

Orientation & Annual Review

Physicians & Extenders

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Orientation Guide

- This comprehensive information packet contains key information to review for physicians and extenders
- Once you have reviewed the packet, print and sign the *Physician Orientation and Annual Safety* signature form and return to the Medical Staff Services Office

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Topics

| | |
|--|--|
| Mission, Vision and Values | Electrical Safety |
| Compliance and Code of Business Ethics | Bloodborne Pathogens |
| Abuse & Neglect | TB |
| NC Physicians Health Program | Infection Prevention |
| Restraints | Seasonal Flu Vaccine Update |
| HIPAA | Injection Safety Guidelines |
| Patient Safety & Quality of Care | National Patient Safety Goals |
| Fire Safety | Antimicrobial Stewardship |
| Emergency Management | EMTALA |
| Pain Management | Stroke Program – Primary Stroke Center |
| Radiation, MRI, Laser Safety | |
| Hospital Security | |

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Choose Well. Choose Northern.

MISSION

**To provide access to quality, affordable
healthcare**

VISION

**To be the healthcare system of choice
for the community**

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VALUES

**Trust
Quality
Customer Service
Compassion
Commitment
Fiscal Responsibility**

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**Compliance & Code of Business
Ethics**

Abuse & Neglect

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Standards of Conduct & Corporate Compliance

- Our hospital maintains a high standard of legal and ethical behavior. Our values form the foundation of the service that is rendered by employees, physicians, volunteers and contractors.
- Compliance means that we abide by federal and state laws and standards with an emphasis on preventing fraud and abuse.
- Compliance means we have a responsibility to report any behavior that may be considered illegal or unethical.

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Federal False Claims Act

The Federal False Claims Act establishes liability for any person who knowingly presents or causes to be presented a false or fraudulent claim to the U.S. government for payment.

Claims for payment must be made only for services that were actually rendered, were medically necessary and were appropriate for the patient's condition.

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Qui Tam “Whistleblower” Provisions

Qui tam “relators” may file a report directly with the Office of the Inspector General (OIG) about false claims or alleged false claims that they have actual knowledge of.

The “Whistleblower” provision allows these individuals to file a lawsuit on behalf of the U.S. Government.

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Reporting of Alleged Abuse and/or Neglect of Vulnerable Populations

- Caregivers are legally required to report to authorities any cases of suspected abuse or neglect of certain patients that are considered part of a vulnerable population
- They include, but may not be limited to children, the elderly, handicapped and/or mentally incapacitated individuals.
- If you are concerned about a patient, notify the supervisor or department manager, and refer to the appropriate hospital policy/procedure.

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ELECTRONIC COMMUNICATIONS

Northern Regional Hospital has electronic communications and documentation systems for use by the staff in order to increase efficient completion of work-related assignments. These systems are to be used only for company business-related purposes. E-mail, voicemail, internet access, computer files and other electronic communications are company business.

Northern Regional Hospital may disclose any and all content of electronic communications that are properly obtained for legitimate business purposes without the permission of the employee(s) who generated the communications.

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EMTALA: Emergency Medical Treatment and Labor Act: Admissions, Emergency Treatment and Transfers

All patients are accepted for care and receive a medical screening exam. (EMTALA regulations: Medical Screening Exam)

Emergency medical treatment is provided regardless of the ability to pay. Treatment is not be delayed in order to obtain financial information.

Patients are only transferred to another facility if their needs cannot be met at Northern Regional Hospital, or based on specific patient request.

Patients are transferred only after stabilized, risks and benefits have been explained, the receiving facility has accepted the patient and the patient has agreed to be transferred.

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YOUR RESOURCES

If you are concerned about a possible ethics or compliance violation, possible fraudulent activity or a human resources issue that needs to be reported anonymously, you should:

- Contact the **Compliance Officer (336-719-7400)**.
- Call the **Employee Hotline (1-844-970-0002)**, available 24 hours a day, toll-free, anonymous and confidential.
- Refer to the appropriate **policies and procedures** for additional detailed information.

- Refer to the appropriate **policies and procedures**.
- Speak with your immediate **Supervisor or Department Head**.
- Contact **Administration (336-719-7100)**.

If your question or concern does NOT require anonymous reporting, you should:

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North Carolina Physicians Health Program (NCPHP)

[NCPHP | North Carolina Physicians Health Program \(NCPHP\)](#)

The North Carolina Professionals Health Program (NCPHP) – Encouraging the well-being and recovery of medical professionals through compassion, support and accountability.

Our experienced team assists health care providers with substance use disorders, mental health issues, burnout, communication problems and other issues that may affect their ability to deliver optimal care and services to their patients. Our expert evaluation, monitoring, and treatment referral programs also provide the basis upon which we advocate for participants to their employers, partners, hospitals, insurance panels, and licensing boards.

CONTACT THE NORTH CAROLINA PROFESSIONALS HEALTH PROGRAM

Contact us today to [make a referral](#), for more information about program services, or to learn more about our [Speakers Bureau](#).

North Carolina Professionals Health Program

220 Horizon Drive
Suite 201
Raleigh, NC 27615-4928

Email info@ncphp.org

Call (919) 870-4480

Fax (919) 870-4484

Confidentiality Statement:

Due to the sensitive nature of our work and for reasons of strict confidentiality concerning our participants, we can neither confirm nor deny any individual is or is not a participant with NCPHP unless we are given explicit permission by the participant to do so in advance of any inquiries.

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Restraints

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CMS Regulations Regarding Restraint or Seclusion

Public Health Concerns

- Increased risk of morbidity/mortality for all patients who have been restrained. Research has documented that physically restrained patients are more likely to die even though death was not directly related to restraint use.
- At a minimum, physicians who order restraint or seclusion must have a working knowledge of hospital policy regarding use of restraint or seclusion.

Restraints are renamed by CMS

- Non-Violent or Non-Self-Destructive Restraint (formerly Medical-Surgical Restraints)
- Violent or Self-Destructive Restraint or Seclusion (formerly Behavioral Restraints)

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CMS Regulations Regarding Restraint or Seclusion

- The hospital uses restraint or seclusion only when it can be clinically justified or when warranted by patient behavior that threatens the physical safety of the patient, staff, or others.
- The hospital does not use restraint or seclusion as a means of coercion, discipline, convenience, or staff retaliation.
- The hospital uses restraint or seclusion only when less restrictive interventions are ineffective.
- The hospital uses the least restrictive form of restraint or seclusion that protects the physical safety of the patient, staff, or others.
- The hospital discontinues restraint or seclusion at the earliest possible time, regardless of the scheduled expiration of the order.

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CMS Regulations Regarding Restraint or Seclusion

- The order for restraint must be given by a Physician. If restraint is initiated based on the immediate need for patient safety in the non-violent patient, the attending physician is to be informed as soon as possible that the intervention has been initiated. The nurse will document an order for restraint.
- The restraint order is NEVER written as a standing order or on an "as needed" (PRN) basis. Nursing staff will not accept any order for restraint that is PRN or "as needed". If an order of this type is written, the nurse will contact the physician for clarification and correction to the order.
- In the event restraints are discontinued or there is a "trial out of restraint", a new order must be obtained to reapply restraints.
- Restraint orders for the nonviolent or non-self-destructive patient are renewed each calendar day (meaning a new order for restraint is obtained and signed by the physician).

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CMS Regulations Regarding Restraint or Seclusion

Violent or Self-Destructive Restraint or Seclusion

- The order for restraint must be given by a Physician. If restraint is initiated by the nurse based on the immediate need, the attending physician is to be informed immediately to see the patient within one hour. The nurse will document an order for restraint.
- **The physician must do an in-person evaluation of the patient within one hour of the initiation of restraint or seclusion**

Refer to the hospital Policy and Procedure Manager for further details on the policy for Restraints

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Restraint Quick Guide

| MEDICAL RESTRAINTS | BEHAVIORAL RESTRAINT | RESTRAINT CHAIR |
|---|---|--|
| <ul style="list-style-type: none"> • MUST be ordered by MD • Ordered in Meditech AND paper form "Non-violent Non-self destructive Patient" • MD must see patient within 24 hours. • Order to be renewed each calendar day. • May be soft limb restraints, posey vest • Restraints must be indicated due to patient receiving medical treatment. ie. Pulling out IV lines, ETT • Discontinue at the EARLIEST time possible. • Always assess alternatives to restraints <p>MONITORING:</p> <ul style="list-style-type: none"> • Patient Assessment is at a minimum of every 4 hours. Nurse to document in Medical restraint assessment intervention. | <ul style="list-style-type: none"> • MUST be ordered by MD • Requires ordering in Meditech AND paper form "Management of Violent or Self Destructive Behavior" • MD MUST DOCUMENT AN IN PERSON EXAM WITHIN 1 HOUR OF PATIENT RESTRAINT. • Behavior Restraint may be limb restraints or seclusion (door locked) • Order to be renewed with the following limits: <ul style="list-style-type: none"> > 4 hours for 18 and older > 2 hours for 9-17 years > 1 hour for < 9 years • EVERY 24 HOURS AN MD MUST DO A FACE TO FACE EVALUATION BEFORE WRITING A NEW ORDER. • Discontinue at the earliest time possible. • Always assess alternatives to restraints <p>MONITORING:</p> <ul style="list-style-type: none"> • Patient will be under continuous observation with sitter documenting every 15 minutes. • RN will document assessment minimum of every 4 hours under Behavioral Restraint assessment intervention. | <ul style="list-style-type: none"> • MUST be ordered by MD • Requires ordering in Meditech AND specific paper "Restraint Chair Order Form" • ED MD MUST DOCUMENT AN IN PERSON EXAM WITHIN 1 HOUR OF PT BEING PLACED IN CHAIR. • Order is limited to the following times: <ul style="list-style-type: none"> > 2 hours for 18 and older > 1 hour for under 18 • Discontinue at the earliest time possible. • Patient should NEVER be in the chair for more than 2 hours at a time. • Always assess alternatives to restraints. <p>MONITORING:</p> <ul style="list-style-type: none"> • Pt must be monitored CONTINUOUSLY by sitter, and every hour by the RN in the Behavioral Restraint assessment intervention. |

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Patient Confidentiality

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Patient Confidentiality

Patient privacy is everyone's concern.

- It is a basic part of patient care and a Patient Right. Protected Health Information (PHI) must be kept confidential whether it is in written, spoken or electronic form.

Reminders:

- Only access patient information for your patients. If you are not involved in the care of a patient, do not access the medical information in any format. (Paper, electronic, lab or x-rays results).
- Do not ask a hospital staff member to retrieve information on a patient not assigned to you.
- You must not access the medical information of family members or friends without **written permission from the patient**. This includes the records of spouses and children. You may not access your own medical information without requesting through Medical Records.
- Be a **patient advocate** and make others aware that conversations are being overheard.

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HIPAA

The HIPAA Privacy Rule is part of a larger federal rule called the Health Insurance Portability and Accountability Act (HIPAA).

This act is designed to protect the privacy of health information.

The act requires compliance with strict regulations regarding the management of medical information in the following areas:

- Coding
- Electronic medical records
- Patient privacy
- Reimbursement

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Protected Health Information (PHI)

Protected Health Information (PHI). PHI is information that can identify a patient. This information includes:

- Name
- Date of birth
- Address, phone number, fax number, and e-mail address
- Names of relatives
- Photographs
- Medical record numbers or health information, such as history and laboratory or radiology results

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Patient Confidentiality

Reminders:

- Be aware of where you hold conversations when sharing appropriate Protected Health Information. Avoid areas where your discussion may be overheard by staff and/or visitors.
- Speak in a quiet voice when discussing information about a patient when others may overhear.
- Don't give your computer password to anyone and do not use another person's password. If you feel a password has become known, notify Information Systems at 336-719-7188 or by email through the IS Work Order System. Change or request a new password if needed.
- If you see any misuse of Protected Health Information, breach of patient confidentiality, or if you identify a process that needs to be improved regarding confidentiality, please report it to Lynn Farmer, Director of Health Information Management

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Patient Safety & Quality of Care

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Patient Rights

- Every patient has rights.
- Laws regarding patient rights have been passed by the United States government, many state governments, and professional organizations.

Northern Regional Hospital recognizes the basic rights of human beings for expression, decision and action, as well as the individual's concern for personal dignity and human relationships.



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Patients Have the Right to:

- Access to Care
- Be free from discrimination
- Designate a representative for decision making
- Respect and Dignity
- Privacy and Confidentiality
- Personal Safety
- Know identity/credentials of all personnel involved in care
- Information
- Communication
- Consent
- Consultation
- Refusal of Treatment
- Ethical issues / care of the dying
- Transfer
- Continuity of Care
- Explanation of hospital charges
- Express complaints / concerns
- Exercise cultural and spiritual beliefs
- Formulate Advanced Directives
- Be free from verbal or physical abuse or harrassment
- Be free from seclusion and restraint
- Notification of admission
- Pain management
- Visitation

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Age and Cultural Diversity

- We strive to care for our patients with knowledge of age specific and/or cultural needs.
- Age-Specific competencies support care for the individual at every stage of life. A key part is learning to recognize each patient's needs and abilities due to age.
- Cultural diversity is the differences in race, ethnicity, language, nationality, or religion among various groups within a community, organization, or nation. Differences make each person unique.

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Patient Safety & Quality of Care

If you have concerns about patient safety or the quality of care given to any patient within our facilities, the options for notification are:

- Hospital Administrator
- Vice President, Patient Care Services
- Director of Safety and Security
- Director of Quality Management
- Compliance and Risk Manager

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SAFETY

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Safety Inspections

At Northern Regional Hospital every area is surveyed every 6 months by Safety Officers

After the inspection a yellow copy is sent to the area manager describing all deficiencies identified

Each deficiency is to be corrected and documented and an the correction returned to the Director of Safety/Security.

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Fire Safety

- Fire drills are conducted regularly at this facility, as part of the fire response plan.
- Never ignore a fire alarm or warning signal



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**NORTHERN HOSPITAL OF SURRY COUNTY
FIRE PROCEDURE**
REPORT ALL EMERGENCIES BY DIALING "5000"

R RESCUE ANYONE IN IMMEDIATE DANGER

A **ALARM**
PULL THE NEAREST FIRE ALARM STATION, DIAL 5000 AND REPORT FIRE, GIVING AS MUCH LOCATION INFORMATION AS POSSIBLE.

C **CONFINE** - CONTAIN THE FIRE BY CLOSING DOORS

E **EXTINGUISH/ EVACUATE** - PERFORM THE P.A.S.S. PROCEDURE USING THE NEAREST FIRE EXTINGUISHER TO PUT OUT THE FIRE IF CONTAINED TO A SMALL AREA AND YOU ARE NOT IN DANGER. EVACUATE IF TOO LARGE OR UNSAFE TO EXTINGUISH.

PULL
AIM
SQUEEZE
SWEEP

PULL THE PIN
AIM at the base of the fire
Squeeze the handle
SWEEP from side to side

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Evacuation

- Clinical and Non-Clinical staff will be responsible for assisting the evacuation all patients and visitors within their areas.
- A pillow, towel, or bed linen should be placed on the outside of each door near the bottom to indicate the room has been cleared and no occupants are inside the room.
- NOTE: Check all waiting areas and corridors. Patients and visitors may not be familiar with Northern Regional Hospital's evacuation plan and rely on the staff to instruct them on "what to do".

NO ONE WILL BE ALLOWED TO RE-ENTER THE BUILDING UNTIL THE ALL CLEAR SIGN IS GIVEN.

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Evacuation Sled in Action



Step 1: Patient Prep Step



2: Lower to Floor Step



3: Drag to Stairwell



4: Stairwell Descent



- Simple and easy to deploy
- Sled is 100% assembled for vertical and horizontal evacuation
- Specially designed stairwell braking system allows for safe and controlled descent
- No lifting - uses roll and drag method
- Allows staff to transport patients 2 – 3 times their own weight

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Emergency Management

EMERGENCY CODES
REPORT ALL EMERGENCIES BY DIALING "5000"
Give as much detail as possible when reporting!

