



# Position Statement

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## Emerging Infectious Diseases in the Emergency Care Setting

### Description

The evolving nature of infectious diseases makes this position statement a living document, not intended to represent all possible infectious processes, but to provide guidance to available national resources. ENA highly recommends that readers refer to the specific resources as this topic is rapidly evolving.

In 2015–2016, The National Institutes of Health (NIH) identified several broad categories of infectious agents and the diseases they cause:<sup>1</sup>

- Bacterial – Unicellular prokaryotic organisms, frequently divided into two broad classes: gram negative and gram positive.
  - Examples include *Salmonella typhi*, which causes typhoid fever; *Yersinia pestis*, plague; *Staphylococcus aureus*, skin and wound infections; and *Clostridium tetani*, tetanus.<sup>1</sup>
- Viral – Not organisms themselves as they have no metabolism and cannot reproduce without the host cell.
  - Examples include the herpes viruses that cause chicken pox; the poxvirus, smallpox; rotaviruses, gastroenteritis; and retroviruses, AIDS and several types of cancer.<sup>1</sup>
- Fungal – Caused by fungi in the environment that can live outdoors in soil and on plants, on indoor surfaces, and on human skin.
  - Examples include histoplasmosis, a mild to severe lung infection transmitted by bat or bird droppings, and ringworm.<sup>1</sup>
- Protozoa – An organism that lives on or in a host organism, they can be acquired through contaminated food or water or by the bite of an infected arthropod, such as a mosquito, tick, or flea.
  - Examples include *Giardia lamblia*, which causes diarrheal disease, and *Cryptosporidium parvum*, which causes malaria.<sup>1</sup>
- Helminths – Parasitic worms, some of which are infectious, infiltrate the intestinal tract and are transmitted via contaminated soil.
  - Examples include *Schistosoma*, which causes schistosomiasis or swimmer's itch, is endemic in Africa and Latin America, and *Trichinella spiralis*, which causes trichinosis.<sup>1</sup>
- Prions – Rare, cause progressive neurodegenerative disorders of the central nervous system, with infectious particles that consist only of protein and affect both humans and animals.
  - Example is Creutzfeldt-Jakob disease (in humans), scrapie (in sheep), and bovine spongiform encephalopathy (mad cow disease in cattle).<sup>1</sup>

Despite advances in research and treatments, infectious diseases remain the leading cause of illness and death worldwide.<sup>2–5</sup> The speed at which infectious diseases spread today is due, in part, to global migration and travel. Diseases typically thought to exist only in specific areas of the world are now being seen in non-traditional areas. Factors contributing to disease emergence include population growth, climate and ecological changes, increasing contact with animals, international trade, and inadequate public health infrastructure. In addition, there are multiple other factors that affect the spread of infectious diseases, including mutation, cultural practices,<sup>6</sup> poor living conditions, the availability of clean water and proper sanitation in less developed countries, drug resistance, natural disasters, immunization practices, and distrust of the medical community. Diseases previously brought under control by vaccinations in the United States may be transported into the country by travelers from other countries.<sup>6</sup> Education on methods for infectious disease control and containment is a priority. In planning for infectious disease outbreaks, it is essential to include local public health and private resources.<sup>3</sup>



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## ENA Position

It is the position of the Emergency Nurses Association that:

1. Protection of patients, staff, and family members from infectious diseases is of utmost importance.
2. Emergency nurses monitor current health advisories in their country of practice and other countries.
3. ED surveillance for increased cases of infectious diseases serves as an early warning to health care facilities and can facilitate coordination of appropriate jurisdictional response partners.
4. Screening patients for a potential infectious disease includes their immunization status, recent travel history, and exposure to ill persons.
5. Healthcare workers have adequate antibody titers or receive available immunizations for infectious diseases as recommended by national health experts.
6. Healthcare workers, patients, and visitors are educated in basic infection prevention measures to stop the spread of infectious diseases.
7. Emergency nurses advocate for educating and training all staff to recognize disease-specific signs and symptoms that require isolation precautions.
8. Emergency nurses comply with mandatory reporting requirements for infectious diseases confirmed in the emergency care setting.
9. Healthcare facilities have an adequate supply of medications, personal protective equipment, and laboratory sampling kits to use until the Strategic National Stockpile is available.

## Background

Rapid identification and isolation of patients presenting to the emergency care setting with a potentially infectious disease reduces the risk of exposure and disease transmission to patients, visitors, and staff. The Centers for Disease Control and Prevention (CDC) recommends appropriate precautions to prevent contact with blood or body fluids.<sup>3,7</sup> Specific support for nurses caring for a variety of emerging infectious diseases is further delineated in the most current research and resources listed below.

