



Beyond Universal Precautions

Curricular Content in Infection Prevention and Control

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Objectives:

- Identify the common healthcare-associated infections impacting the physical therapy profession
- Understand the incidence of pathogen exposure/presence in physical therapy settings
- Appraise and optimize the current infection control policies/procedures for a variety of clinical settings
- Identify relevant sources of information for infection prevention and control
- Develop curriculum content relevant to infection prevention and control of healthcare associated infections
- Integrate curricular content on best practices for appraisal and optimization of current infection control policies/procedures for a variety of clinical settings



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All Handouts Available at:

<https://www.utc.edu/physical-therapy/research/cidc.php>

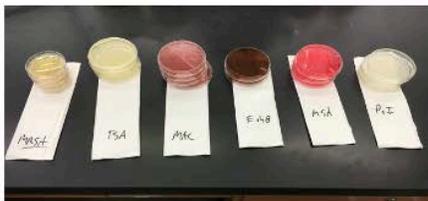


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CIDC Research



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CIDC Research

<http://informahealthcare.com/jtp>
 ISSN: 0959-3985 (print), 1532-5040 (electronic)
 Physiotherapy Theory Pract, 2014, 30(7): 507-511
 © 2014 Informa Healthcare USA, Inc. DOI: 10.3109/09593985.2014.900836

informa
healthcare

DESCRIPTIVE REPORT

Physical therapy clinic therapeutic ultrasound equipment as a source for bacterial contamination

Henry G. Spratt, Jr, PhD¹, David Levine, PT, PhD, DPT, OCS², and Larry Tillman, PhD²

¹Department of Biological and Environmental Sciences and ²Department of Physical Therapy, University of Tennessee at Chattanooga, Chattanooga, USA

Spratt HG, Levine D, Tillman L.
Physiotherapy Theory and Practice, 2014

BREAST SURGERY

Pocket Irrigation and Technique During Reconstructive Surgery

An American Society of Plastic Surgery Survey of Current Practice

Mathew Thomas Epps, MS, MD,* Sarah Langsdon, BA,* Taylor K. Pels, BA,* Victoria Noyes, BA,†
 David Levine, PhD,‡ Todd E. Thurston, MS, MD,*
 Henry G. Spratt, PhD,† and Mark A. Brzeziński, MS, MD*

Epps MT, et. al. *Annals of Plastic Surgery*, 2019

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CIDC Research

PHYSIOTHERAPY THEORY AND PRACTICE
 2019, VOL. 35, NO. 2, 163-170
<https://doi.org/10.1080/09593985.2018.1441935>

Taylor & Francis
 Taylor & Francis Group

RESEARCH REPORT

Topical lotions utilized in outpatient rehabilitation clinics as a potential source of bacterial contamination

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Spratt HG, Levine D, et. al. *Physiotherapy Theory and Practice*, 2019

American Journal of Infection Control 47(2018) 1137-1139

Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Brief Report

Survival of *Staphylococcus aureus* on therapeutic ultrasound heads

Henry G. Spratt, Jr, PhD^{a,b}, David Levine, PT, DPT, PhD, OCS, FAPTA^b, Susan McDonald EdD, OTR/L^c, Sarah Drake OTR/L^c, Katherine Duke OTR/L^c, Casey Klutzn OTR/L^c, Kate Noonan BS^a

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Survival of *Staphylococcus aureus* on therapeutic ultrasound heads

Henry G. Spratt, Jr, PhD^{a,b}, David Levine, PT, DPT, PhD, OCS, FAPTA^b, Susan McDonald EdD, OTR/L^c, Sarah Drake OTR/L^c, Katherine Duke OTR/L^c, Casey Klutzn OTR/L^c, Kate Noonan BS^a

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Spratt HG, Levine D, et. al. *American Journal of Infection Control*, 2019

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Infection Prevention and Control (IPC)

What do physical therapists need to know?

- minimum?
 - enough to protect patients, ourselves, the community

Where do we get guidance?