- RED ALERT** Fire and/or smoke detected
 1. Remove anyone in danger
 2. Alarm – set off alarm, dial 5000 and report
 3. Contain the area – close doors
 4. Extinguish – use PASS protocol/Evacuate (see Evacuation Alert)
- EVACUATION ALERT** Situation requiring area/facility evacuation
 - Level 1 – lateral shifting of patients on same floor/level
 - Level 2 – total evacuation of floor/level
 - Level 3 – total evacuation of entire facility
- CODE PINK** Any missing person (infant, child, adult, senior)
 1. Specific information posted overhead
 2. Report any information to extension 5000 or via radio
 3. Monitor corridors, exits, waiting rooms, restrooms
 4. Wait for all-clear before leaving station.
- CODE BLUE/CODE 8** Cardiac or respiratory arrest
 - Code Blue = Adult Code 8 = Pediatric
 - Provide appropriate intervention
 - Rapid Response Team will respond to area per overhead page
- CODE STROKE** Any person exhibiting stroke symptoms
 - Follow training and protocol – use F-A-S-T assessment
 - Dial 5000 internally, dial 911 externally outside hospital facility.
- CODE ORANGE** Violent or aggressive individual
 - Respond according to training and protocol. Provide appropriate intervention
 - Threats not providing assistance, avoid location
- CODE PURPLE** Tornado or other severe weather
 - Secure all patients and visitors in hallways and away from windows
 - Encourage all persons to stay inside facility in a safe location until code is cleared
- CODE WHITE** Individual with weapon and/or hostage
 - If possible, follow Level 2 evacuation
 - Avoid the location of incident and keep all persons in a safe and secured location
 - If possible, provide any relevant information about situation to ext. 5000
- CODE GREEN** Internal disaster
 - Respond according to your department's disaster plan
 - Hospital incident command may or may not be activated depending on level of incident (Staging area will be new Education Center Computer Lab)
- CODE TRIAGE** External disaster
 - Respond according to your department's disaster plan
 - Hospital incident command may or may not be activated depending on level of incident (Staging area will be new Education Center Computer Lab)
- CODE BLACK** Bomb Threat
 1. Keep caller on the line
 2. Listen for background sounds
 3. Ask questions – who are you angry with, etc.
 4. Call 911/5000 as soon as caller hangs up and report everything.

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Hazardous Communication Safety Data Sheets

- Hundreds of different chemicals are used daily in healthcare settings. In the event you have a question or a problem with any chemical, the information you need is available on the SDS for that particular product. It contains details about the hazards, possible exposure mechanisms, symptoms of exposure and remediation action to take if you are exposed.
- To instantly access SDS Information:
 - Open "MSDS Online" program from any computer on the Intranet
 - Perform search for product

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Pain Management

- Pain will be assessed on all patients by appropriate care providers.
- The goal of pain management is to relieve the physical and psychosocial symptoms associated with pain while maintaining the patient's level of function.
- Effective pain management reduces the incidence and severity of the patient's acute postoperative or posttraumatic pain, contributes to fewer postoperative complications and is linked to overall quality of life for all patients.
- The single most reliable indicator of the existence and intensity of pain is the individual's self report.

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Pain Management

- Mild pain is considered pain on a scale of 1-4. Moderate pain is considered pain on a scale of 5-7; and severe pain is considered pain on a scale of 8-10.
- Treatment strategies for pain may include pharmacologic and non-pharmacologic approaches. Strategies should reflect a patient-centered approach and consider the patient's current presentation, the health care providers' clinical judgment, and the risks and benefits associated with the strategies, including the potential risk of dependency, addiction, and abuse
- All patients will receive a reassessment of their pain utilizing the appropriate pain scale based on their developmental age

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Pain Management

- All patients will be informed of their right to appropriate assessment and management of pain
- A more comprehensive assessment is performed when warranted by the patient's condition including character, frequency, location, intensity, and duration
- A pain scale of 0-10 will be utilized to assess and measure pain intensity and quality. Other validated tools, as outlined above, will be utilized as appropriate to meet individual patient needs
- Patients should be reassessed within 1 hour of analgesic administration for pain.

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Radiation, MRI, and Laser Safety

The Joint Commission and the Centers for Medicare & Medicaid Services (CMS) require that health care facilities manage radiation and magnetic resonance imaging (MRI) safety risks. The Occupational Safety and Health Administration (OSHA) and other governmental groups also require staff training. All employees have important roles in preventing radiation exposure and maintaining a safe environment.

This course is designed for workers whose jobs include at least periodic work in areas where radioactive materials used for medical purposes are stored, shipped, or used. Workers entering or working in these areas must have a basic understanding of radiation safety as it relates to medical facilities.

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Radiation, MRI, and Laser Safety

Diagnostic radiation, **which includes fluoroscopy**, is an effective tool that can save lives. The higher the dose of radiation delivered at any one time, however, the greater the risk for long-term damage. If a patient receives repeated doses, harm can also occur as the cumulative effect of those multiple doses over time. Conversely, using insufficient radiation may increase the risk of misdiagnosis, delayed treatment, or, if the initial test is inadequate, repeat testing with the attendant exposure to even more radiation. The risks associated with the use of ionizing radiation in diagnostic imaging include cancer, burns and other injuries. X-rays are officially classified as a carcinogen by the World Health Organization's International Agency for Research on Cancer, the Agency for Toxic Substances and Disease Registry of the Centers for Disease Control and Prevention, and the National Institute of Environmental Health Sciences.

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Radiation, MRI, and Laser Safety

- Over the past two decades, the U.S. population's total exposure to ionizing radiation has nearly doubled.⁸ Diagnostic imaging **and fluoroscopy services** can be provided in hospitals, imaging centers, physician and dental offices, and practitioners can order tests **and procedures** that involve exposure to radiation, with no knowledge of when the patient was last irradiated or how much radiation the patient **had previously** received.
- From the **74** million CT (computerized tomography) scans performed in the U.S. during **2017**, it has been estimated that 29,000 future cancers and 14,500 future deaths could develop due to radiation (cancer incidence = 0.04 percent).⁹ Another study estimates the incidence of cancer related to CT radiation at 0.02 to 0.04 percent.¹⁰
- While these studies' conclusions rely upon some currently unverified scientific assumptions – namely, a linear relationship between radiation dose and risk even at very low exposures – they do highlight the need to maintain radiation doses as low as reasonably achievable when obtaining needed diagnostic information **and performing fluoroscopic procedures**.

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Radiation, MRI, and Laser Safety

While experts disagree on the extent of the risks of cancer from diagnostic imaging, there is agreement that care should be taken to weigh the medical necessity of a given level of radiation exposure against the risks, and that steps should be taken to eliminate avoidable exposure to radiation.⁷ Patients most prone to harm from diagnostic radiation are children and young adults;¹¹ pregnant women;¹² individuals with medical conditions sensitive to radiation, such as diabetes mellitus and hyperthyroidism;⁸ and individuals receiving multiple doses over time.²

The diagnostic procedures most commonly associated with avoidable radiation doses are CT, nuclear medicine and fluoroscopy.¹³

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Radiation, MRI, and Laser Safety

As a result of the **risks and** potential dangers associated with ionizing radiation, the Centers for Medicare & Medicaid Services (CMS) began requiring the accreditation of facilities providing advanced imaging services (CT, magnetic resonance imaging (MRI), positron emission tomography (PET), nuclear medicine) in non-hospital, freestanding settings, in 2012.

Additional standards changes were made in 2015 to further address risks related to these imaging modalities. And as of January 1, 2019, several new and revised Joint Commission requirements focused on risks related to fluoroscopy became effective.

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Radiation, MRI, and Laser Safety

Step Lightly Checklist

Review steps below before starting the procedure.

Safety is a team effort: don't be afraid to ask the necessary questions to ensure you are working as a team to keep radiation dose to patients and staff as low as possible

Reducing radiation dose must be balanced with safe, accurate and effective completion of the procedure. Not all the steps may be possible in each case, depending on patient size, technical challenge and critical nature of the procedure. Overall patient safety is most important. The goal is to minimize the dose

- Ask patient or family about previous radiation (a medical imaging [record card](http://www.imagegently.org) is available at www.imagegently.org)
- Answer questions about radiation safety (a [brochure for parents](http://www.imagegently.org) is available at www.imagegently.org)
- Use ultrasound when possible
- Position hanging table shields and overhead lead shields prior to procedure with reminders during the case as needed to the patient while providing important and necessary medical care.

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Radiation, MRI, and Laser Safety

Step Lightly Checklist

- Operators and personnel wear well fitted lead aprons, thyroid shield and leaded eye wear
- Use pulse rather than continuous fluoroscopy when possible, and with as low a pulse as possible
- Position and collimate with fluoroscopy off, tapping on the pedal to check position
- Collimate tightly. Exclude eyes, thyroid, breast, gonads when possible
- Operator and personnel hands out of beam
- Step lightly: tap on pedal and review anatomy on last image hold rather than with live fluoroscopy when possible; minimize live fluoroscopy time
- Minimize use of electronic magnification; use digital zoom whenever possible
- Acknowledge fluoroscopy timing alerts during procedure
- Use last image hold whenever possible instead of exposures
- Adjust acquisition parameters to achieve lowest dose necessary to accomplish procedure: use lowest dose protocol possible for patient size, lower frame rate, minimize magnification, reduce length of run

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Radiation, MRI, and Laser Safety

Step Lightly Checklist

- Plan and communicate number and timing of acquisitions, contrast parameters, patient positioning and suspension of respiration with radiology and sedation team in advance to minimize improper or unneeded runs
- Move table away from X-ray tube in both planes. Move patient as close to detector in both planes
- Use power injector or extension tubing if hand injecting
- Move personnel away from table or behind protective shields during acquisitions
- Minimize overlap of fields on subsequent acquisitions
- Patient shielding is not routinely recommended as collimation is the best method of reducing extraneous dose and there is some thought that shielding may actually increase internal backscatter. However, the evidence is not clear and therefore if the family requests shielding, it may be used
- After procedure: record and review dose

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Radiation, MRI, and Laser Safety

Safety Precautions Related to the Use of Radiation

Distance and shielding are two techniques used by health care facilities to reduce the amount of radiation to which workers are exposed. Maximizing the distance between the source and the worker decreases exposure significantly. Modern x-ray tubes are designed to provide shielding from radiation.

Physicians, nurses, and technologists involved in special procedures (e.g., cardiac catheterization) work in close proximity to a continually operating x-ray tube. They wear protective aprons and portable shields to reduce exposure 20- to 100-fold.

These employees also wear personal radiation-monitoring devices, called dosimeters, outside their clothes to record the amount of radiation to which they are exposed. Dosimeter badges are fragile and are affected by temperature, humidity, and chemicals. If you believe the equipment may be damaged, you should immediately report it to the radiation safety office.

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Radiation, MRI, and Laser Safety

The amount of biological and physical damage from radiation exposure is measured in rems.

Many occupational doses are so small that they are generally measured in millirems. A millirem (mrem) is 1/1,000 of a rem. By using mrems, exposures can be measured in whole numbers rather than fractions.

In 1 year, the average health care worker's exposure is less than 0.15 rem.

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Radiation, MRI, and Laser Safety

Watch for other potential sources of ionizing radiation, including radioactive materials that may be injected, ingested, or inhaled for an individual patient treatment.

Radioactive materials may be used to locate a tumor or to assess organ function. These radiopharmaceuticals, or radioactive drugs, are a source of ionizing radiation. Careful control is exercised for the small amounts of radioactive tracers used in some laboratories.

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Radiation, MRI, and Laser Safety

There are 2 situations when a patient may become, in a sense, radioactive source:

When a patient has a radioactive implant, radioactive material is placed near the tumor being treated for a specific number of days. The patient is a source of radiation to everyone, including the attending medical staff

When radiopharmaceuticals (radioactive drugs) are used to treat disease, the patient is a source of radiation while the medications is in his or her system.

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Hospital Security

EMERGENCIES

For all in-hospital emergencies **Dial 5000**

Call Boxes are placed in parking areas and can be used to call for help

ROUTINE

- All routine needs for Security call Extension **5159**
- Or you may Dial **"0"**

***Off Site Facilities must dial 911 for all Emergencies**

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Emergency Call Boxes

- Press the RED Button for any EMERGENCY
- The call is relayed to Security via handheld radios with your specific location
- Security will respond immediately
- Two-way communications between Security and the Caller can be exchanged



RED BUTTON

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Employee / Vendor Identification

- **All employees are required to wear a hospital name badge at all times while working**
- **Name badges should always be secured when not in use. They are your key to restricted areas and you are responsible for your badge**
- **All Vendors / Salespersons are required to display a vendor ID pass**

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Visitor Identification

- All over night visitors are required to display a visitor pass. Visitors should contact the nursing station on the floor of their respective patient to obtain an overnight visitor pass.
- All visitors in the treatment area of the ED are required to display a visitor ID pass

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Suspicious Persons

- You may ask “May I help you”
- They should have a legitimate reason for being here.
- If they are here to visit a patient, ask what the patients name is and their relationship to the patient.
- Escort and deliver to the person / location and verify with the other party.
- If you encounter a suspicious person, contact security immediately giving the following information
 - suspect description
 - exact location of the suspect

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Building Lockdown

- Northern Regional Hospital is locked down nightly between 9pm and 6am (except ED Waiting area)
- Anyone inside the building during nightly lockdown, without ID, should be confronted to verify the reason of their presence – **contact security immediately if any suspicion exists.**
- Visitors of employees are discouraged at all times

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Emergency Management

The Northern Regional Hospital plan follows the NIMS (National Incident Management System) and ICS (Incident Command System) structures. In large scale/community wide events our Incident Command Center (Lockhart Conference Room) may be activated with an appointed Incident Commander and other section chiefs per the ICS structure.

In the event the county EOC (Emergency Operations Center) is activated, someone from Northern Regional Hospital will be assigned to represent the hospital in the county EOC, also known as Unified Command.

Planning starts with a Hazard Vulnerability Analysis that is completed annually in collaboration with Surry County Emergency Management to identify what hazards (disasters) represent vulnerability for our area and organization along with our capabilities.

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Emergency Management

Northern Regional Hospital staff actively participates in our LEPC (Local Emergency Planning Committee) as well as the THPC (Triad Healthcare Preparedness Coalition) and TRAC (Triad Regional Advisory Committee) which includes the following eighteen counties: Alexander, Alleghany, Ashe, Caldwell, Catawba, Davidson, Davie, Forsyth, Guilford, Iredell, Randolph, Rockingham, Rowan, Stokes, Surry, Watauga, Wilkes, and Yadkin.

Medical Staff Should be familiar with the various codes used for the different events specific to Northern Regional Hospital

- Code Triage – Disaster plan in effect due to a potential influx of patients
- Code Green – an internal disaster involving injuries or infrastructure damage
- Code Purple – Tornado warning has been issued for Surry County
- Code Pink – a missing patient or patient abduction (such as infant abduction)
- Code White – a hostage or weapon situation
- Code Yellow – a radiation event
- Code Orange – a violent or aggressive individual/combative patient
- Red Alert – a fire emergency
- Code Blue – Cardiac Arrest
- Code Stroke – Potential Stroke Patient

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Emergency Management

Policies are also in place for bomb threats, hazardous material injuries and decontamination, bioterrorism, lock down procedures, active shooter and evacuation.

Medical Staff:

- Should respond to the organization if notified of plan activation for assistance
- Unless specifically directed to report to the Emergency Department, should report to the Staff Staging area (Education Classroom) to check in and report availability
- Should wear name badge or visible identification
- Should be prepared to expedite any discharges; triage patients off telemetry
- Understand that disaster activity takes priority over any scheduled patient activity and services (i.e. lab or radiology services, scheduled surgeries, etc)

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Emergency Management

Our EOP contains provisions to grant emergency/disaster privileges to volunteer LIPs and nurses, along with mutual aid agreements to help ensure the continuity of care for our patients and the delivery of necessary resources.

Northern Regional Hospital is one of the designated sites in NC to house a stockpile of pharmaceuticals (ChemPak) through the CDC

The Fast Track area is designated as an ED over-flow area to use in the provision of patient care or secondary triage

In the event patient traffic needs to be deferred away from the main hospital campus, Surry Surgical has been designated as an alternative triage operation site. SS physicians may be asked to assist as needed in triage and disposition of patients

Mount Airy High School gymnasium has been designated as an Alternative Care Facility (ACF) for Northern Regional Hospital, mainly in the event such as a wide-spread pandemic requiring an off-site isolation facility. A plan is in place to potentially house 50 patients at an ACF. Surry County Emergency Management has additional locations for ACF's and resources which may be requested through the EOC.

