TSE program staff if you have any questions regarding your application. (208) 334-4904

1. Personnel

1.1 Do you have a stroke care coordinator? ☐ Yes ☐ No

Note: You may use a system coordinator to fulfill this requirement.

Attach a copy of the stroke care coordinator's job description and CV. Label as "Attachment #1".

1.2 Do you have a stroke medical director? ☐ Yes ☐ No

Does he or she have sufficient knowledge of cerebrovascular disease to provide administrative leader ship, clinical guidance, and input to the program? ☐ Yes ☐ No

Note: You may use a system medical director to fulfill this requirement.

Attach a copy of the stroke medical director's job description and CV. Label as "Attachment #2".

1.3 Do you have defined stroke leadership team? ☐ Yes ☐ No

Is the team responsible for setting protocol and procedures, for QI/PI, and for setting educational requirements? ☐ Yes ☐ No

Do you have supporting documentation ? ☐ Yes ☐ No

1.4 Do you have organizational and administrative support for your stroke program? ☐ Yes ☐ No

Attach letters of support from your medical staff and hospital board. Label as "Attachment #3".

2. Training and Education

2.1 Do members of the stroke response team have annual education in stroke diagnosis and treatment to ensure competence? ◯ Yes ◯ No

Explain:

2.2 Does your stroke medical director receive at least 4 hours annually of education related to the care of stroke patients? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

2.3 Are all of your facility's staff educated annually on the signs and symptoms of stroke and the process to activate the stroke team? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3. Stroke Services

3.1 Do you have a neurologist or physician experienced in cerebrovascular care available 24/7 on site or via telemedicine or telephone consult within 20 minutes of patient's arrival? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.2 Do you have a CT tech available 24/7? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.3 Do you have staff on-site or via telemedicine to read and report CT results within 45 minutes of patient's arrival 24/7 with an 80% achievement rate? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.4 Do you have EKG and chest x-ray capability 24/7? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.5 Do you have laboratory or point-of-care testing 24/7 with results in 45 minutes or less with an 80% achievement rate? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.6 Do you have FDA-approved IV thrombolytic therapy for stroke available 24/7? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.7 Do you have written stroke protocols, order sets, procedures, and/or algorithms for assessment and treatment of ischemic and hemorrhagic strokes for:

a. Stroke team activation process? ◯ Yes ◯ No

b. Initial diagnostic tests? ◯ Yes ◯ No

c. Administration of medication? ◯ Yes ◯ No

d. Swallowing assessment prior to oral intake? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.8 Do you have transfer protocols that include criteria specific to transferring stroke patients, stroke patients outside of the IV t-PA treatment window, etc.? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.9 Do you have a written transfer protocol with at least one Level I Stroke Center? ◯ Yes ◯ No

Do you have a written transfer protocol with at least one Level II Stroke Center? ◯ Yes ◯ No

Do those transfer protocols include communication with and feedback from the receiving center? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.10 Do you coordinate with EMS on stroke care and transport policy and procedures, system activation, training, data collection and quality improvement? ◯ Yes ◯ No

Do you have supporting documentation? ◯ Yes ◯ No

3.11 Do you provide annual public education on stroke-related topics such as prevention, risk factors, signs and symptoms, and the importance of getting treatment right away and calling 911?

Yes No

Do you have supporting documentation? Yes No

3.12 Do you provide stroke education to stroke patients and their caregivers? Yes No

Do you have supporting documentation? Yes No

5. Performance Measurement and Quality Improvement

5.1 Do you participate in the Idaho TSE Registry? Yes No

Are at least 80% of cases submitted within 180 days of treatment? Yes No

Attach a letter from the TSE Registry supporting your answer. Label as "Attachment #4".

5.2 Do you meet the benchmark of door-to-needle time in less than 60 minutes with a 50% achievement rate? Yes No

Attach supporting documentation for the most recent 12-month period. Label as "Attachment # 5".

5.3 Do you participate in your Regional TSE Committee? Yes No

Explain:

10,000 Lakes Hospital
555 Lady Slipper Drive
Loon, MN 55555

SAMPLE

January 20, 2014

Minnesota Department of Health:

This letter is attesting that 10,000 Lakes Hospital has an acute stroke team available or on-call 24 hours a day, seven days a week. The role of the acute stroke team is to respond to patients in the emergency department, or in-hospital presenting with stroke symptoms. The team's role is to initiate diagnostic testing and provide the appropriate action of care in a well-timed and coordinated manner in accordance with hospital protocols for the treatment of stroke patients. Additionally, the ED physician and critical care nurse of the acute stroke team complete four hours of stroke education annually.