- CDC
- Accrediting agencies
- Public Health Guidelines
- History:
 - HIV/AIDS, SARS, SARS-CoV2



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- Provides **GENERAL guidelines** related to
 - **curricular content** that will prepare students to achieve educational outcomes required for **initial practice** and for **lifelong learning** necessary for **functioning** within an **ever-changing** health care environment

Commission on Accreditation in Physical Therapy Education (CAPTE). Accreditation handbook. <http://www.capteonline.org/AccreditationHandbook/>.
Published May 30, 2019. Accessed February, 2020.



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CAPTE STANDARDS / ELEMENTS Curriculum			
PTA		PT	
7A General Education		7A Foundation Science	
7B Clinical Sciences		7C Clinical Sciences	
7D Practice Expectations		7D Practice Expectations	
7D17-7D22	Plan of Care	7D28-7D36	Management of Care Delivery
7D27-7D29	Participation in healthcare environment	7D37-7D41	Participation in healthcare environment
7D30-7D31	Practice Management	7D42-7D43	Practice Management



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Standards/Elements-7D



- **Management of Care Delivery**
 - PT-7D33 / PTA-7D26: Respond to patient/client emergencies
 - PT-7D34: Address primary, secondary, tertiary prevention, health promotion, and wellness to individuals, groups, and communities
- **Participation in Healthcare Environment**

PT-7D37: Assess/document safety risks of patient and provider; design/implement strategies to improve safety

PTA-7D27: Contribute to efforts to increase patient and healthcare provider safety

PT-7D41:
Assess healthcare policies and potential impact on healthcare environment and practice

Commission on Accreditation in Physical Therapy Education (CAPTE). Accreditation handbook. <http://www.capteonline.org/AccreditationHandbook/>.
Published May 30, 2019. Accessed March 30, 2020.



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Determining safe and effective practice...

Example:

Ankle sprain? CVA? TKA?

- Know normal
- Know pathology

Clinical Practice Guidelines

Physical Therapist Management of Total Knee Arthroplasty

Diane U. Jette, Stephen J. Hunter, Lynn Burkett, Bud Langham, David S. Logerstedt, Nicolas S. Pizzi, Noreen M. Poirier, Linda J.L. Radach, Jennifer E. Ritter, David A. Scalzitti, Jennifer E. Stevens-Lapsley, James Tompkins, Joseph Zeni Jr, for the American Physical Therapy Association

A clinical practice guideline on total knee arthroplasty was developed by an American Physical Therapy (APTA) volunteer guideline development group that consisted of physical therapists, an orthopedic surgeon, a nurse, and a consumer. The guideline was based on systematic reviews of current scientific and clinical information and accepted approaches to management of total knee arthroplasty.