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Nonsmoking Policies in Health Care Facilities



- The use of cigarettes and all tobacco products is prohibited on any of Northern Regional Hospital's campuses.
- This includes all buildings, parking lots and parking areas, roadways, and sidewalks that run through and /or surround any Northern Regional Hospital campus or property.
- The use of cigarettes and all tobacco products is also prohibited in all hospital owned vehicles or any vehicle on all campuses.
- **Our policy applies to all persons, including employees, physicians, visitors, volunteers, contract workers, students, and tenants**

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Electrical Safety – Emergency Power

- Emergency power sources supply electricity for alarm systems, communication systems, exit route lighting, and exit sign lighting in this facility if the normal power supply is disrupted



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Power to Meet Essential Patient Services

The facility's emergency power must also maintain essential services when the normal power system is interrupted. These services include:

- Blood bank and tissue storage
- Emergency care and operating room
- Medical air and vacuum systems
- Life-support equipment
- Obstetrics
- Newborn nurseries

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Electrical Equipment Safety

- Use only electrical equipment that you have been trained to use.
- Keep electrical cords or connections away from water or other liquids.
- Do not operate electrical appliances inside an oxygen canopy.
- Plug only one piece of medical electronic equipment into each outlet.
- Do not use extension cords in this health care facility.
- Do not use adapters that convert three prongs to two prongs in health care facilities.
- Do not use personal appliances in health care facilities.

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Electrical Equipment Repair

- Immediately discontinue the use of the following and discontinue use of:
 - Electrical equipment that produces sparks
 - Hospital appliances with frayed or broken cords
 - Outlets that emit smoke or odor
 - Do not use damaged outlets until they have been repaired or replaced by a trained electrical worker.
- Only trained electrical workers should repair electrical equipment and outlets, using appropriate tools and wearing personal protective equipment.

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OSHA Lockout Procedure

- When a piece of electrical equipment requires repair, its power source must be turned off, and the equipment must be disconnected from the power source.
- The electrician uses a lockout device to prevent others from turning on the equipment or reconnecting the equipment to a power source; otherwise, workers doing repairs could be electrocuted



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OSHA Tagout Procedure

Once an electrician has disconnected equipment that needs to be repaired from its power source, he or she attaches a tag to the equipment, indicating to all employees that the equipment is under repair and should not be restarted under any circumstances.

The tag lists the date, the time, and the person locking out the equipment.

The tag is signed by the electrician and can be removed only by the electrician



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OSHA Bloodborne Pathogens Standard

Exposure Control of Tuberculosis

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OSHA

- Occupational Safety and Health Administration
- OSHA's purpose is to protect the employee or other individuals in a work setting from job-related harm.
- If you have questions about this material, or if you want a complete copy of the **Bloodborne Pathogens Standard and/or the Tuberculosis (Respiratory Protection) Control Plan Standard**, a copy of the hospital's **Exposure Control Plan for Bloodborne Pathogens, TB Control Plan, and/or HIBBE Protocol**, please call or email the Infection Control Practitioner (783-8151 or vvought@wearenorthern.org).

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Bloodborne Pathogen Standard

Includes the following 12 elements:

1. Standard Precautions

- a) Refers to a method of infection control in which all blood and body fluids are treated as if known to be infectious with HIV (Human Immunodeficiency Virus) and HBV (Hepatitis B) or HCV (Hepatitis C).
- b) All body fluids except for perspiration are included. Standard precautions must be practiced with all patients at all times.
- c) Standard precautions include hand hygiene according to CDC recommendations and wearing the necessary personal protective equipment (PPE) to protect your clothes and skin from becoming contaminated.

2. Engineering Controls

- a) Refers to primary protective safeguards to isolate or remove hazards from the worker.
- b) Safety needles and needleless devices are examples of engineering controls.

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Bloodborne Pathogen Standard

3. Work Practice Controls

- a) (Refers to alterations in the manner in which a task is performed to reduce the likelihood of exposure) Safe needle practices, such as never recapping needles, is an example of a work practice control
- b) Hand washing immediately after removing gloves or after unprotected exposure to blood or body fluids
- c) All PPE should be removed before leaving the work area or patient room and should be placed in the designated container
- d) Specimens must be placed in a container that prevents leakage during collection, handling, processing, storage, transport, or shipping.
- e) All procedures that are performed must be done in such a manner as to minimize splashing and spraying
- f) Eating, drinking, applying cosmetics or lip balm is prohibited in work areas where there is a reasonable chance of exposure

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Bloodborne Pathogen Standard

4. **Personal Protective Equipment (PPE):**
 - a) Defined as specialized clothing or equipment used by workers to protect themselves from direct exposure to blood or other potentially infectious material.
 - b) Select type of PPE needed based on the procedure you are doing to avoid exposure.
 - c) Disposable gloves are to be replaced when visibly soiled, torn, or punctured, and are not to be washed or disinfected for reuse
5. **HBV Vaccination program**
 - a. HBV vaccinations are available from Occupational Health Office free of charge. You are advised to consider being vaccinated, if you have not already done so.

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Bloodborne Pathogen Standard

6. **Post-Exposure Evaluation and Follow-up**
 - a) Offered by the hospital in cases of high intensity blood or body fluid exposure (HIBBE). The hospital's HIBBE protocol employs the most current CDC recommendations for post-exposure prophylaxis.
 - b) What to do if you have an exposure:
 - Report to Occupational Health (ED if occupational health closed)
 - ED Physician based on source information (risk factors), and type of exposure and length of exposure will make a recommendation to you on participating in the anti- HIV prophylaxis

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Bloodborne Pathogen Standard

7. Infectious Waste Disposal

a) 3 Categories in N.C.

- Non-regulated-All regular trash that contains no blood or body fluids; placed in regular trash bag; goes in the landfill.
- OSHA regulated waste-Contains blood or body fluids; must be placed in labeled bag with biohazard symbol or red bag; in our organization placed in white bags with biohazard symbol on the outside.
- N.C. regulated waste-Contains blood or body fluids that when compressed can release 20 ml or greater of potentially contaminated fluid; placed in red trash bags; cannot be disposed of in the landfill; picked up by Medical Waste company and incinerated.

8. Warning System – Tags, Labels, and Bags:

- #### a)
- Tags that are orange-red in color with a contrasting background are acceptable. Tags must contain the word “BIOHAZARD” or the biohazard symbol. Red bags or red containers may be substituted for labels on containers of Infectious Waste (IW)

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Bloodborne Pathogen Standard

9. Housekeeping Practices

The work site is maintained in a clean and sanitary condition. Equipment contaminated with blood or potentially infectious materials must be decontaminated before servicing or shipping.

10. Laundry Practices

Contaminated laundry must be bagged at the location of use and not sorted or rinsed in patient areas. Contaminated laundry must be placed and transported in bags that are labeled or color-coded that prevent leakage

11. Training:

Annual training is required

12. Recordkeeping

The hospital must keep training records for 3 years from the date of the training session. The hospital must maintain a record of any exposures or injuries, and track each worker-reported exposure incident

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Tuberculosis Control

Facts about TB

TB Infection Control Hierarchy consist of:

- Administrative controls (policies)
- Engineering controls (negative pressure rooms)
- Personal respiratory protection (N-95 respirator or PAPR unit).

Each individual must be fit-tested for the N-95 respirator before you wear the mask. This is done in the Occupational Health office. The mask must also be fit checked each time you wear it.

If you are unable to be fit-tested for a respirator because of facial hair or facial anatomy that prohibits proper fit, the hospital has PAPR units (electronic hood-type device) located in the Emergency Department for use if needed.

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Tuberculosis Control

Prevention Practices include

Annual screening for all employees and credentialed staff, follow-up with any positive screening or subsequent exposures, and annual TB training

Screen every patient as he or she enters the health care system using criteria on assessment forms.

Follow-up with any symptoms by PPD skin testing and/or CXR, and sputum cultures for AFB.

If the patient is suspected of having TB, airborne isolation is instituted until a negative diagnosis is confirmed.

Staff caring for the patient must wear appropriate PPE

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Precautions to Prevent Transmission of Infectious Agents: Standard and Transmission-Based Precautions (Isolation Categories)

81

Two Levels: Standard Precautions Transmission Based (Isolation Precautions)

Standard Precautions

Applied to the care of all patients in all healthcare settings, regardless of the suspected or confirmed presence of an infectious agent

Based on the principle that all blood, body fluids, secretions, excretions except sweat, non-intact skin, and mucous membranes may contain transmissible infectious agents

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Standard Precautions

Elements of Standard Precautions:

Hand Hygiene

- Use antimicrobial soap and water when hands are visibly soiled, before eating, after visits to toilet, and when working with a patient who has *C. difficile* infection. Wet hands, rub hands with soap for 20 seconds, rinse with warm water, and turn off faucet with paper towel.
- Use alcohol-based hand sanitizer after every patient contact or contact with patient's environment, before putting on gloves, and after removing gloves

Use of Personal Protective Equipment

- Type of PPE necessary is determined by the nature of the HCW-patient interaction and the extent of anticipated blood, body fluid, or pathogen exposure.

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Standard Precautions

Elements of Standard Precautions:

Respiratory Hygiene / Cough Etiquette

- Cover cough or sneeze with tissue (or sneeze into your upper sleeve) and dispose of tissue in a no-touch receptacle.
- Do hand hygiene after contact with respiratory secretions.
- If you have respiratory symptoms, maintain at least 3 feet distance from another person.

Specific infection control practices for special lumbar puncture procedures (e.g., lumbar puncture, spinal and epidural anesthesia)

- *Wear a mask when performing lumbar puncture procedures to prevent droplet contamination of the site*

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Transmission Based (Isolation Precautions)

Transmission-Based Precautions:

For patients who are known or suspected to be infected or colonized with infectious agents which require additional control measure to effectively prevent transmission.

Used when the route of transmission is not completely interrupted using Standard Precautions alone. Always used IN ADDITION to Standard Precautions

Three categories:

Contact Precautions

Droplet Precautions

Airborne Precautions

May be used in combination when infections are transmitted in more than one route

Transmission Based (Isolation Precautions)

Contact Precautions

- Intended to prevent transmission of infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.
- Also apply where the presence of excessive wound drainage, fecal incontinence, or other discharges from the body suggest an increased potential for extensive environmental contamination.
- PPE-wear a gown and gloves. Don PPE upon room entry and discard before exiting the patient room



Enteric Contact Precautions

Fecal-Oral Route



STOP ENTERIC PRECAUTIONS PRECAUCIONES DE TRANSMISIÓN ENTERICA ALTO

ENTERICA

Family members should not visit if having signs or symptoms of an infection or a communicable disease. Members should avoid contact with the patient. Los familiares y visitantes no deben visitar al paciente ni tener contacto con él o ella una vez que se haya iniciado el aislamiento. Las visitas deben permanecer fuera de la habitación.

Follow instructions before entering waiting rooms.
Antes de entrar a la habitación, siga las instrucciones de aislamiento.

Everyone must:
Clean hands before entering and when leaving room.
Todos deben:
Lavarse las manos antes de entrar y antes de salir de la habitación.

All Healthcare Personnel must:
Todo el personal de atención médica debe:

- Wear gloves when entering room and remove before leaving room.
Usar guantes al entrar a la habitación y quitárselos antes de salir de la habitación.
- Wear a gown when entering room and remove before leaving.
Usar una bata al entrar a la habitación y quitársela antes de salir.
- Use patient-dedicated or single-use disposable equipment. If shared equipment is used, clean with an EPA K list disinfectant.
Usar equipo desechable de un solo uso o designado al paciente. Si se usa equipo compartido, limpiarlo con un desinfectante de la lista K de la EPA.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Revised Date: 5/29/2022

CLOSTRIDIODES DIFFICILE Formerly known as Clostridium difficile

IMPACT

- C. diff infection is estimated to cause about 1.1 million illnesses in the United States each year, and an estimated 29,000 deaths.
- About 1 in 10 patients who get a C. diff infection will get a repeat infection within a month.
- Over 11 million people have a C. diff infection with a healthcare-associated C. diff infection within a month.

RISK

- People are 10 times more likely to get C. diff infection when staying in a hospital and during their hospital stay.
- Extended stays in healthcare settings, such as hospitals and nursing homes, also increase the risk.
- Over 10 million C. diff infections occur in people 65 and older.

SPREAD

- C. diff spreads when people touch surfaces that are contaminated with spores in a healthcare person.
- Or when people don't wash their hands with soap and water.
- It can also happen when one healthcare worker touches another person's clothes or linens.

healthcare professionals can help PREVENT C. diff by:

- Optimizing the use of antibiotics.
- Using the right dose for the right patient.
- Regularly cleaning and disinfecting surfaces with C. diff.
- Wearing gloves and gowns when caring for patients with C. diff, and removing them after each patient encounter.
- Cleaning patient rooms when C. diff is present, using EPA-approved spore killing disinfectants per CDC.

SEE ALSO: CDC's National Action Plan for Clostridium difficile, Infection Control and Prevention, and the CDC's National Action Plan for Clostridium difficile, Infection Control and Prevention.

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Transmission Based (Isolation Precautions)

Droplet Precautions:

- Intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions.
- PPE-wear a mask for close contact. Don mask upon room entry to room and discard before exiting the room.

STOP DROPLET PRECAUTIONS PRECAUCIONES DE TRANSMISIÓN POR GOTAS ALTO

DROPLET

Family members should not visit if having signs or symptoms of an infection or a communicable disease. Members should avoid contact with the patient. Los familiares y visitantes no deben visitar al paciente ni tener contacto con él o ella una vez que se haya iniciado el aislamiento. Las visitas deben permanecer fuera de la habitación.

Follow instructions before entering waiting rooms.
Antes de entrar a la habitación, siga las instrucciones de aislamiento.

Everyone must:
Clean hands before entering and when leaving room.
Todos deben:
Lavarse las manos antes de entrar y al salir de la habitación.

Wear surgical/procedure mask when entering the room and remove after exiting the room.
Usar una mascarilla quirúrgica o para procedimientos al entrar a la habitación y quitársela después de salir de la habitación.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Revised Date: 1/10/2022

STOP SPECIAL DROPLET CONTACT PRECAUTIONS PRECAUCIONES DE TRANSMISIÓN POR CONTACTO CON GOTAS ALTO

SPECIAL DROPLET

Family members should not visit if having signs or symptoms of an infection or a communicable disease. Members should avoid contact with the patient. Los familiares y visitantes no deben visitar al paciente ni tener contacto con él o ella una vez que se haya iniciado el aislamiento. Las visitas deben permanecer fuera de la habitación.

Follow instructions before entering waiting rooms.
Antes de entrar a la habitación, siga las instrucciones de aislamiento.

All Healthcare Personnel must:
Don/Remove all personal protective equipment.
Llevar/Quitar toda la ropa de protección personal.

- Clean hands before entering and when leaving room.
Llavarse las manos antes de entrar y al salir de la habitación.
- Wear a gown when entering room and remove before leaving.
Usar una bata al entrar a la habitación y quitársela antes de salir de la habitación.
- Wear N95 or higher level respirator before entering the room and remove after exiting.
Usar un respirador N95 o un respirador de nivel superior antes de entrar a la habitación y quitárselo después de salir de la habitación.
- Protective eyewear (face shield or goggles)
Protección para los ojos (escudo o gafas protectoras).
- Wear gloves when entering room and before/after leaving.
Usar guantes al entrar a la habitación y antes de salir de la habitación.
- Place in private room. Keep door closed (if safe to do so).
Colocar en habitación privada. Mantener la puerta cerrada (si es seguro hacerlo).

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

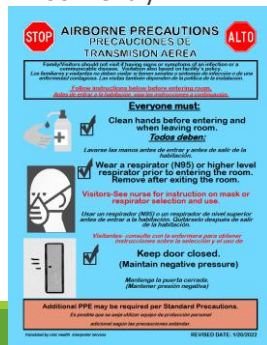
Revised Date: 5/29/2022

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Transmission Based (Isolation Precautions)

Airborne Precautions:

- Intended to prevent transmission of infectious agents that remain infectious over long distances when suspended in the air.
- In hospital, place in a monitored negative pressure room. Keep door closed.
- PPE: Wear a fit-tested N95 respirator that is donned prior to room entry.