The members on the acute stroke team include:

- Neurologist, available via telemedicine within 15 minutes
- Emergency Department Physician
- Stroke Trained Nurse
- Laboratory Technician
- Radiology Technician
- Radiologist (images read off site)
- Pharmacist

If you have any questions regarding 10,000 Lakes Hospital's acute stroke team, please don't hesitate to contact me.

Sincerely,

John Smith, CEO
10,000 Lakes Hospital

SANFORD HEALTH

ED ADULT SUSPECTED ACUTE STROKE PROTOCOL

Evidence of Acute Stroke Symptoms or Positive FAST Exam

1. Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
2. Sudden confusion, trouble speaking or understanding
1. Sudden trouble seeing in one or both eyes (visual field changes)

CLOCK TIME LAST KNOWN WELL :

4. 0-4.5 hours → tPA Candidate
5. 0-8 hours → IR Treatment Candidate

3. 8+ hours → Consider neuro

ACTIVATE STROKE TEAM
Goal: 5 min

ASSESSMENT
- ☐ Assess ABCs and keep 02 SATs >94%
- ☐ Start 2 large bore IVs
- ☐ Labs: Glucose, INR, Creatinine, CBC, Troponin, BMP, PTT, pregnancy test
- ☐ 12 Lead EKG (do not delay CT for EKG)

Goal: 10 min

1. Initiate arrangements for rapid transfer
2. Telestroke, Blue Phone, One Call or 1-800-601-5084 for Neuro Consult

Goal: 10-30 min

Non contrast CT
Goal: 25 min

CONTINUED ASSESSMENT
- ☐ Perform NIHSS
- ☐ Swallow Screen / NPO
- ☐ H&P (obtain pt weight)

Goal: 20-45 min

SAMPLE

Negative CT Interpretation
Goal: 45 mins

Yes → <4.5 hours of LKW

Yes → **IV tPA Candidate**
Inclusion / Exclusion Screen & Checklist

Yes → Manage Blood Pressure: BPs<185 BPd<110

Discussion with pt/family on risks/benefit/ alternatives

Alteplase: Start tPA STAT. Bolus 10% of the total (0.9 mg/kg dose) over 1 min. Infuser remainder dose over 60 minus. Max dose is 90mg.
Goal: 60 min

Transfer Patient
Goal: 90 min

No → Consult with neurologist/surgeon; consider rapid transfer or admission as inpatient.

No → Consult with neurologist/surgeon; consider rapid transfer or admission as inpatient.

No → Consult with neurologist/surgeon; consider rapid transfer or admission as inpatient.

Interventional Radiology (IR) Candidates
- ☐ Ischemic stroke pts out of IV tPA window
- ☐ Ischemic stroke pts with IV tPA contraindications
- ☐ Patients s/p IV tPA with NIHSS >10

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Essentia Health- ST. JOSEPH'S MEDICAL CENTER
BRAINERD, MINNESOTA

PROTOCOL: STROKE CODE

PURPOSE

To establish a standard, well-coordinated and integrated approach to the recognition and treatment any patient exhibiting signs and symptoms of acute stroke < 7 hour duration without associated hypoglycemia.

INDICATIONS

Sudden onset of any one of the following;

1. Numbness or weakness in the face, arms or legs, particularly on one side of the body
2. Confusion with aphasia (expressive and / or receptive)
3. Difficulty speaking or understanding what others are saying
4. Difficulty walking, loss of balance or coordination
5. Severe headache that does not have obvious or known cause
6. Nonspecific visual complaints **with** Partial, Complete or Bilateral visual field loss or double vision
7. Sudden onset of continuous vertigo and **ANY of the following**
    - 65 years of age or older
    - Younger than 65 with risk factors (i.e. Smoking, diabetes, HTN, etc.)
    - Posterior neck pain in setting of recent manipulation or injury (suggesting dissection).

SAMPLE

DEFINITIONS

Stroke Code – Consistent phrase used to identify all patients meeting inclusion criteria, regardless of the transportation destination.

Team members: Responsible Licensed Practitioner (RLP) or ED physician, ED RN, ED Technician, ED Ward Clerk, ICU RN, Lab Phlebotomist, CT Tech, Pharmacist.