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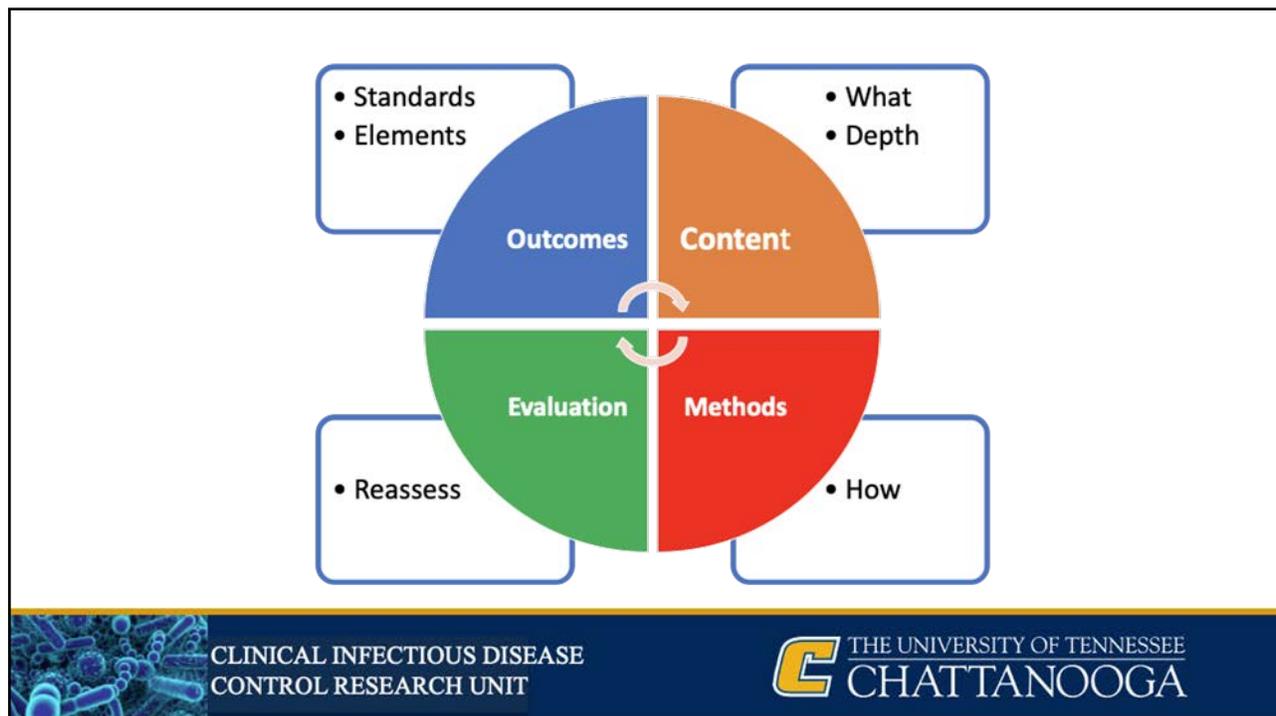
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Bacteria vs. Viruses - What is a Microbe?

- In the late 1800s a key development related to our understanding of diseases was the establishment of the “Germ Theory of Disease”
 - This theory linked the presence of a particular pathogen to symptoms of a particular disease
 - “Germs” (from the latin *germen*, meaning “seed” or “sprout”) were microbes that caused infectious disease
 - Disease can be caused by either bacteria, viruses, and occasionally fungi, which are all “germs”
- Over time, microbiologists learned much more about bacteria and viruses, which are very different forms of life

Wiley, et. al., 2020



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Bacteria

- Bacteria are single-celled organisms that can reproduce on their own
 - Bacteria can survive extreme heat and cold, moist or dry conditions, and live both inside and outside the human body
- Most bacteria are harmless - some actually help digest food, provide essential nutrients, and outcompete disease-causing microbes
 - Fewer than 1% of bacteria cause diseases in people



Bacilli bacteria (approx. 1 X 10 microns)

Image from the CDC

Willey, et. al., 2020



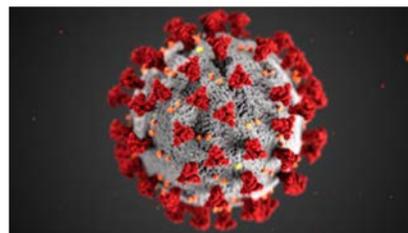
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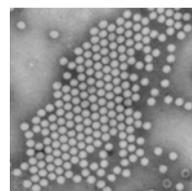
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Viruses

- Viruses are much smaller than bacteria: the largest of them are smaller than the smallest bacteria
 - They are “obligate intracellular parasites” and can only reproduce inside of specific host cells
 - They usually kill the host cell after they reproduce
- All viruses have a protein coat and a core of genetic material, either RNA or DNA
- Some viruses (e.g., Coronavirus, Influenza virus) also have a membrane envelope surrounding their protein coat



Coronavirus (0.06 to 0.140 microns)



Polio virus (0.03 microns)

Willey, et. al., 2020; Acheson 2011



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How Bacteria Evolve

[Antibiotic Resistance](#)



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Types of Human Disease

- Human diseases can have numerous causes
 - Developmental Diseases
 - Genetic Diseases
 - Immunodeficiencies
 - Chemical Exposure
 - Infection by Pathogens
- The US Centers for Disease Control & Prevention (CDC) has the responsibility to keep track of disease in the US, following about 80 “reportable” diseases
- Reportable diseases are those that are of great public health importance
- By law, reportable diseases must be reported to the CDC in a timely fashion