The span of emerging infectious diseases is changing at a rapid rate, requiring multiple resources for risk assessment, evaluation of patient care processes, and necessary supplies within the healthcare facility. A pandemic plan is recommended that ensures business continuity in the event of a widespread outbreak of an infectious disease. Such plans are implemented in concert with appropriate jurisdictional agencies and include procedures for the care of exposed, infected, and deceased individuals.<sup>8</sup> The CDC standards limit transport of patients who require diagnostic and therapeutic procedures that cannot be performed in their rooms.<sup>9</sup>

Pandemic threats are forecast to appear at faster rates, so preparation times between pandemics will grow shorter and emergency nurses must be ready to respond.<sup>5</sup>

The impact of an infectious disease outbreak may be mitigated by advanced planning and preparedness. It should start with



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screening new-hire employee health, immunization history, antibody titer assessment, and respiratory N-95 fit testing requirements.<sup>3,5,6,10</sup> One way to ensure a healthy workforce is to generate immunity to infectious diseases via mandatory disease-specific vaccinations.<sup>3,11</sup>

With migration of people growing globally, infectious diseases can now spread at an unprecedented rate.<sup>6</sup> Well-trained staff, educated in the importance of taking a detailed exposure history, including recent travel or exposure to ill persons as well as exposure to pets or other animals, can be the first line of defense in preventing the spread of disease. Respiratory hygiene and cough etiquette, in addition to hand hygiene and personal protective equipment, are now considered part of standard precautions.<sup>13</sup> The spread of Severe Acute Respiratory Syndrome coronavirus by patients and their family members highlights the need for prompt implementation of standard precautions with patient, family, and visitor education.<sup>9</sup>

Seven major human diseases have come under some degree of control worldwide because of vaccines: smallpox, diphtheria, tetanus, yellow fever, whooping cough, polio, and measles.<sup>12</sup> While vaccinations may be available, some individuals choose not to vaccinate due to fear of side effects or because of religious or personal beliefs. Individuals from countries where vaccination rates are very low pose a risk to emergency care providers and the public upon entering this country.<sup>7</sup> Mandatory reporting requirements for confirmed infectious diseases, which vary from state to state, help to control these diseases.

One resource available in the event of a public health emergency such as a flu outbreak, natural disaster, or a terrorist attack is the CDC's Strategic National Stockpile (SNS).<sup>13</sup> The SNS includes medications and supplies that can be released to individual states in need at the direction of the federal government.<sup>13</sup> Since the SNS is not immediately available, each facility is expected to have a source for supplies and medications to last until the federal government can provide additional resources. The Office of the Assistant Secretary of Preparedness and Response can be requested to augment local capabilities during a disaster, as applicable.<sup>15</sup>

## Resources

### General Topics

Centers for Disease Control and Prevention. (2016). *Guidance for the selection and use of personal protective equipment in healthcare settings*. Retrieved from <http://www.cdc.gov/hai/pdfs/ppe/ppeslides6-29-04.pdf>

Emergency Nurses Association. (2016). *Emerging infectious disease resources*. Retrieved from <https://www.ena.org/practice-research/Practice/Infectious/Pages/Resources.aspx>

U.S. Department of Labor, Occupational Safety & Health Administration. (n.d.). *Healthcare Wide Hazards: (Lack of) Universal Precautions*. Retrieved from <https://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html>

HealthMap (2016). *Global health, local knowledge*. Retrieved from <http://www.healthmap.org/local/> (Aggregates weekly disease outbreak monitoring.)

Emergency Nurses Association. (2014). Position statement: *Disaster and emergency preparedness for all hazards*. Retrieved from <https://www.ena.org/SiteCollectionDocuments/Position%20Statements/AllHazards.pdf>

Emergency Nurses Association. (2015). Position statement: *Immunizations*. Retrieved from <https://www.ena.org/practice-research/Practice/Position/Pages/Immunizations.aspx>

National Ebola Training and Education Center. Accessed at <http://netec.org/about-us/>



# Position Statement

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## **Bacterial**

Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases. Accessed at <http://www.cdc.gov/ncezid/>

## **Viral**

Centers for Disease Control and Prevention. (2016). *Questions and answers for healthcare providers caring for pregnant women and women of reproductive age with possible Zika virus exposure*. Retrieved from <http://www.cdc.gov/zika/hc-providers/pregnant-woman.html>

Centers for Disease Control and Prevention. (2016). *Information about Ebola for travelers*. Retrieved from <http://wwwnc.cdc.gov/travel/diseases/ebola>

Emergency Nurses Association. (2016). Topic Brief: *Ebola virus disease*. Retrieved from <https://www.ena.org/practice-research/Practice/Pages/TopicBriefs.aspx>

## **Fungal**

Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases. Accessed at <http://www.cdc.gov/ncezid/>

## **Protozoa**

Tappe, D., Sulyok, M., Riu, T., Rózsa, L., Bodó, I., Schoen, C., . . . Hardi, R. (2016). Co-infections in visceral pentastomiasis, Democratic Republic of the Congo. Retrieved from the Centers for Disease Control and Prevention website: [https://wwwnc.cdc.gov/eid/article/22/8/15-1895\\_article](https://wwwnc.cdc.gov/eid/article/22/8/15-1895_article)

## **Prions**

Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases. Accessed at <http://www.cdc.gov/ncezid/>



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