PROCEDURE

1. **Activation of Stroke Code**
    A. Ambulance Service may activate Stroke Code protocol prior to arrival
        1. Notifies the ED that the patient en route meets inclusion criteria
        2. Nurse receiving report will notify Ward Clerk to activate Stroke Code team and provide ETA
        3. Nurse will inform ED Provider and obtain direction re: timing of initial CT
        4. The ED will notify CT when the CT will be performed prior to going to ED exam room

    B. Emergency Department activation:
        1. Activated upon direction of the ED Provider

    C. Inpatient activation:
        1. Activated at the direction of the Rapid Response Team
            a. May be activated by ICU nurse in absence of MD
        2. Obtain a stat blood sugar
        3. Initiate O2 per nasal cannula at 4 liters
        4. Obtain vital signs

5. Notify the Emergency Department to activate the Stroke Code
6. Obtain ED room assignment
7. Patient will be transported immediately to assigned ED exam room via hospital bed accompanied by primary nurse, RRT nurse and the RLP activating the Stroke Code

Physician *TIME GOAL:* **Stroke Code initiated prior to arrival for patients that are identified in the field and meet inclusion criteria.**

Stroke code initiated < 5 minutes after arrival and patient headed to CT < 15 minutes

- Initial patient contact will occur in CT when EMS has been directed there
- Obtain history and review criteria for treatment
- Review initial info re: case with Neuro by phone if they are calling in and using video connection
- Order antihypertensive treatment if BP > 180 / 105
- Oversee that @ least 1 IV is started and blood drawn **before** patient leaves for CT **and** ensure 15 minute door to CT goal is achieved
- Perform NIH stroke scale in ER with Neuro via video or alone and finish it en route to CT

TIME GOAL: **Drug ordered < 20 minutes**

ER HUC *TIME GOAL:* **Door / notification to page out < 5 minutes**

- Overhead page the Stroke Code
- Alpha Page Stroke Code group with location of stroke code patient

TIME GOAL: **Telestroke unit connected < 10 minutes**

- Call United Hospital Telestroke **#651-241-8400 , specify request for Dr. Hanson's and Dr. Porth's service** to initiate telestroke. (Document time of calls). Provide information including patient name, hospital location, physician name(requesting provider), and ED call back number
- Initiate stroke code orders (labs, CT, CTA, EKG, NIH neuro checks / VS)
- Find family for consent and bring to patient room for history – especially if using telestroke
- Provide MRI Questionnaire to family to complete
- Fax the following to 651-241-5398
  1. Neuro fax cover sheet
  2. Demographics sheet
  3. Request for neuro consult
- Notify CT to make copy of scans if pt is being transferred
- Notify United Patient Placement center of patient transfer 651-241-8400 to obtain disposition

SAMPLE

RADIOLOGIST

- Radiologist reading CT will call CT reading to the on-call Stroke Neurologist

ER Nurse *TIME GOAL:* **VS, abbreviated NIHSS, monitor, O2 < 5 minutes & door to drug < 45 minutes**

- Transport and set up Telestroke Unit - Camera should be at foot of stretcher on side opposite nurse working on VS/starting IVs.
  - Connect the unit
  - Turn on the unit
  - Activate connection to Omnijoin Telestroke site
- Take stretcher from planned exam room and move it to CT and wait for patient arrival
- Cardiac monitor, O2, check vital signs, abbreviated NIHSS
- Finger stick glucose (if not done by EMS)
- Obtain or determine patient weight for tPA dosing

- Notify physician if BP > 180 / 105
- Obtain medication list and allergies
- Verify 2nd IV is started, if not completed prior to CT. Must have 2 IV sites prior to tPA administration.
- Administer antihypertensive treatment if needed (before or after CT)
- Remains available to provide status updates and lab results to stroke team.
- Ensure IV tPA is started and infusing in a timely matter when instructed to do so.
    - Verify order to administer
    - Verify drug mixing – 1 mg/ml
    - Verify drug dosage is weight appropriate (0.9 mg/kg) and total dose not > 90 mg
    - 10% of total dosage given as bolus and remainder infused over next 60 minutes and then flush line with 50 mL NS
- Perform NIH abbreviated neuro check every 15 minutes after IV tPA is started
- If not a candidate for IV tPA
    - Keep NPO until swallow evaluation has been completed
    - Perform bedside swallow evaluation and document results

ER / ICU Assisting Nurse ***TIME GOAL:*** **2 IVs < 15 minutes**

- Start IVs and ensure blood is drawn and sent for stroke code labs (if not done by EMS)
    - 2 functional IVs needed – with at least one 18-20 gauge
    - @ least one IV site prior to CT.
    - Verify 2nd IV is started upon return from CT (if not done prior)
- Accompany patient to CT
- Administer anti-hypertensives as ordered
- Monitor vital signs / NIH abbreviated neuro checks during imaging
- Upon returning from CT, provide to the Stroke Team with an update of the patient's vital signs / status
- Insert foley catheter if needed (either prior to tPA or no sooner than 30 min post infusion)
- Administer IV tPA when instructed to do so.
    - Verify order to administer
    - Verify drug mixing – 1 mg/ml
    - Verify drug dosage is weight appropriate (0.9 mg/kg) and total dose not > 90 mg
    - 10% of total dosage given as bolus and remainder infused over next 60 minutes and then flush line with 50 mL NS
- Perform abbreviated NIHSS every 15 minutes after tPA given
- Keep NPO if given IV tPA
- If transfer planned, assist as needed.