<https://www.cdc.gov/diseasesconditions/az/a.html>; <https://medlineplus.gov/developmentaldisabilities.html>



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Communicable Diseases That are Reportable to the Centers for Disease Control & Prevention (CDC)

<u>Anthrax</u>	<u>Cyclosporiasis</u>	<u>HIV infection</u>	<u>Mumps</u>
<u>Arboviral diseases</u>	<u>Dengue virus infections</u>	<u>Influenza-related infant deaths</u>	<u>Pesticide-related illnesses and injuries</u>
<u>West Nile virus</u>	<u>Diphtheria</u>	<u>Invasive pneumococcal disease</u>	<u>Plague</u>
<u>Eastern and Western Equine Encephalitis</u>	<u>Ehrlichiosis</u>	<u>Lead, elevated blood level</u>	<u>Poliomyelitis</u>
<u>Babesiosis</u>	<u>Foodborne disease outbreak</u>	<u>Legionnaire disease (legionellosis)</u>	<u>Poliovirus infection</u>
<u>Botulism</u>	<u>Giardiasis</u>	<u>Leprosy</u>	<u>Psittacosis</u>
<u>Brucellosis</u>	<u>Gonorrhea</u>	<u>Leptospirosis</u>	<u>Q-fever</u>
<u>Campylobacteriosis</u>	<u>Haemophilus influenza</u>	<u>Listeriosis</u>	<u>Rabies</u>
<u>Chancroid</u>	<u>Hantavirus pulmonary syndrome</u>	<u>Lyme disease</u>	<u>Rubella</u>
<u>Chickenpox</u>	<u>Hemolytic uremic syndrome, post-diarrheal</u>	<u>Malaria</u>	<u>Salmonella paratyphi and typhi infections</u>
<u>Chlamydia</u>	<u>Hepatitis A</u>	<u>Measles</u>	<u>Salmonellosis</u>
<u>Cholera</u>	<u>Hepatitis B</u>	<u>Meningitis</u>	<u>Novel influenza A virus</u>
<u>Coccidioidomycosis</u>	<u>Hepatitis C</u>		<u>Pertussis</u>
<u>Cryptosporidiosis</u>			

<https://www.cdc.gov/nndss/conditions/notifiable/2020/>



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Communicable Diseases That are Reportable to the Centers for Disease Control & Prevention (CDC) (cont.)

<u>Severe acute respiratory syndrome-associated coronavirus disease</u>	<u>Tularemia</u>
<u>Shiga toxin-producing Escherichia coli</u>	<u>Typhoid fever</u>
<u>Shigellosis</u>	<u>Vancomycin intermediate Staphylococcus aureus (VISA)</u>
<u>Smallpox</u>	<u>Vancomycin resistant Staphylococcus aureus (VRSA)</u>
<u>Syphilis</u>	<u>Vibriosis</u>
<u>Tetanus</u>	<u>Viral hemorrhagic fever (including Ebola virus, Lassa virus, among others)</u>
<u>Toxic shock syndrome</u>	<u>Waterborne disease outbreak</u>
<u>Trichinellosis</u>	<u>Yellow fever</u>
<u>Tuberculosis</u>	<u>Zika virus disease and infection</u>

<https://www.cdc.gov/nndss/conditions/notifiable/2020/>



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Potential for Disease in Physical Therapy Clinics

- Of the CDC reportable diseases the majority would never show up in a PT clinic
- There is no definitive list of communicable diseases for PT clinics, however many diseases of in-patient clinics may be found in PT clinics
 - Many diseases found in in-patient clinics are important because they cause “Healthcare Associated Infections” (HAIs)
 - HAIs are important to in-patient clinics because of legal requirements for these facilities to pay for all costs associated with treatment of patients having these infections