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Transmission Based (Isolation Precautions)

Syndromic & Empiric Application of Transmission-Based Precautions:

- ❑ Certain clinical syndromes and conditions warrant empirical use of transmission-based precautions while cultures are pending.
- ❑ Examples:
 - Acute diarrhea
 - Possible meningitis, TB, Measles, Shingles,
 - Generalized rash, especially with history of recent travel abroad
 - Abscess or draining wound

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Transmission Based (Isolation Precautions)

Discontinuation of Transmission-Based Precautions:

- ❑ Precautions remain in place for limited periods of time while the risk for transmission of the infectious agent persists or for the duration of the illness.
- ❑ Precautions may need to be prolonged in immunocompromised patients due to prolonged shedding of the infectious agent.
- ❑ Refer to policy/procedure, “Precautions to Prevent Transmission of Infectious Agents” Appendix A.

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Transmission Based (Isolation Precautions)

Protective Environment:

- ❑ “Protective isolation” and “reverse isolation” terms are no longer recognized.
- ❑ Protective Environment is only recommended by the CDC for hematopoietic stem cell transplant patients. Not used at Northern Regional Hospital.

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SEASONAL FLU UPDATE

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Seasonal Flu Vaccine Update

All Northern Regional Hospital employees, licensed independent practitioners, contract staff, volunteers and students receiving training/education or providing services at a NRH facility must be immunized against influenza each year unless granted an exemption. The exemptions must be in accordance with the CDC guidelines described in the policy. The vaccination program will begin in September and immunizations must be completed by November 30 unless you are on leave during this time. Annual influenza vaccination is required as a condition of continued employment or service.

Routine annual influenza vaccination is recommended for all persons aged ≥ 6 months who do not have contraindications.

Timing: Vaccinations should be offered by the end of October; however vaccination should continue to be offered as long as influenza viruses are circulating and unexpired vaccine is available.

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Seasonal Flu Vaccine Update

Families are also encouraged to receive flu vaccines. Information for families is as follows:

- Families (ages 3 up) of employees presenting with proof of being on the hospital insurance plan (insurance card) may receive the influenza vaccine free of charge.
- Families (ages 3 up) of employees not on the hospital insurance may receive the influenza vaccine at cost (\$20.00). Family is defined as immediate family (spouse and children).
- Families (ages 3 up) of Contract Staff may receive the influenza vaccine at cost (\$20.00). Family is defined as immediate family (spouse and children).
- Flu Vaccines will only be given in the Occupational Health Department from 7:30 a.m. – 4:00 p.m. Monday thru Friday.

Along with the flu vaccination, good respiratory and hand hygiene practices are very important in preventing the spread of the flu to others. The hand sanitizer must be used daily as you perform patient activities.

NRH will continue to provide hand sanitizers for every employee. Department managers will need to obtain a supply of hand sanitizers from the storeroom to distribute to the employees in their department. Managers will also be responsible for re-supplying hand sanitizers for staff as needed.

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Seasonal Flu Vaccine Update

In addition to the use of hand sanitizer and good hand washing, the following activities will be ongoing to assist in preventing transmission of illnesses to others:

- The ED and Patient Access staff will offer masks, tissues and information to patients presenting to the registration areas with cold symptoms such as fever, cough or shortness of breath. The patient will also be taught to cover their mouth when coughing and to dispose of tissues correctly.
- Restrictions on visiting will be posted as needed.
- Respiratory hygiene information is posted in waiting areas to educate the public on respiratory hygiene etiquette.
- Each employee and manager is responsible for reporting employee illnesses to Occupational Health. In this manner, illnesses can be tracked so that Occupational Health can intervene if needed.
- Sick employees are encouraged to stay at home.
- Any patient with the diagnosis of influenza should be placed on Droplet Precautions.

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Injection Safety Practices



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Injection Safety Practices from CDC

- Never administer medications from the same syringe to more than one patient, even if the needle is changed.
- After a syringe or needle has been used to enter or connect to a patient's IV it is contaminated and should not be used on another patient or to enter a medication vial.
- Never enter a vial with a used syringe or needle.
- Do not use medications packaged as single-dose vials for more than one patient.
- Assign medications packaged as multi-dose vials to a single patient whenever possible.
- Do not use bags or bottles of intravenous solution as a common source of supply for more than one patient.
- Follow proper infection control practices during the preparation and administration of injected medications.
- Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space/

Adapted from: Guideline for isolation precautions: preventing transmission of infectious agents in health care settings 2007. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. Available at: <http://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf>

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National Patient Safety Goals

The Joint Commission's National Patient Safety Goals requires that the hospital implements best practices or evidence-based guidelines to prevent health care-associated infections due to multidrug-resistant organisms (MDROs), central line-associated bloodstream infections, surgical site infections and catheter-associated urinary tract infections. The following are the elements of performance that are required with information about how we will meet these requirements:

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NPSG: Multidrug-Resistant Organism

This requirement applies to, but is not limited to, epidemiologically important organisms such as methicillin-resistant staphylococcus aureus (MRSA), Clostridium difficile (CDI), vancomycin-resistant enterococci (VRE), and multiple drug-resistant gram negative bacteria.

- Education is provided to staff about health care-associated infections, MDROs, and prevention strategies on hire and annually.
- Education is provided for patients and their families – patient teaching information is available for MRSA, CDI and VRE.
- A surveillance program for MDROs is in place and screenings are done based on the patient assessment.
- The hospital measures and monitors MDRO processes and outcomes for infection rates, compliance with evidence-based guidelines and the education program – this is coordinated by the Infection Prevention Department.
- Multidrug resistant organism surveillance data is reported to key committees and other stakeholders in the hospital.
- A laboratory-based alert system that identifies new patients with MRDO is in place and also has an alert system that identifies readmitted or transferred MDRO-positive patients.
- Policies and procedures are in places that are aimed at reducing the risk of transmitting MDROs.

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NPSG: Central Line-Associated Bloodstream Infections:

This requirement covers short and long term central venous catheters and peripherally inserted central catheter (PICC) lines.

- Education is provided to staff who are involved in managing central lines about central-line associated bloodstream infections and the importance of prevention. Education occurs on hire, annually and when involvement in these procedures is added to an individual's job.
- Prior to insertion of a central venous catheter, education is provided to patients and as needed to their families about central line-associated bloodstream infection prevention.
- Policies and procedures are in place that are aimed at reducing the risk of central line-associated bloodstream infections.
- Risk assessments for central line-associated bloodstream infections are conducted and the effectiveness of prevention efforts is evaluated.
- Central line-associated bloodstream infection rate data and prevention outcome measures are provided to key committees, leaders, licensed independent practitioners, nursing staff and other clinicians.
- A catheter checklist and a standardized protocol for central venous catheter insertion are required: *A checklist has been implemented and placed on each central line kit. The checklist is to evaluate compliance with the protocol. RNs assigned to the patient will complete the checklist on PICC line insertions performed by nurses and all central venous catheters inserted by physicians.*

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NPSG: Central Line-Associated Bloodstream Infections:

- Perform hand hygiene prior to catheter insertion or manipulation.
- For adult patients, do not insert catheters into the femoral vein unless other sites are unavailable: **You will need to document why the femoral vein was used.**
- Use a standardized supply cart or kit that is all inclusive for the insertion of central venous catheter: *Kits are available.*
- Use a standardized protocol for maximum sterile barrier precautions during central venous catheter insertion: *The kits contain maximum barrier drapes and must be used.*
- Use an antiseptic for skin preparation during central venous catheter insertion: *The kits contain chlorhexidine for use as the antiseptic.*
- Use a standardized protocol to disinfect catheter hubs and injection ports before accessing the ports: *Policies are in place.*
- Evaluate all central venous catheters routinely and remove nonessential catheters: *Evaluate daily the need for the central venous catheter and remove as soon as possible.*

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NPSG: Surgical Site Infections

This goal requires that best practices are implemented to prevent surgical site infections.

- Education is provided to staff involved in surgical procedures about health care-associated infections, surgical site infections, and the importance of prevention. *This is done via net learning on hire and annually.*
- Prior to surgery the patient or family is educated about the surgical procedure and about preventing surgical site infections.
- Policies and procedures are in place to reduce the risk of surgical site infections.
- Risk assessments for surgical site infections are conducted and the effectiveness of practices is evaluated.
- Surgical site infection rates are measured for the first 30 or 90 days following surgical procedures based on National Healthcare Safety Network (NHSN) procedural codes.
- Surgical site infection data is reported to key committees and stakeholders in the hospital.
- Administer antimicrobial agents for prophylaxis used for a particular procedure or disease according to methods cited in scientific literature or endorsed by professional organizations.
- When hair removal is necessary, use a method that is cited in scientific literature or endorsed by professional organizations. *Shaving is an inappropriate hair removal method.*

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NPSG: Catheter-Associated Urinary Tract Infections

This goal requires that evidence-based practices are implemented to prevent indwelling catheter-associated urinary tract infections (CAUTI).

- Education is provided to staff involved in the use of indwelling catheters about CAUTI and the importance of infection prevention.
- Education is provided to patients who have an indwelling catheter, and their families as needed, on CAUTI prevention and the symptoms of a UTI.
- Policies are in place, using established evidence-based guidelines, for placement of an indwelling urinary catheter. Examples of criteria for placement include the following:
 - Critically ill patients who need accurate urinary output measurements
 - Patients with acute urinary retention or bladder outlet obstruction
 - Patients who require prolonged immobilization (for example, a potentially unstable thoracic or lumbar spine or multiple traumatic injuries such as pelvic fractures)
 - Incontinent patients with an open sacral wound or perineal wounds
 - Perioperative use for selected surgical procedures, such as patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract; patients who will have a prolonged duration of surgery (catheters inserted for this reason should be removed in a post-anesthesia care unit); patients anticipated to receive large-volume infusion or diuretics during; patients needing intraoperative monitoring of urinary output
 - End-of-life care
 - Neurogenic bladder

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NPSG: Catheter-Associated Urinary Tract Infections

- Insert and manage indwelling urinary catheters according to established evidence-based guidelines that address the following:
 - Limiting use and duration to situations necessary for patient care
 - Performing hand hygiene prior to catheter insertion or maintenance care
 - Using aseptic techniques for site preparation, equipment and supplies
 - Securing catheters for unobstructed urine flow and drainage
 - Maintaining the sterility of the urine collection system
 - Replacing the urine collection system when required
 - Collecting urine samples
 - Note: There are medical conditions that require a prolonged use of indwelling urinary catheter in order to avoid adverse events and promote patient safety. Examples can include, but are not limited to, patients with a spinal cord injury, multiple sclerosis, Parkinson's disease, and spina bifida.
- Measure and monitor catheter-associated urinary tract infection prevention processes and outcomes in high-volume areas by doing the following:
 - Selecting measures using evidence-based guidelines or best practices
 - Having a consistent method for medical record documentation of indwelling urinary catheter use, insertion and maintenance
 - Monitoring compliance with evidence-based guidelines or best practices
 - Evaluating the effectiveness of prevention efforts

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Antimicrobial Stewardship

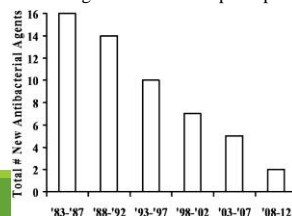
What is Antimicrobial Stewardship?

Antimicrobial stewardship refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration. Everyone's goal in the healthcare team is to provide the best and most efficient care to patients. Simultaneously stewards are looking to reach optimal outcomes while not introducing resistance, toxicity and saving the healthcare system money related to antimicrobial use.

Why is Antimicrobial Stewardship important?

Antimicrobial resistance has become a life threatening problem in the healthcare field. Through antibiotic overuse and microbial replication and mutation we have seen the rise of MRSA, VRSA, and CRE; which has been a hot topic in the news for the past several years.

Antimicrobial stewardship is especially important due to the decline in the number of antibiotics being approved by the US FDA. Figure 1 shows this principle.



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Antimicrobial Stewardship

There is a steady drop in new antibiotics on the market in each 5 year increment. This number is not expected to rise any time soon. We need to utilize the products we have efficiently and be sure to assess patient's antibiotics as we receive information back from the microbiology lab.

It is also important to minimize adverse drug reactions (ADR) and total healthcare costs. Over use of antibiotics can result in hypersensitivity reactions and is the number one factor that can lead to *Clostridium difficile* infections (CDI).

A study was conducted in a 120 bed hospital where a clinical pharmacist, ID specialist, microbiology lab and infection control team members reviewed charts just three days a week for a year. They made 488 recommendations to prescribers and 69% of those were accepted and implemented. These consisted of de-escalation, IV to PO, and more targeted therapy to name a few. At the end of the year a total of about \$177,000 was saved in healthcare costs.

In a smaller community hospital it is important to have a clinical pharmacist reviewing antibiotic cases at least a few times a week. In many cases patients are started on empiric therapy of one or multiple antibiotics to cover any possible infection. This needs to be reevaluated and/or de-escalated in 48-72 hours and when reports from the microbiology lab are returned. The pharmacist, prescriber and the hospitalist are able to review these microbial findings and begin a more targeted therapy for the patient.

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Antimicrobial Stewardship

What are the goals of Antimicrobial Stewardship?

Goals are set based on the individual institution. After looking at several successful Antimicrobial Stewardship programs at hospitals across the country, including Wake Forest Baptist, one can compile the 6 goals that seem to overlap between these institutions.

1. Improve patient outcomes through correct utilization of antimicrobial agents.
2. Decrease antimicrobial resistance in the community and hospital.
3. Optimize antimicrobial dosing through patient specific parameters.
4. Reduce ADR and CDI.
5. Reduce hospital costs while not impacting the quality of care.
6. Use medication sets to improve on adherence and utilization of antimicrobial agents.

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Antimicrobial Stewardship at Northern Regional Hospital

It is the responsibility of the entire healthcare team to upkeep the program and give patients the appropriate treatment at the most reasonable cost to them and the institution.

At NHSC the Antibiotic Stewardship Committee consists of a hospitalist, quality control, microbiologist, pharmacy director, pharmacist, and infection control. Each year a new Antibigram is published reflecting the hospital and community sensitivities. These numbers are reported to hospitalists and pharmacists so that the most appropriate empiric antibiotic therapy can be started on a patient.

Both the hospitalists and pharmacists have access to microbiology lab findings from patient's specimens, which aids in determining when to de-escalate or discontinue antibiotics. With the help of PCR we are able to quickly and efficiently receive test results on specimens sent to microbiology. The microbiologist has even increased her reviewing of cultures to also help in the quick de-escalation of antibiotics. Fortunately, at NHSC, de-escalation has not been a significant problem. All reports are reviewed and more targeted therapy is prescribed for the patient. This is a major key to a successful program.

Summary

Cultures must be collected before antibiotics are given. It is important to make sure there is an appropriate antibiotic evaluation after initial empiric therapy. Make sure each antibiotic ordered has a clear indication and duration of therapy. When the results come back from microbiology in 48- 72 hours be sure to reassess the original antibiotic order and begin to tailor the drug therapy to the patient's specific diagnosis.

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EMTALA

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EMTALA: What is EMTALA?

EMTALA stands for “Emergency Medical Treatment & Labor Act.” It is a federal law enacted by Congress in 1986 to prevent hospitals from sending away patients based on insurance status, race, gender, national origin, preexisting medical conditions, etc.

The goal of EMTALA is to ensure that any person with any emergency medical condition receive reasonable evaluation and stabilization in any emergency room before they are transferred.

While the law is tied to Medicare reimbursements, it applies to ALL patients seeking medical care in emergency rooms, not just Medicare beneficiaries.

- Violation of EMTALA is extremely serious. It can result in **large fines to physicians and hospitals** that medical malpractice insurance does not cover.
Every EMTALA violation triggers a federal investigation that can result in hospitals losing their Medicare reimbursement

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EMTALA: How Do I Comply with EMTALA?