Phlebotomist ***TIME GOAL:*** **Creatinine resulted < 45 minutes**

- Draw 2 green top tubes, 1 blue top, 1 purple top and 1 red top tubes
- Notify the lab and immediately send tubes of blood to the lab

SAMPLE

EKG personnel

- Complete EKG once patient has returned from CT

CT Tech ***TIME GOAL:*** **CT without contrast completed < 20 minutes**

- Clear table for stroke alert patient
- Perform CT
- Load results to PACS and send for stat read
- Enter Name and telephone number of Neurologist into system for Radiologist to call result
- Perform CTA (if ordered, must have one 18-20G IV, no dye allergy, renal status cleared)

Rad Tech

- Obtain Portable chest xray immediately after Head CT, while patient is still in CT.

Pharmacist ***TIME GOAL:*** **Drug calculation done – ready to mix tPA < 10 minutes**

- Deliver Stroke Code Kit to code site
- Ensure the patients weight, real or estimated, has been entered in the EMR
- Complete calculation for mixing drug. ***Reminder:*** 1 mg/ml
- Await order from MD – tPA will be mixed in the Emergency Department.
    - Hand off tPA to nurse caring for patient when order to administer is verified

Neurologist ***TIME GOAL:*** **To ER via video < 10 minutes & door to drug ≤ 30 minutes**

- Call ER to confirm page received and get initial info (patient name and record number if known).
    - Let staff know connecting via Telestroke.
    - For **stroke codes,** ask staff to set up connection.
- Connect to Omnijoin
- Perform NIHSS while patient is getting IV started if they are still in ER or when back from CT
- Take history from family and ER physician if patient is in CT
- Look at CT remotely with PACS
- Receive Radiologist CT reading
- Communicate CT results to ED MD
- Discuss case with physician and order the tPA
- Look at CTA when able
- Start or finish NIHSS when patient returns to ED or ICU (if in-house stroke alert)
- Pull together all data for final review – history, exam, labs, BP
- If treatment appropriate – tell nurse to initiate bolus and infusion as soon as you can and/or start discussion with interventional neuroradiology if needed

DOCUMENTATION REMINDERS

The Stroke Code Treatment Record provides dual purpose and is essential to the review process

- Audit tool
- Worksheet / transfer record

PHONE LIST - commonly used phone numbers during Stroke Alert

Admitting: 7550
CT Scan: 6208
EMS Dispatch: 6512
ER: 7555
Lab: 7500
Pharmacy: 6811
X-ray Main: 7660

Telemedicine Allina Network: 651-241-8400
United Patient Placement Center 651-241-8400
Fax United ER: 651-241-5398

SAMPLE

Modified Rankin Scale

MODIFIED Patient Name: _____

RANKIN Rater Name: _____

SCALE (MRS) Date: _____

Score	Description
0	No symptoms at all
1	No significant disability despite symptoms; able to carry out all usual duties and activities
2	Slight disability; unable to carry out all previous activities, but able to look after own affairs without assistance
3	Moderate disability; requiring some help, but able to walk without assistance
4	Moderately severe disability; unable to walk without assistance and unable to attend to own bodily needs without assistance
5	Severe disability; bedridden, incontinent and requiring constant nursing care and attention
6	Dead

TOTAL (0–6): _____

References
Rankin J. “Cerebral vascular accidents in patients over the age of 60.”

This is an example of the data you will be required to submit on each stroke patient that you care for. Idaho state law requires every hospital to participate in the TSE Registry, regardless of whether or not they are a designated center.

Idaho TSE Registry—Stroke Data	
TSE Band #	
Time 911 called	
Time of EMS arrival on scene	
Time of EMS departure from scene	
Mode of arrival	
Pre-arrival notification time	
Time of arrival at ED	
Time seen by physician	
Last know well time	
Cincinnati stroke scale	
Admission Time and score of NIH/Rankin	
Time of head CT	
Time TPA given	
If TPA not given, exclusion criteria	
If transferred, door-in-door-out times	
Discharge Time and score of NIH/Rankin	
Discharge disposition	

For reference only