Aljadi, S. H., et al. *J. Phys. Ther. Sci.* 2017; https://physio-pedia.com/Infection_Prevention_and_Control



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Pathogens Involved in HAIs

- Most often due to bacteria
 - Often opportunistic, caused by normal human bacterial flora
 - Post World War II to late 1990s, dominated by infections due to *Staphylococcus sp.*
 - Evolution of antibiotic-resistant strains of bacteria
 - MRSA
 - Multi-drug resistant Gram Negative bacteria
 - New evidence links bacteria found in the environment of hospitals and clinics to HAIs

Tong, S. Y. C., et al. *Clin. Microbiol. Rev.* 2015; <https://www.cdc.gov/hai/index.html>



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Healthcare-Associated Infections

- Five Major Categories
 - Central Line-Associated Bloodstream Infections (CLABSI)
 - Catheter-Associated Urinary Tract Infections (CAUTI's)
 - Ventilator-Associated Pneumonias (VAP)
 - Surgical Site Infections (SSI's)
 - Gastrointestinal Infections
 - *Clostridium difficile* ("C.diff") infections
- Often Caused by Antibiotic Resistant Bacterial Strains or Bacterial Overgrowth
 - e.g., *Staphylococcus aureus* (i.e., MRSA) & Multi-Resistant Gram-Negative Bacteria

 Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People™

Tong, S. Y. C, et al. *Clin. Microbiol. Rev.* 2015; <https://www.cdc.gov/hai/index.html>



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Bacterial Species Associated With HAIs (CDC, 2014)

Bact. sp/Site	Urinary Tract (39%)	Lower Resp. Tract (18%)	Surgical Wounds (17%)	Skin (8%)	Blood (6%)
<i>Enterobacter sp.</i>	X	X	X		X
Enterococci	X		X		X
<i>E. coli</i>	X		X	X	
<i>P. aeruginosa</i>	X	X	X	X	X
<i>Acinetobacteria sp.</i>		X			
<i>Klebsiella pneumoniae</i>		X			
<i>S. aureus</i>		X	X	X	X
Coag. Neg. Staphylococci			X	X	X
<i>Candida sp.</i>	X				X

Note: Other sites located throughout the body comprise about 12% of HAI's.

<https://www.cdc.gov/hai/index.html>



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How Communicable Diseases are Spread

- Diseases caused by pathogenic bacteria, viruses, or fungi may be spread by numerous routes
 - Direct Contact
 - Airborne
 - Insect Bites
 - Via Food or Water
- Many bacteria causing HAIs are spread by contact via touch
- Airborne diseases may be spread from one person to another via:
 - Respiratory droplets (particles > 0.5 microns)
 - Aerosols (sneezes or coughs, particles < 0.5 microns)
 - The SARS CoV-2 virus has been found to spread over 6 m (about 20 feet) by way of aerosols

Edemekong, P. F., et al. 2020



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Protection for Clinic Patients and Personnel

- Control of pathogens in clinics requires knowledge of routes of transmission of pathogens
 - Contact Transmission
 - Requires excellent cleanliness plus disinfection
 - Disinfection may include chemical disinfectants, ultraviolet light, strong oxidants
 - Disinfectants require careful consideration of “wetting” times
 - UV light can be hazardous if used improperly
 - Airborne Bacteria and Viruses
 - Control of airborne bacteria or viruses requires proper air filtration
 - Patients and clinic personnel should wear masks
 - N95 masks remove 95% of particles > 0.3 microns
 - Surgical masks remove up to about 60% of particles > 0.5 microns
 - Homemade - three layers of woven cloth can be similar to surgical masks, avoid knit materials

Edemekong, P. F., et al. 2020



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Infection Prevention and Control – Suggestions for Outpatient Healthcare Settings

- IPC activities:
 - Planned, implemented, and overseen by designated staff with experience in IPC
 - Designate a staff member to be the focal point for implementation of IPC activities at the clinic
 - Consultation of other stakeholders such as facility leadership, occupational health, nursing, environmental services, engineering, or other relevant staff in the form of an IPC committee
 - Other consultation should occur with local and national IPC public health authorities
 - This can help to provide supportive supervision of ongoing activities to assist facility staff in effective implementation