1. **Make sure all ED patients are registered.** This seems obvious, but it also includes any patient with any emergency medical *condition* (including those brought in by family or EMS who have no specific medical *complaint*) and unaccompanied patients without capacity. Doing this helps demonstrate that you have not actively tried to turn patients away.
2. **Make sure a “licensed independent practitioner” performs a Medical Screening Exam (MSE).** A licensed independent practitioner can be a physician with a medical license or a nurse practitioner. Some hospitals, via their bylaws, allow physician assistants to perform MSEs. Note that this does not include interns, unlicensed residents, or non-NP nurses. Finally, be careful about triage nurses that turn patients away. The brief screening exam performed at triage **is not** the same thing as a MSE performed by a licensed MD or NP.

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EMTALA: How Do I Comply with EMTALA?

Make sure the Medical Screening Exam (MSE) is performed on hospital grounds.

The MSE does not always need to be performed in the ED, even if the patient initially presents there.

- For instance, if a woman in active labor presents to the ED, it is perfectly acceptable to send her immediately to the Labor & Delivery floor to receive the MSE if you are reasonably certain that she will not have a dangerous delivery en route (i.e., on the elevator).
- Likewise, if a visitor suddenly develops chest pain in Labor & Delivery, it is perfectly acceptable to immediately send him or her to the ED to receive the MSE.

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EMTALA: How Do I Comply with EMTALA?

- 1. Before initiating ANY patient transfer, make sure you have made a reasonable attempt to stabilize the patient using the full extent of your hospital's capabilities, regardless of the condition in which the patient presented.**
1. This is a crucial requirement that can be difficult to fulfill, but it is the main point of EMTALA. According to EMTALA, "unstable" means there is "a reasonable expectation of deterioration enroute."
 - For example, if a patient is hemodynamically unstable due to an aortic dissection and your hospital has the resources to repair that dissection, you are obligated to keep the patient.
 - If you are at a hospital without surgeons who can perform this operation, you **STILL** need to make a reasonable attempt to stabilize the patient in the ED using every resource at your disposal, including placing a central line, starting pressors, intubating, or whatever else to reduce the chances of decompensation during the transfer.
 - For a patient in active labor, "unstable" means you have a reasonable expectation that the patient will deliver either the fetus or the placenta en route.

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EMTALA: How Do I Comply with EMTALA?

On-call Physicians

The Emergency Department physician decides if he/she wants the on-call specialist to come in for assessment of the patient.

- The on-call physician must respond to pages or phone calls within 15 minutes.
- If the on-call physician is requested to come into the Emergency Department, he/she will respond on-site within 30 minutes of the request.

The hospital does allow physicians to perform elective surgery or other procedures while on-call; however, when a physician is on emergency call and has scheduled elective surgery or an elective diagnostic or therapeutic procedure during that time, the physician must have a back-up plan in place.

Once the patient receives a Medical Screening Exam at the hands of a licensed independent practitioner AND a reasonable attempt has been made at stabilization, your EMTALA obligations are fulfilled.

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EMTALA: How Do I Comply with EMTALA?

Common EMTALA Pitfalls

EMTALA only applies when I am transferring patients out of my own hospital, and not when I'm accepting transfers from other hospitals. Absolutely not! This is a common and dangerous mistake at large tertiary care academic centers. BOTH the transferring AND receiving hospitals are responsible for the Medical Screening Exam (MSE). This means that, if you pick up the phone to accept a transfer, it is your responsibility to ask if the other hospital performed a proper MSE, attempted to stabilize the patient, and has a valid reason for the transfer. Here are two sneaky ways to commit an EMTALA violation as the receiving hospital:

- Refusal to accept a perfectly valid transfer from another hospital
- Failing to report an invalid transfer by another hospital (i.e., not reporting someone else's EMTALA violation, which is itself a violation).

EMTALA only applies to ED physicians, not consulting services. Wrong again! If a consult fails or refuses to perform an initial assessment of an ED patient within a reasonable amount of time, they have violated EMTALA. The amount of time is determined by hospital bylaws, but in general, it is important to remind consults that they also have an obligation to see patients expediently in the ED.

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STROKE PROGRAM



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ADVANCED PRIMARY STROKE CENTER

The Code Stroke Program has to meet and maintain criteria for certification as An Advanced Primary Stroke Center.

All Code Strokes are audited and the information is entered into a database that is tracked on a continuous basis.

The data from the audits is shared with the Stroke Interdisciplinary Team, NRH Leadership, all NRH staff, Surry County EMS, and The Joint Commission

This data is very important and measures our performance and directly impacts patient outcome!

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FOUR Types of Stroke Centers

There are 4 recognized levels of stroke care by The Joint Commission:

- ❑ Comprehensive Stroke Center – Interventional Capability
- ❑ Thrombectomy Capable Stroke Center – Interventional Capability but is not a Comprehensive Stroke Center
- ❑ **Advanced Primary Stroke Center** – No Interventional Capability. Post tPA patients are admitted and support care provided
- ❑ Acute Stroke Ready Hospital – Do not have resources to become Primary Stroke Center. “Ship and Drip”, all post tPA patients are transferred to a higher level of care.

Click here for a Joint Commission Certification Program Comparison Chart: <https://www.jointcommission.org/-/media/tjc/documents/accred-and-cert/certification/certification-by-setting/stroke/dsc-stroke-grid-comparison-chart.pdf>

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Stroke Centers within 50 miles of Northern regional...

| Center Name | City | State | Zip | Certification |
|---|---------------|-------|-------|--------------------------------------|
| Hugh Chatham Memorial Hospital | Elkin | NC | 28621 | Advanced Primary Stroke Center |
| Twin County Regional Hospital | Galax | VA | 24333 | Advanced Primary Stroke Center |
| North Carolina Baptist Hospital | Winston Salem | NC | 27157 | Advanced Comprehensive Stroke Center |
| Forsyth Memorial Hospital | Winston Salem | NC | 27103 | Advanced Comprehensive Stroke Center |
| High Point Regional Health System | High Point | NC | 27262 | Advanced Primary Stroke Center |
| Lexington Medical Center | Lexington | NC | 27292 | Advanced Primary Stroke Center |
| Thomasville Medical Center | Thomasville | NC | 27361 | Advanced Primary Stroke Center |

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Stroke Core Team NRH

Stroke Coordinator - Debbie Moser RN, BSN, SCRN

Chief Medical Officer, Jason Edsall MD - Director Stroke Program

Director of Emergency Services – Ricky Harold RN, BS, CEN, SCRN, NREMT-P



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Stroke Interdisciplinary Team- NRH

Chief Medical Officer, Director Stroke Program– Dr. Jason Edsall

Stroke Coordinator – Debbie Moser

Director of Emergency Department

Hospitalist Medical Director

VP Patient Services, CNO

Emergency Department Unit Coordinator

Director of Quality Services

Director of Critical Care

Director of MedSurg

Director of Laboratory Services

Pharmacy

Case Management

IS Representative

Rehab

Speech Therapy

EMS Representative

CT/Radiology

Director of Patient Access

Director of Marketing

Clinical Dietician

House Supervisor



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The Code Stroke Team - ED

Team responds to all Code Strokes in the Emergency Department:

Emergency Department Physician
Charge Nurse ED / Unit Coordinator
Emergency Department RN / EMT-P
Stroke Coordinator
Emergency Department NA's / PCT's
Pharmacy
Unit Clerk
Patient Registration
Imaging
Lab
Surry County EMS (For EMS Arrivals)



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The Code Stroke Team - IP



Hospitalist
Unit Charge Nurse
Department Director
ASLS Certified RN from ED
Stroke Coordinator
House Supervisor
Department Nurses and NA's / PCT's
Pharmacy
Unit Clerk
Imaging
Lab
Surry County EMS (Patient Transfer)

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****Physician requirements****

Mandated by Joint commission

****REQUIRED FOR ALL EMERGENCY DEPARTMENT PROVIDERS:**

1. **NIHSS Certification** – Valid for 2 years Online: <https://nihstrokescale.org/>
2. **4 Stroke CME credits annually – MUST be stroke related education**

****REQUIRED FOR ALL HOSPITALSIT PROVIDERS:**

1. **NIHSS Certification** – Valid for 2 years Online: <https://nihstrokescale.org/>
2. **4 Stroke CME credits annually – MUST be stroke related education**
3. **Modified Rankin Scale – Valid for 2 years**
 - mRS must be documented on all discharged Stroke patients
 - Online mRS Training: <https://webdcu.musc.edu/campus/>
 - mRS Training Certificate: <https://webdcu.musc.edu/campus/CertTesting/CertTest.asp?myCertTestNb=1>

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ADVANCED PRIMARY STROKE CENTER

STROKE CARE RELATED ORDER SETS: (All order sets are from the AHA/ASA guidelines)



- ED Code Stroke Order Set** – Used for all Code Emergency Dept Strokes
- Code Stroke Order Set (InPatient)** – Used for all Inpatient Code Strokes
- Ischemic Stroke Tenecteplase Order Set** – Used for all TNKase stroke administrations
- Ischemic Stroke Post Tenecteplase** – Used for patients admitted following TNKase administration
- TIA_Stroke Non-Tenecteplase Order Set** – Used for all TIA / Stroke admissions that are not candidates for tPA

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ADVANCED PRIMARY STROKE CENTER



STROKE CARE RELATED ORDER SETS: (All order sets are from the AHA/ASA guidelines)

- ❑ Hemorrhagic Stroke Order Set – Used for all Hemorrhagic Stroke admissions
- ❑ Hemorrhagic Acute Stroke Management Order Set – Used for management of Blood Pressure and / or Seizure
- ❑ Oral Anticoagulation Reversal Protocol Life Threatening Bleeding Order Set
- ❑ Oral Anticoagulation Reversal Protocol Minimal Bleeding Order Set
- ❑ Intracranial Bleeding Post Tenecteplase Administration Order Set
- ❑ Stroke Symptoms Greater Than 24 Hours Order Set

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Provider Guide – Best Practices

A Provider Guide, “**PHYSICIAN AIS TREATMENT GUIDE**” has been created by Novant Neurology Physicians to assist in decision making for the Hospitalists caring for Acute Ischemic Stroke and TIA patients.

This guide can be accessed by locating the “CODE STROKE GUIDE” icon on any Northern Regional computer desktop

Click on “Hospitalists” and then
“Physician AIS Treatment Guide”



This is updated annually in collaboration with Novant Health Neurology

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Provider Guide – Best Practices

Acute Ischemic Stroke and Transient Ischemic Attack Suggested Best Practice Guide

| | Day 1 | Day 2 | Day 3 | At Discharge |
|---|---|---|---|----------------------------------|
| BP Management | Goal < 180/105 | Decrease by 10% with goal < 140/90 (No large vessel stenoses) | Decrease by 10% with goal < 140/90 | Long-term goal <130/80 |
| • S/P Alteplase | | | | |
| • No Alteplase | Allow permissive hypertension first 24 hours with goal < 220/120 | Decrease by 10% with goal < 140/90 | Decrease by 10% with goal < 140/90 | Long-term goal <130/80 |
| DVT Prophylaxis | Dependent on Alteplase status: <ul style="list-style-type: none"> Sequential compression devices only first 24 hours s/p alteplase If no alteplase, apply sequential compression devices + pharmacological prophylaxis drug (e.g. Heparin 5000 units x Q8 OR Lovenox 40mg daily) | Sequential compression devices + pharmacological prophylaxis drug | Sequential compression devices + pharmacological prophylaxis drug | |
| Antithrombotic Event – Stroke or TIA | Dependent on Alteplase status: <ul style="list-style-type: none"> No antiplatelet first 24 hours s/p alteplase Initiate antiplatelet on admission if no alteplase based on list below Event with no antithrombotic history on admission– give weight-based aspirin: 81mg < 70 kg; 325mg > 70 kg Event – Currently on ASA 81 mg on admission– increase to 325 mg all weights, treat vascular risk factors Event – Currently on Plavix on admission - Check Plavix response (plasma reactivity units, for example if < 180 – 185, good Plavix response. If not a responder, consider Brilinta 90 mg BID and baby ASA daily vs weight-based ASA) Dual antiplatelet only for symptomatic intra or extracranial large vessel stenoses or occlusions for 3 months then change to single agent. | Start antithrombotic if Alteplase given | Continue antithrombotic | Prescribe antithrombotic regimen |

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Provider Guide – Best Practices

Acute Ischemic Stroke and Transient Ischemic Attack Suggested Best Practice Guide

| | | | | |
|--|---|--|--|---------------------------------|
| Anticoagulant | Typically start 48 hours post infarct | Indications: Afib, Intracardiac Thrombus, PFO with DVT <ul style="list-style-type: none"> No bridging needed for Coumadin if not active clot identified and can d/c antiplatelet if not indicated when fully anticoagulated *Typically hold anticoagulant x 7 days post cerebellar or occipital strokes and consider repeat non contrast head CT prior to initiation of anticoagulant | | |
| Lipid Management | Lipid panel drawn If patient on Lipitor upon admission, increase Lipitor to 80Mg if LDL > 70 | <ul style="list-style-type: none"> LDL > 70 - Lipitor 80 mg daily unless > 80 years old, then 40 mg daily TG > 150 Fish oil 1000mg bid TG > 250 need targeted therapy (e.g. Fenofibrate 135 mg daily and Lipitor 40mg daily regardless of age) | | Statin if LDL > 70 |
| Smoking / Vaping Cessation | Advice / Counseling (Northern Regional Has A Smoking Cessation Program) | | | |
| Rehab Assessment | PT/OT/ST evaluate and treat within 24 hours | Ongoing as designated by therapies | | |
| Etiology / Secondary Prevention | CTA head and neck if not completed in ED | <ul style="list-style-type: none"> F/U Non contrast head CT for s/p Alteplase patients Non contrast MRI US Carotid Bilateral if CTA not completed as well as MRA head no contrast (MRA neck no contrast low yield secondary to frequent movement / breathing artifact) TTE with bubble study TEE / LE US if bubble study + | | Follow up of diagnostic studies |

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Provider Guide – Best Practices

Acute Ischemic Stroke and Transient Ischemic Attack Suggested Best Practice Guide

| | | | | |
|------------------------|-----------------------|--|--|--|
| Glucose Management | Target FSBS 140 - 180 | | | Target FSBS 140 - 180 |
| Discharge Instructions | | Begin discharge education <ul style="list-style-type: none"> • Reasons to call 911 • Individualized Stroke Risk factors • Stroke Warning signs and symptoms • Medications • Stroke specific education | | <ul style="list-style-type: none"> • Reasons to call 911 • Individualized Stroke Risk factors • Stroke Warning signs and symptoms • F/U appointment • Medication reconciliation Also consider providing information regarding: <ul style="list-style-type: none"> • BP monitoring • When to call MD • Proper diet • Community resources |
| Driving Instructions | | | | Stroke or TIA – May resume driving if NIH 0 and no other contraindication. Stroke or TIA - No driving until cleared by MD at follow up appointment if NIH 1 or higher |

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TELENEUROLOGY CONSULT REFERENCE

Novant Neurology Physicians have provided a reference guide for Physicians to determine what is considered appropriate for TeleNeurology consult and a list of situations that are not reasons for TeleNeurology consult:

This PHYSICIAN TELENEUROLOGY RESOURCE GUIDE can be accessed by locating the “CODE STROKE GUIDE” icon on any Northern Regional computer desktop. Click on “TELENEUROLOGY CONSULT GUIDELINES”



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TELENEUROLOGY CONSULT REFERENCE

NH Teleneurology Consult Reference Guide – What is Appropriate for TN Consult



Reminder: **TeleNeurologists** are Credentialed through Northern Regional Hospital and are able to view patient imaging and patient information.

Novant Neurologists (Neurology Hospitalists) are NOT credentialed through NRH and are NOT able to view imaging and patient information. They can discuss potential transfers but not look at scans or answer post stroke patient care questions.