From <https://www.cdc.gov/infectioncontrol/pdf/ICAR/Outpatient.pdf>



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Reduce Transmission of Airborne Infection - Outpatients

- Maximize Patient Safety
 - Non-medical masks can reduce transmission of SARS-CoV-2 among patients
 - Medical-grade masks (e.g., N95) for vulnerable populations:
 - > 60 years old; underlying conditions
- Minimize Patient Exposure
 - Reduce patient visits to clinic (use telehealth or home health)

van der Sande, M, et al. *PLoS ONE*, 2008; <https://www.cdc.gov/infectioncontrol/pdf/ICAR/Outpatient.pdf>



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Reduce Transmission of Airborne Infection: Outpatient

- Create structural changes to the facility to reduce transmission
 - Separate waiting area for patients or install barriers
- Review sick leave policies for healthcare providers and ensure that they are flexible and consistent with public health guidance to allow ill providers to stay home

<https://www.cdc.gov/infectioncontrol/pdf/ICAR/Outpatient.pdf>



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Personal Protective Equipment

- Monitor availability/use of supplies
 - Hand Hygiene - multiple approach
 - alcohol-based hand sanitizers
 - antibacterial soap
- Choose appropriate cleaning /disinfection product
- Purchase appropriate PPE
 - masks
 - eye protection (face shields or goggles)
 - gloves
 - gowns



Note: Hand sanitizers are not as effective as hand washing with soap and water for control of *C. difficile*

<https://www.cdc.gov/infectioncontrol/pdf/ICAR/Outpatient.pdf>



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Training/Education

- Train healthcare workers on cleaning and disinfection practices
 - appropriate PPE to wear while cleaning/disinfection
 - appropriate don/doff of PPE to prevent self-contamination
 - use disinfectant appropriately, with emphasis on “wet” time constraints
- Remain up-to-date

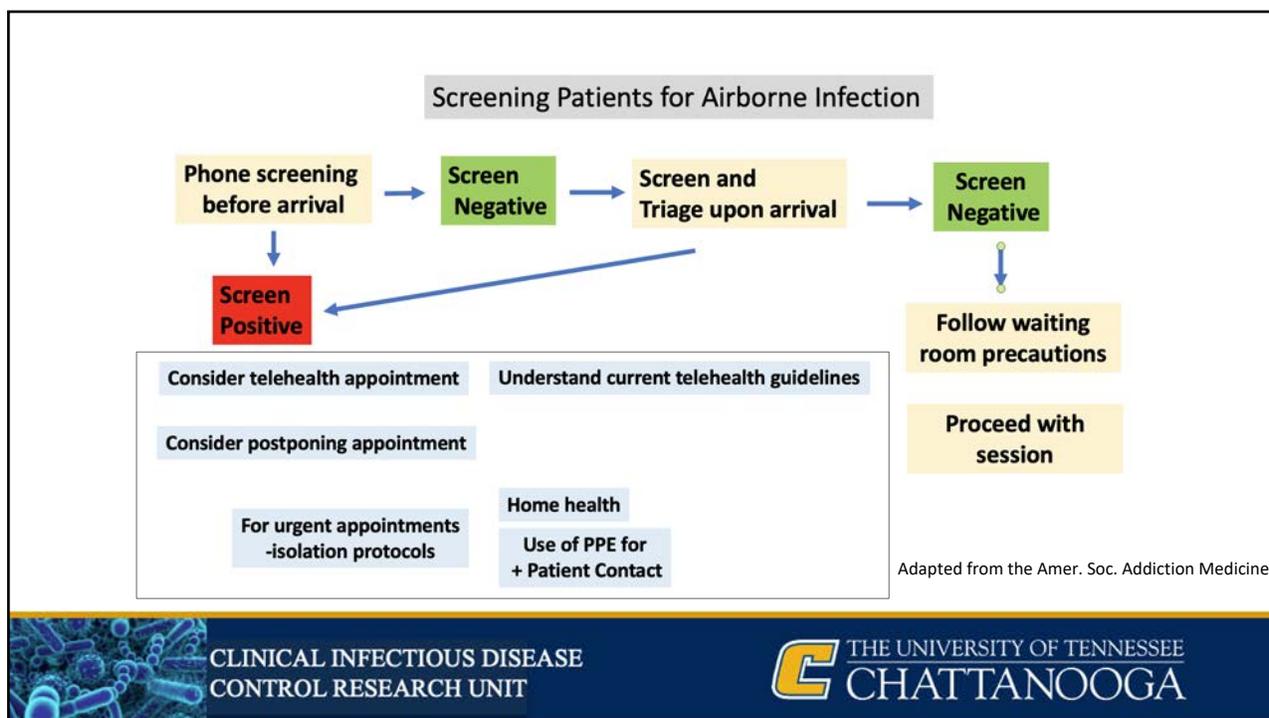
<https://www.cdc.gov/infectioncontrol/pdf/ICAR/Outpatient.pdf>