Please see the document "**Acute Ischemic Stroke NH Treatment Reference**" for helpful information provided by Novant for post stroke patient care.

| Emergent Tele Consults within Guidelines | Tele Consults not within Guidelines |
|---|---|
| Presentations concerning for ischemic strokes with focal deficits – LKW within 24 hours | Clearing of patients for discharge from ED |
| TIA with aphasia and / or visual symptoms. (Complete resolution of symptoms) | When delirium, metabolic encephalopathy or psychiatric issues are the likely dx |
| Acute hemorrhagic stroke | Vague consults for non-focal weakness or blurry vision |
| Acute onset unresponsiveness with no clear non-neurological reason (Concern of basilar occlusion) | Pain and generic HA consults with normal CT imaging |
| Thunderclap headache: Aneurysm or dissection concern | Drug overdoses w/o stroke or seizures |
| Acute deficits signifying spinal cord injury | Clearing of patients with neuro symptoms for admission to the hospital |
| Sudden neurologic changes of post tPA patients concerning for stroke | Mild asymptomatic traumatic bleeds in absence of coagulopathy |
| Newly discovered symptomatic CNS tumors, acute hydrocephalus, spinal cord lesions, aneurysms and AVMs | |
| Status Epilepticus: Actively seizing or not back to baseline | |
| F/U to previous appropriate teleneurology consults due to critical findings or changes in condition | |

This is not an all-inclusive list.

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Post TNKase Admissions

Current practice at NRH for post tPA admissions

- Patients can be considered for admission after receiving TNKase if NIHSS is below 6 and no concerning co-morbidities are present
- All post TNKase admissions are placed in ICU for a minimum of 24 hours
- If an InPatient Code Stroke occurs, the patient is transferred to ICU immediately after the non-contrast CT if they are candidates for tPA. If not a candidate, they may transfer to the Stroke Unit (SDU)
- Nursing staff have been trained in the Administration of Tenecteplase (TNKase) and in post administration management
- Order sets are in place in the event of suspected post TNKase bleed
- In the event of post TNKase bleed, a CODE STROKE should be called in order to facilitate the CT Head and a rapid TeleNeurology consult

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STROKE PROGRAM EXTRAS

The Stroke Program at NRH carries some processes that a lot of Advanced Primary Stroke Centers do not:

- **Pharmacy Response** – A Pharmacist responds to every Code Stroke event to assist in calculating the correct dosage for tPA administration, as well as mixing the medication and preparing the dosage.
- **Viz.ai Software Program**
 - Detection of Large Vessel Occlusions (LVO) has been a continuous struggle for the stroke process. The average CTA read time is usually about 1 ½ hours due to the large number of images that have to be reviewed
 - September 2020, in collaboration with Novant Health, NRH began using the Viz.ai program. Viz.ai provides artificial intelligence that previews the CTA images within approximately 10-15 minutes after scan completion. Viz.ai is able to detect an LVO in minutes
 - Viz.ai then sends an alert to the ED Providers, Stroke Coordinator, Teladoc Teleneurologists, and the Interventional Neurologist at Novant Health
 - This allows us to expedite transfer of all LVO patients in much less time. This in turn makes a vast difference in patient outcome

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STROKE PROGRAM EXTRAS

The Stroke Program at NRH carries some processes that a lot of Advanced Primary Stroke Centers do not:

- **Code Stroke Pediatric Policy**
 - There have been several patients < 18 years old to present with stroke symptoms. A couple of these did turn out to have neurological issue. One had a congenital vessel malformation and another had history of ischemic event. Due to this and the fact that the stroke program is based on patients > 18 years old, a policy was developed to accommodate the needs of this population of patients.
 - These patients are not usually candidates for thrombolytics but a neurology evaluation is needed. The policy calls for the Code Stroke Pediatric to be called and all elements of the process proceed as usual, with the exception of a TeleNeurology consult.
 - TeleNeurologists are not credentialed to care for pediatric patients, therefore this patient group will be referred to Brenner's Emergency Department @ Wake Forest Baptist Health for recommendation and further treatment if necessary

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****EMERGENCY TRANSPORT****

Emergency Transports for CODE STROKE PATIENTS and POST tPA HEAD BLEEDS

CALL C-COMM @ 336-374-3000 and REQUEST

“SURRY COUNTY EMS EMERGENCY 10-18 TRANSPORT”

Never Call for Critical Care Transport – Takes TOO Long for them to travel to Hospital

- Code Stroke patients are NOT to be transported by Critical Care Transport
- Time constraints in Stroke treatment do not allow for the delay it requires for the Critical Care ground transport team to travel here to get the patient and then transfer down to receiving hospital
- Surry County EMS can typically respond 10-18 and transfer a critical Code Stroke patient more rapidly than waiting for Air Transport

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Viz.ai

Viz LVO

A.I. Powered LVO Detection

Viz LVO uses artificial intelligence to automatically identify suspected large vessel occlusion strokes on CT angiogram imaging in your network and to alert your on-call stroke team within minutes.



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Viz.ai

Viz VIEW - **Mobile DICOM Image Viewer**

- Viz VIEW is a mobile, non-diagnostic image viewer that enables the dynamic viewing of Digital Imaging and Communications in Medicine (DICOM) images on any Android or Apple phone.

HIPAA-Compliant Messaging

- Viz HUB is a secure, HIPAA-compliant text messaging and calling platform that empowers clinical teams to conveniently coordinate patient care and treatment decisions between hospitals in a hub and spoke network.

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Stroke Numbers for 2024

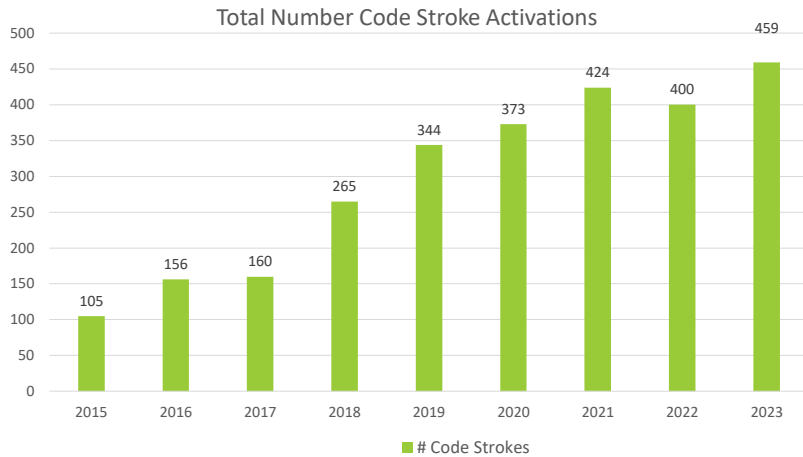
| | |
|---|-------------------|
| CODE STROKES in 2023 | 459 |
| TNKase Administrations 2023 | 33 |
| Average Door to Needle Time (DTN) | 38 minutes |
| Current Record DTN Time | 20 minutes |
| Current Record Door to Transfer Time | 42 minutes |



Joint Commission accreditation as an Advanced Primary Stroke Center demonstrates Northern Regional's expertise and commitment to the community in quickly treating stroke patients and providing the highest level of quality treatment and services according to national standards.

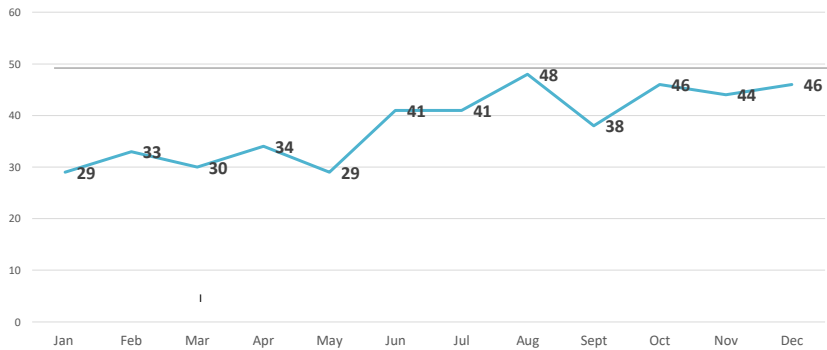
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Code Stroke Yearly Trends

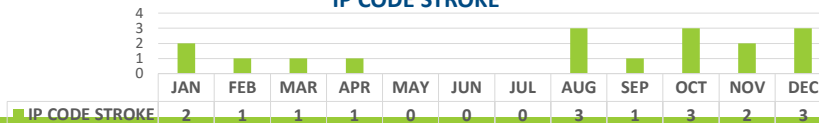


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Monthly Code Stroke Activations Jan – Nov 2023

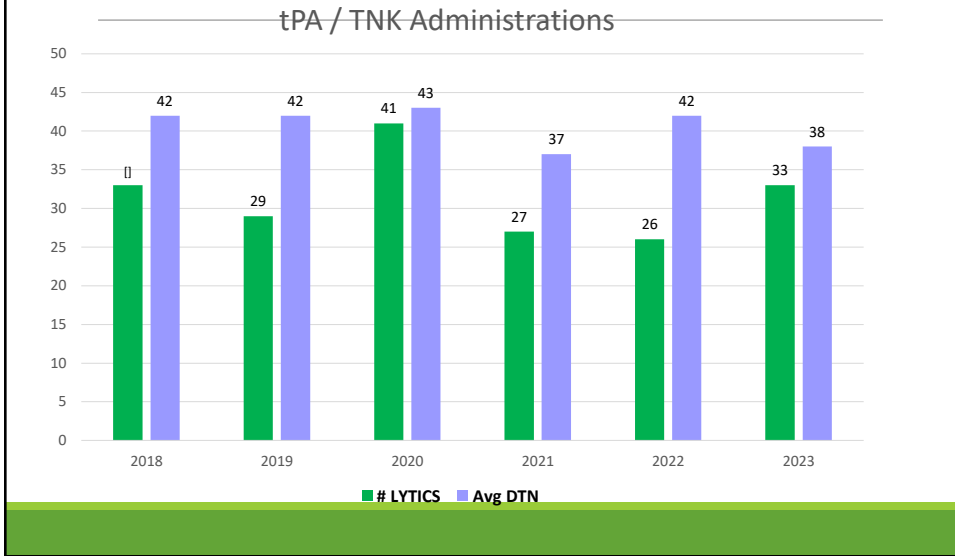


IP CODE STROKE



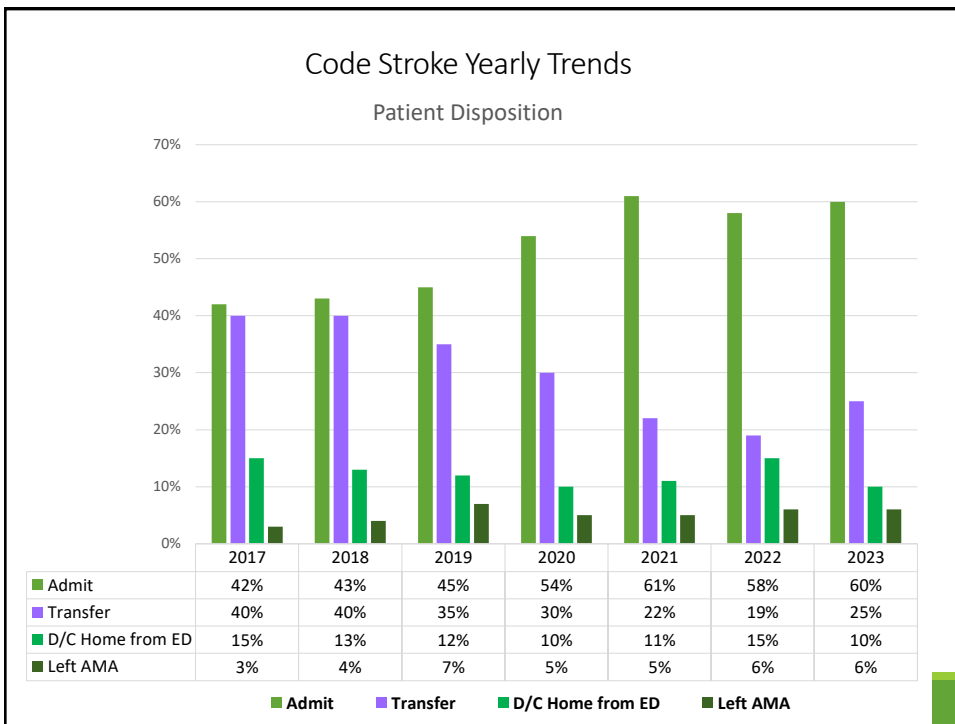
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Code Stroke Yearly Trends



143

Code Stroke Yearly Trends



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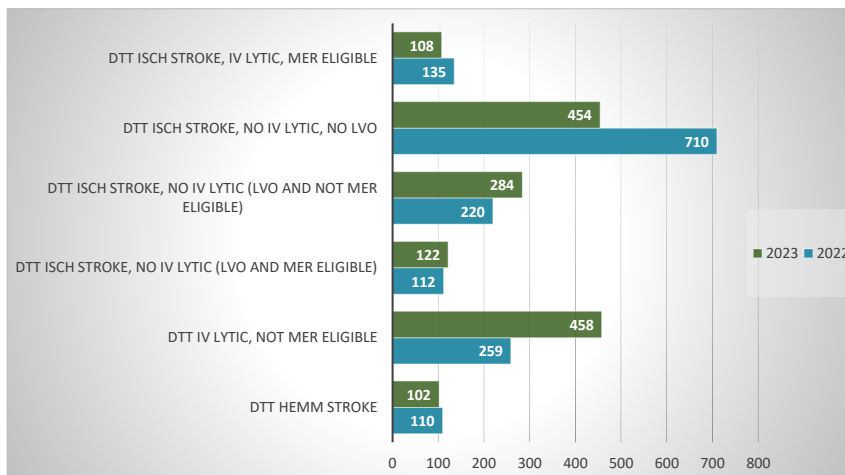
Our last survey by The Joint Commission was 4 the surveyor was complimentary on the exceptional program we have in place and the commitment our staff demonstrates to the care of our stroke patients.

Thank You and Please Contact Stroke Coordinator 24/7 for any Questions or Issues

Debbie Moser RN, BSN, SCRNP
Tiger Text

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Door to Transfer to Another Hospital Average Time 2022 - 2023



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Physician Online Resources

Up-to-Date is available to Physicians both in-hospital and in off-site clinics/offices and provides CME credit if you create your own login.

- *Up-to-Date Anywhere* is now used at Northern Regional Hospital and can be accessed on your iPhone, Android, iPad and other mobile devices
- Contact the Education Department for detailed information and assistance.

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High-Consequence Infectious Diseases (HCID)

2024

1

Joint Commission's Definition

High-Consequence Infectious Diseases or Special Pathogens are defined as.....

- Novel or reemerging infectious agents that are transmitted from person-to-person
- Have limited or no medical countermeasures (such as an effective vaccine or prophylaxis)
- Have a High Mortality rate
- Require prompt identification and implementation of infection control activities
- Require rapid notification to public health authorities and special action

©2 Report Issue 4: New and Revised Requirements for Infection Prevention and Control for Critical Access Hospitals and Hospitals | The Joint Commission

2

Joint Commission Regulation- IC.07.01.01

Effective July 1, 2024

- EP 1. The hospital develops and implements protocols for high-consequence infectious diseases or special pathogens. The protocols are readily available for use at the point of care and address the following: ·
 - Identify: Procedures for screening at the points of entry to the hospital for respiratory symptoms, fever, rash, and travel history to identify or initiate evaluation for high-consequence infectious diseases or special pathogens ·
 - Isolate: Procedures for transmission-based precautions ·
 - Inform: Procedures for informing public health authorities and key hospital staff · Required personal protective equipment and proper donning and doffing techniques · Infection control procedures to support continued and safe provision of care while the patient is in isolation and to reduce exposure among staff, patients, and visitors using the hierarchy of controls
- Note: Points of entry may include the emergency department, urgent care, and ambulatory clinics.
- Note: See the Glossary for a definition of hierarchy of controls. · Procedures for waste management and cleaning and disinfecting patient care spaces, surfaces, and equipment (See also EC.02.02.01; EC.02.05.01, EP 15) Issue 41, December 20, 2023 New and Revised Requirements for Infection Prevention and Control for Page | 7 Critical Access Hospitals and Hospitals © 2023 The Joint Commission

3

Joint Commission Regulation- IC.07.01.01

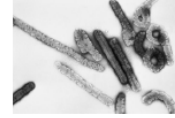
Effective July 1, 2024

- EP 2. The hospital develops and implements education and training and assesses competencies for the staff who will implement protocols for high-consequence infectious diseases or special pathogens. (See also EC.03.01.01, EP 1)
- Rationale Throughout the recent history of outbreaks and pandemics, hospital facilities were at the epicenter of the response and had to mobilize quickly. The preparedness of hospitals is highly variable, and there are no mandatory requirements for hospitals to implement training or competency assessment on special pathogens. A standardized approach to preparedness for high-consequence infectious diseases and special pathogens, grounded in hierarchy of controls, will strengthen basic infection control protocols and processes for all infectious threats.

4

Marburg Virus Disease

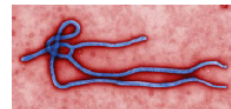
- Acute viral hemorrhagic illness (filovirus)
 - Recognized in 1967
 - Affects both humans and non-human primates
- Reservoir is African fruit bat
 - Unknown spillover dynamics (infected guano exposure? aerosol?)
 - Human-human transmission via blood or bodily fluids, contaminated surfaces/objects, sexual contact (male)
- Incubation period: 2-21d (7-10 most common); not contagious prior to symptoms; typical CFR 23-90%
- **Equatorial Guinea:** Jan-May 2023, 17 confirmed/12 deaths/23 probable (all fatal) CFR 70.5-88%; 1st time in-country, Africa's 3rd outbreak since 2022
- **Tanzania:** March-June 2023, 9 confirmed/6 deaths; CFR 66.7%; 1st time in-country



7

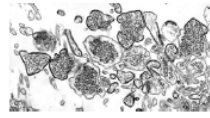
Ebola Virus Disease

- Acute viral hemorrhagic illness (filovirus)
 - Discovered 1976
 - Affects humans and non-human primates
- Reservoir/host remains unknown
 - Presumed bat and/or non-human primate species
 - Animal-human and human-human transmission occurs through direct contact with blood and bodily fluids and tissues of infection animal, contaminated surfaces, sexual contact; virus can persist for long periods of time
- Duration of Illness/Incubation period: 2-21d (avg 8-10d); not contagious prior to symptoms; typical CFR 25-90%
- **Democratic Republic of the Congo:** 13th outbreak Oct-Dec 2021; 14th outbreak Apr-Jul 2022; 15th outbreak Aug-Sep 2022
- **Uganda:** Sep 2022-Jan 2023, 164cases/22prob/56deaths (CFR ~ 39%)



8

Nipah Virus

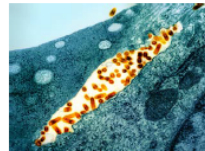


- Family *Paramyxoviridae*, genus *Henipavirus*
 - First discovered in 1999 in Malaysia and Singapore
 - Affects humans and pigs (mainly)
- Reservoir is the fruit bat (flying fox)
 - Transmission occurs via close or direct contact with infected animal's bodily fluids (saliva, urine); consumption of contaminated food products; those in contact with pigs
- Duration of illness/incubation period: 3-14 days, range of generalized symptoms to rapidly progressive respiratory distress to fatal encephalitis; typical CFR 40-75%
- **Bangladesh:**
 - Jan 2023: 14 cases/10deaths (CFR-71%), most in-country since 2015, unusual (all linked to date palm sap consumption)
 - 2024: 2 cases - both fatal



9

Kyasanur Forest Disease

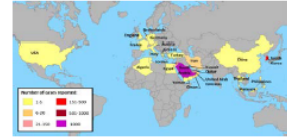
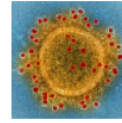


- Family *Flaviviridae*
 - First identified 1957 from monkeys in India
 - 400-500 human cases per year
- Reservoir is hard ticks – remain infected for life
 - Vectors are rodents, shrews, monkeys
- Duration of illness/incubation: 3-8 days
 - Symptoms are often sudden onset chills/fever/headaches leading to myalgias and hemorrhagic shock
 - After 1-2 weeks, some recover but 20% have biphasic illness (2nd phase is often with encephalitis) CFR 3-5%
- **India:**
 - 2024: 89 confirmed cases/3 deaths



10

Middle East Respiratory Syndrome



- Coronavirus
 - Recognized in 2012 – all cases linked to Arabian Peninsula
 - Detected in 27 countries
- Reservoir poorly understood, possibly from bats to camels
 - Transmission occurs from direct and/or indirect contact with camels, human to human transmission appears extremely rare
- Duration of illness/incubation: 2-14 days (avg 5-6d); spectrum of illness including rapidly progressive ARDS; typical CFR 35%
- **Republic of Korea:** 2015, 185cases/38deaths, largest outbreak outside of Middle East (travel-related)
- **Saudi Arabia:** Jan 2024: 4 cases/2 fatal



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Crimean-Congo Hemorrhagic Fever Virus

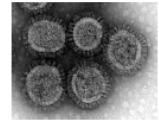


- *Nairovirus*; family *Bunyaviridae*
 - First isolated in Crimea 1944; 1969 in Congo
- Reservoir/host is Ixodid ticks (*Hyalomma*)
 - Domesticated animals serve as amplifying hosts
 - Human transmission occurs through contact with infected ticks/animals or bodily fluids, contaminated surfaces
- Duration of illness/incubation: 3-13days (avg 5-6d); typical CFR 30-50%
- **2023:** Afghanistan-422cases/35deaths; Iraq-289cases/41deaths; Georgia (country)-12cases/1death (since May); Pakistan 14cases/4deaths (since July) Senegal-2 cases; India 1 case; Macedonia 1 case
- **2024:** Spain-1 case



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Highly Pathogenic Avian Influenza (AH5N1)

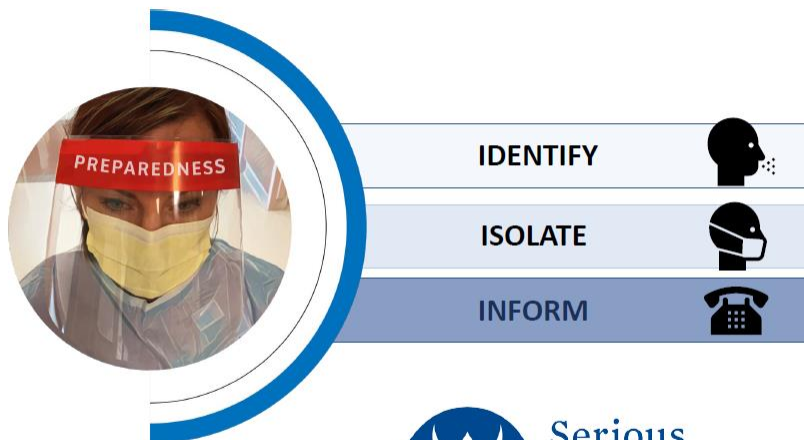


- Novel influenza virus
 - First infections identified in humans in Hong Kong, 1997
- Sporadic cases of avian-human transmission
 - Human-human transmission is rare
 - Direct/close exposure to sick/dead infected poultry
 - Wide range of disease severity
- **2003-2024:** 888 human cases, 463 deaths (CFR 52%), 23 countries
 - United States: 1 case (mild) 2022; 1 case (conjunctivitis) 2024
- Transmission has been observed in multiple terrestrial and marine mammalian species (>200 in the US); all 50 states; multiple different subtypes



13

Identify, Isolate and Inform



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Self Screening

Screening: Signage

- Signage enables patients to self identify
- Signage needs to be:
 - Positioned prominently so as to be easily seen
 - Easily understood, with simple to follow directions
 - Written in languages representative of the community
 - Created with pictograms that are easy to follow



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Early Recognition: Does the patient look sick?

➤ Visual cues of a potentially infectious person

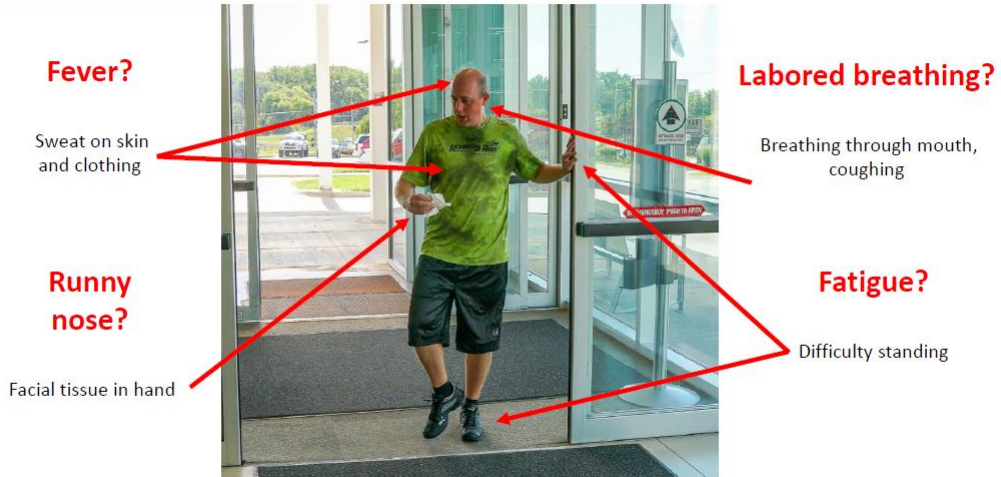
- Facial cues:
 - Puffy face
 - Droopy eyes
 - Dark eyes
 - Red nose
- Body language: Posture
- Skin: Pale/ flushed
Diaphoretic

Take measures to prevent the spread of infection



16

Does This Person Look Infectious?



17

Detecting a Suspect Case

Screening: What are you going to ask?

Screening all patients for infectious diseases immediately upon arrival is key to reducing the risk of transmission



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Isolate

Communication



Isolate

CDC Dry and Wet Recommendations

Staff should be confident in the Personal Protective Equipment they are wearing and in the donning and doffing process

Single Use (Disposable) Face Shield

Single Use (Disposable) Surgical Mask

Single use (disposable) fluid-resistant gown that extends to at least mid-calf or coverall without integrated hood

Single use (disposable) gloves with extended cuffs. Two pairs of gloves should be worn.

At a minimum, outer gloves should have extended cuffs and must completely cover the gown cuff.



Single use face shield, surgical hood extending to shoulders, and N95 Respirator OR PAPR with a full-face shield, helmet, shroud (not shown)

Single use fluid-resistant or impermeable gown that extends to at least mid-calf OR coverall without integrated hood (not shown)

Two pairs of single use, disposable gloves. At a minimum, outer gloves should have extended cuffs.

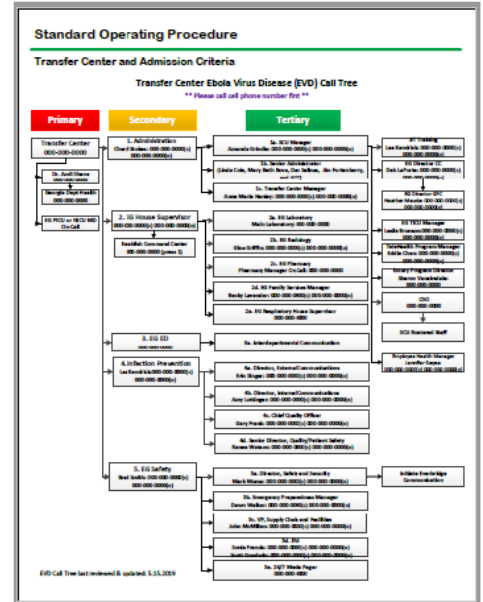
Single use fluid-resistant OR impermeable apron that covers the torso to the level of the mid-calf

Single use fluid-resistant or impermeable boot covers that extend to at least mid-calf OR single-use fluid-resistant or impermeable shoe covers, which are acceptable only if used with a coverall with integrated socks (not shown)

Internal Communication

People you may want to have on your list?

- Charge RN
- ED (or place where pt is located) MD
- Infectious Disease
- Infection Prevention/Epidemiology
- ED (or place where pt is located) leadership
- Staffing
- Safety
- Security
- Environmental Services
- Supply chain
- Emergency Management
- Laboratory
- Public relations team
- Administration



- Inform

External Communication

Who should you call externally?

People you want to make sure are on your list:

- Public health (local/state)
- EMS/transport
- Specialty services not available at your facility
 - For example, pediatrics, labor & delivery, etc.
- Other resources specific to your institution, region or CONOPS plan?

Who makes those phone calls?

Areas of Weakness



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Gown or Coverall?

Gown




1. Probably already stocked at your facility
2. Familiarity - many clinicians will have worn some type of gown
3. One size fits most - ?
4. Does not require a chair to don or doff

Coverall

1. May offer protection to a higher percentage of the body*
2. Many are wipeable
3. May be safer when dealing with patients who might pull, tug, or untie a different garment
4. Avoids the knit cuff

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Understanding the Difference

| |  Surgical Mask |  N95 Respirator |  Elastomeric Half Facepiece Respirator |
|---------------------------------|---|---|---|
| Testing and Approval | Cleared by the U.S. Food and Drug Administration (FDA) | Evaluated, tested, and approved by NIOSH as per the requirements in 42 CFR Part 84 | Evaluated, tested, and approved by NIOSH as per the requirements in 42 CFR Part 84 |
| Intended Use and Purpose | Fluid resistant and provides the wearer protection against large droplets, splashes, or sprays of bodily or other hazardous fluids. Protects the patient from the wearer's respiratory emissions. | Reduces wearer's exposure to particles including small particle aerosols and large droplets (only non-oil aerosols) | Reusable device made of synthetic or rubber material |
| Face Seal Fit | Loose-fitting | Tight-fitting | Tight-fitting |
| Fit Testing Requirement | No | Yes | Yes |
| Designed for Reuse | No | No | Yes |
| User Seal Check | No | Yes. Required each time the respirator is donned (put on) | Yes. Required each time the respirator is donned (put on) |
| Filtration | Does NOT provide the wearer with a reliable level of protection from inhaling smaller airborne particles and is not considered respiratory protection | Filters out at least 95% of airborne particles including large and small particles | May be equipped with filters that block 95%, 99%, or 100% of very small particulates. Also may be equipped to protect against vapors/gases. |
| Leakage | Leakage occurs around the edge of the mask when user inhales | When properly fitted and donned, minimal leakage occurs around edges of the respirator when user inhales | When properly fitted and donned, minimal leakage occurs around edges of the respirator |

<https://www.cdc.gov/niosh/nppt/NPPTInfographics.html>

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N95 vs PAPR

PROS:

- Does not require maintenance
- Disposable
- Noiseless
- Can use stethoscope

CONS:

- N95 requires fit testing
- Seal check needs to be performed each time it is put on
- Protection is dependent upon a tight-fitting seal with the wearer's face
- Requires additional PPE to cover face and neck.
- Fogging of glasses or eye protection

PROS:

- PAPR does not require annual fit testing
- Do not need to maintain a perfect seal
- Often more comfortable for the wearer especially over long periods of time

CONS:

- Requires frequent maintenance and properly charged batteries
- High start up costs
- Communication can be difficult 2/2 noise

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PPE for Wet Patients

N95, Surgical Hood and Full Face Shield



27

"Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the ... skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used."

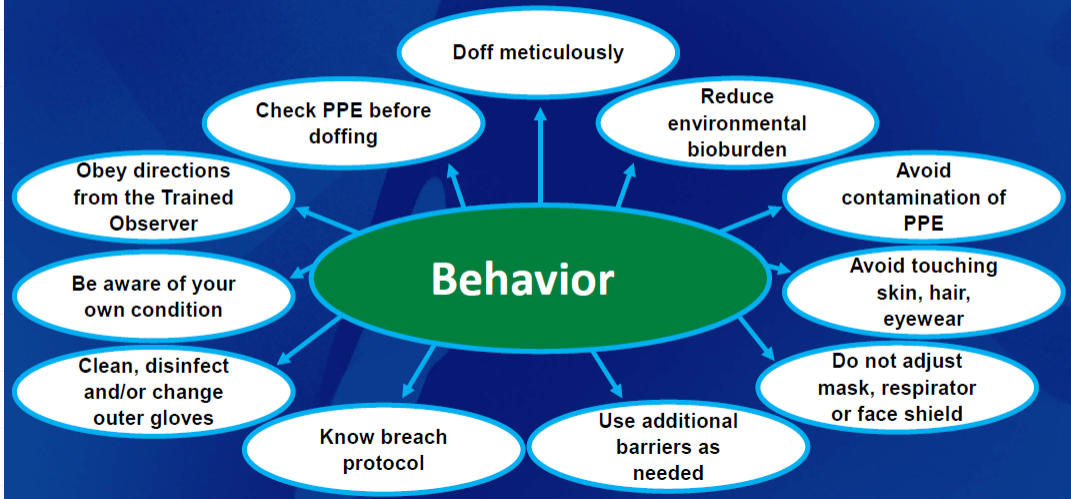
OSHA <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030>



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PPE Behavior

How can we improve our behavior in PPE?



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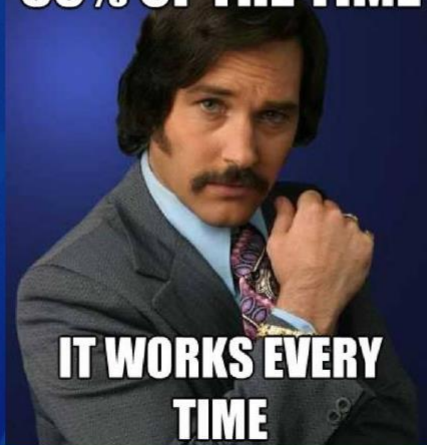
Donning High Level PPE (CDC Guidelines)

- Engage Trained Observer
- Remove Personal Items and clothing: surgical scrubs or disposable garments
- Inspect PPE prior to donning
- Put on Boot Covers (unless you have a coverall with built in shoe cover)
- Put on Inner Gloves
- Put on Gown or Coverall
- Put on N95 respirator
- Put on Surgical Hood
- Put on Outer Apron (if used)
- Put on Outer Gloves
- Put on Face Shield

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Doffing

60% OF THE TIME



**IT WORKS EVERY
TIME**

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Doffing High Level PPE (CDC Guidelines)

- Engage trained observer
- Inspect PPE
- Disinfect outer gloves
- Remove apron (if used)
- Inspect PPE
- Disinfect and remove outer gloves
- Disinfect inner gloves
- Remove face shield
- Disinfect inner gloves

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Doffing High Level PPE (CDC Guidelines)

- Remove surgical hood
- Disinfect inner gloves
- Remove gown or coverall
- Disinfect inner gloves
- Remove boot covers
- Disinfect and change inner gloves
- Remove N95 respirator
- Disinfect inner gloves
- Disinfect washable shoes
- Disinfect and remove inner gloves
- Perform hand hygiene

33

Sites Most Likely to be Contaminated



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Role of the Trained Observer

- Also wear PPE
- Observe and assist with staff donning
- Trained Observer should monitor for potential contamination of PPE, specifically the touching or adjusting of mask or respirator
- Observe the delivery of patient care and monitor for contamination of PPE and the patient care environment
 - This observation can be direct, for instance through a window, or via an A/V system
- Observe and instruct doffing but should not assist. If assistance is required for doffing, the facility should have a plan for a doffing buddy, including what PPE will be worn by that assistant

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Conclusion

- PPE is our last line of defense but it's not perfect!
- Our behavior in PPE matters!
 - Goal is keep our PPE as clean as possible.
 - Try to add barriers!
 - Allow the patient to do it
- Research is on-going into the most effective PPE and the best ways to don/doff.



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Tiered Healthcare System

Frontline Healthcare Facilities/Agencies

- All Hospitals, Urgent Cares, EMS, physician's office etc.
- Should maintain the capability to Identify, Isolate, Inform
- Maintain infection prevention procedures for HCP

HCP Assessment Hospitals

- Maintain preparedness levels to receive and isolate potential patients and provide care for up to 96 hours. This includes the coordination of testing for high consequence pathogens through their laboratory or with the State Lab of Public Health

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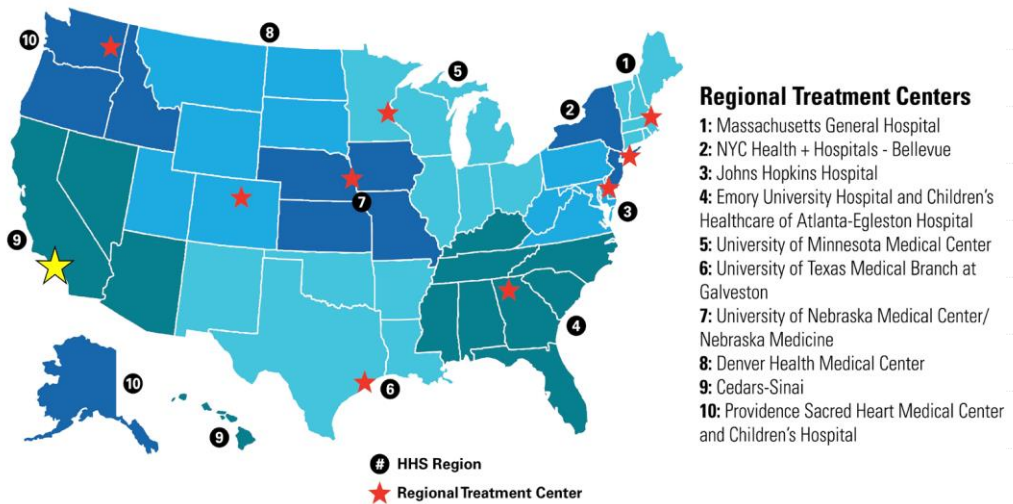
Tiered Healthcare System

Regional Emerging Special Pathogen Treatment Centers (RESPTC)

- Maintain preparedness level to provide adequate treatment areas, skilled and trained staff, appropriate equipment, and specialized biocontainment facilities.
- These facilities have the capability to manage a confirmed high consequence pathogen patient for duration of necessary medical treatment.
- There are 13 recognized RESPTCs across the US

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Northern Regional Hospital is located in Region 4.



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If we have a patient who is confirmed to have a HCID, they would be transferred to our Regional RESPTCs.

Emory University Hospital & UNC Medical Center at Chapel Hill



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DHHS EPI On-Call

- Public Health Surveillance & Activation
 - EPI On-Call is a 24/7 monitored phone line that is used by the public health and healthcare systems to report potential and/or confirmed communicable diseases and to receive communicable disease response technical assistance. The staff for this EPI On-Call line comes from the Communicable Disease Branch.
- **On-Call and Emergency**
 - **Fax communicable disease test results:** 919-733-0490
 - **Communicable disease concerns, including reportable conditions:** 919-733-3419 for 24/7 on-call public health epidemiologist
 - **Other public health emergencies:** 888-820-0520 for Public Health Preparedness and Response Branch, available 24/7

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Local Health Department Contacts

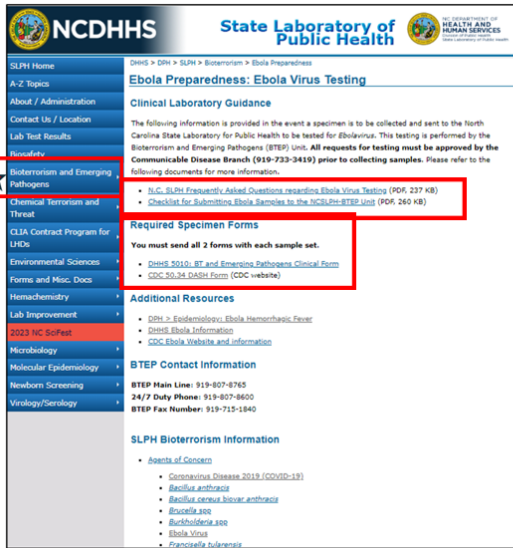
Communicable Disease Nurse
Sara Beaver & Ashley Vaughn
Office- 336-401-8579
After Hours- 336-374-0762



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**
Office of Communications

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SLPH Testing

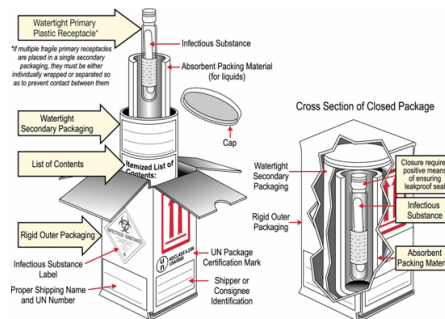


- Contact BTEP 24/7 at 919-807-8600
 - Epi as well as CDC approval required to conduct testing
- Specimen: 2 plastic EDTA whole blood tubes
 - Adult tubes: 4ml in each
 - Pediatric tubes: 1-2ml in each
- Submission forms
 - DHHS 5010 – BTEP Clinical Form
 - DASH 50.34 – CDC Form
- Category A packaging
- Transportation

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Category A Packaging & Shipping

- Triple layer packaging
 - Primary container - sealable specimen container wrapped with absorbent material
 - Secondary container - watertight and leak-proof
 - Outer rigid container that meets Cat A shipping requirements of marks and labels
- Requires training and certification
- <https://slph.dph.ncdhhs.gov/labimprovement/labtraining.asp>



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Special Pathogen Postmortem Care

Regulations

➤ If a patient with a special pathogen disease dies at your facility, the body may be subject to:

- Local regulations
- State regulations
- Federal regulations

➤ Human remains infected with pathogens that result in the generation of category A waste will require special handling by staff trained in handling infected human remains and wearing appropriate personal protective equipment



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Mitigating Risk During Postmortem Care

Understand the disease characteristics:

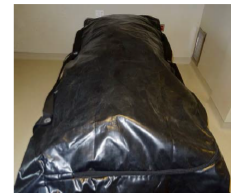
- Disease transmission route
- Post-mortem stability of the pathogen

If the disease is a category A waste generator don't:

- Wash or clean the body
- Remove any medical devices

Depending on the pathogen with which the patient was infected consider:

- Placing a mask over the decedent's airway
- Wrap the decedent in a surgical drape
- Contain the remains in multiple layers of mortuary bag



IMPORTANT

Always wear an appropriate level of PPE when providing postmortem care



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Ebola Virus Postmortem Care

High Transmission Risk

Ebola can be transmitted in postmortem care settings by:

- Through direct handling of human remains without recommended PPE
- Laceration and puncture of skin with contaminated instruments used during postmortem care
- Through splashes of blood or other body fluids to unprotected mucosa or broken skin during postmortem care
- More...

The Ebola virus will remain viable within body fluids, tissues and skin surface of Ebola infected remains for up to 4 weeks.



https://wwwnc.cdc.gov/eid/article/21/5/15-0041_article



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Special Pathogen Waste Management

Category A infectious substance definition

Is an untreated substance that if exposure to it occurs during transportation is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals

Category B infectious substance definition

Is a substance not in a form that is generally capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs

Waste that meets the definition for Category A
Infectious Substance must comply with the
DOT Hazardous Materials Regulations (HMR; 49 CFR, Parts 171- 180)



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Packaging Category A Waste

A general rule

All waste generated during the care of patients infected with a disease that leads to the generation of Category A infected substance waste must be triple packed in a:

- ▶ Primary leak proof container
- ▶ Secondary leak proof container
- ▶ Rigid leak proof container

NOTE: There should be no infectious material on the outside of the containers and each package must be able to contain the contents without risk for rupture or leakage
49 CFR 173.24a (b)

NOTE: The packaging of category A infectious substance waste may be subject to local and state regulations in addition to Federal regulations



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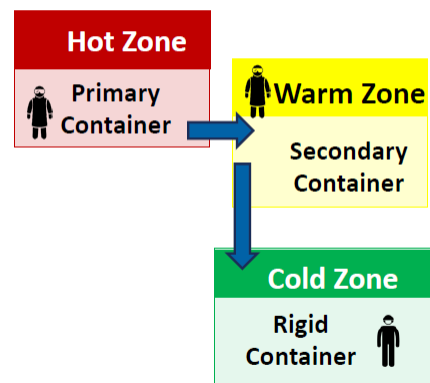
Transferring Waste from the Hot Zone

Use Engineering and Administrative controls to safely move waste from the hot zone to the cold zone

- ▶ Placing the waste into the rigid container should be done in an area where there is no potential for the external surfaces of the container to become contaminated.

Or

- ▶ There needs to be a process to decontaminate the external surfaces (this will be difficult with fiber containers)



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Rigid Leak Proof Containers

- Must be rigid and puncture proof.
- Can be made from metal, plastic or fiber such as cardboard
- Must be lined with a biohazard bag with absorbent material in the bottom.
- Must be securable with zip ties, bands, or tape.



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• Sequestering Medical Waste

Hold all waste generated in the care of a PUI until lab tests rule out or confirm disease

If a Category A condition is ruled out:

Waste can be handled according to procedures in compliance with local waste management ordinances

If a Category A condition is confirmed:

Follow procedures for Category A Infectious Substance Waste management



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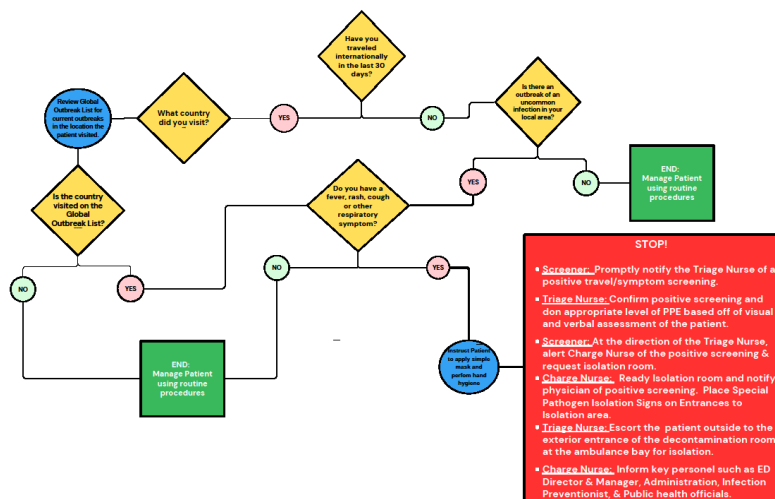
Healthcare Worker Monitoring

- Management may differ by institution
- Symptom monitoring of all personnel who had contact with the confirmed patient should be done for the duration of the incubation period of the disease
- For Ebola it is 21 days, and for most airborne pathogens, monitoring would be done for 14 days

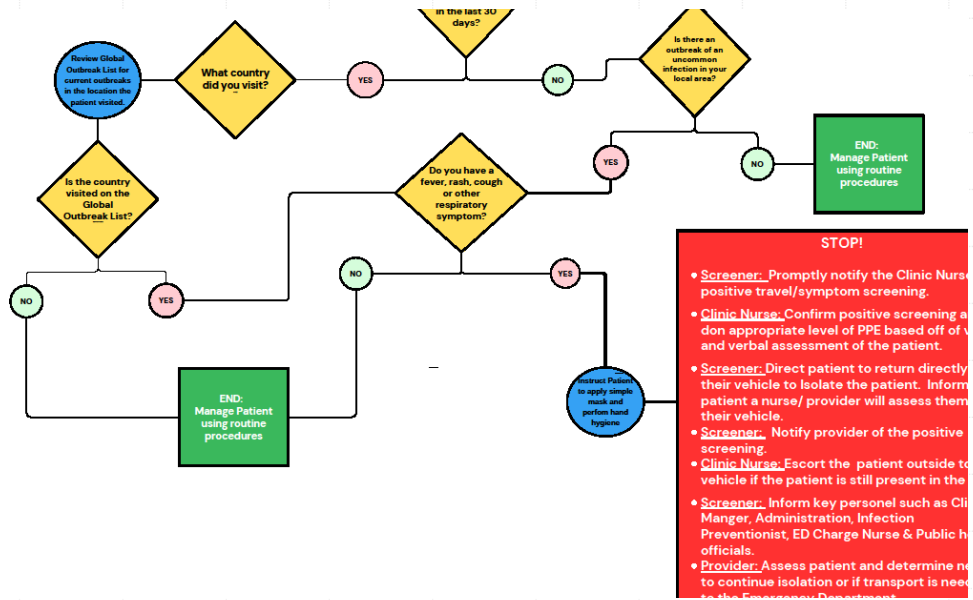


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Northern Regional Hospital High-Consequence Infectious Disease Screening Algorithm



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You have finished reviewing the material for the Self-Study Physician Orientation / Annual Review.

Please sign the Physician Orientation / Annual Review acknowledgement form and return it to the Medical Staff Services office.

Thank you!