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CAPTE Criteria

PT-7A: Foundational Sciences / PTA-7A: General Education Courses

PT 7A: Foundational Sciences

The physical therapist professional curriculum includes content and learning experiences in the biological, physical, behavioral and movement sciences necessary for entry level practice. Topics covered include anatomy, physiology, genetics, exercise science, biomechanics, kinesiology, neuroscience, pathology, pharmacology, diagnostic imaging, histology, nutrition, and psychosocial aspects of health and disability.

PTA 7A: General Education Courses

The physical therapist assistant curriculum requires a complement of academic general education coursework, appropriate to the degree offered that includes written communication and biological, physical, behavioral and social sciences which prepare students for coursework in the technical program sequence.



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Potential IPC Objectives

PT-7A: Foundational Sciences / PTA-7A: General Education Courses

- Describe the different types of microorganisms (bacteria, viruses, fungi, etc.), and their role in healthcare-associated infections.
- Describe antimicrobial resistance and its importance in healthcare associated infections.
- Identify the links (pathogen, reservoir, etc.) in the chain of infection.
- Differentiate between modes of disease transmission including airborne, bloodborne, contact, and droplet transmission.
- Describe the role the environment plays in microorganism transmission.



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CAPTE Criteria

PT-7C / PTA-7B: Clinical Sciences

PT- 7C: Clinical Sciences

The physical therapist professional curriculum includes content and learning experiences about the cardiovascular, endocrine and metabolic, gastrointestinal, genital and reproductive, hematologic, hepatic and biliary, immune, integumentary, lymphatic, musculoskeletal, nervous, respiratory, and renal and urologic systems; system interactions; differential diagnosis; and the medical and surgical conditions across the lifespan commonly seen in physical therapy practice.

PTA- 7B: Clinical Sciences

The physical therapist assistant program curriculum includes content and learning experiences about the cardiovascular, endocrine and metabolic, gastrointestinal, genital and reproductive, hematologic, hepatic and biliary, immune, integumentary, lymphatic, musculoskeletal, nervous, respiratory, and renal and urologic systems; and the medical and surgical conditions across the lifespan commonly seen by physical therapist assistants.



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Potential IPC Objectives

PT-7C / PTA-7B: Clinical Sciences

- Describe and apply principles of asepsis (e.g., sterile vs. non-sterile procedures).
- Distinguish between clean, disinfected and sterile patient care items.
- Describe the difference between products that clean and disinfect.
- Describe appropriate hand hygiene before contact with a patient, before performing an aseptic task (e.g., wound debridement), after contact with the patient or objects in the immediate vicinity of the patient, after contact with blood, body fluids or contaminated surfaces, and after removal of personal protective equipment (PPE).



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CAPTE Criteria: STANDARD 7D: Practice Expectations

PT- 7D28: Manage the delivery of the plan of care that is consistent with professional obligations, interprofessional collaborations, and administrative policies and procedures of the practice environment

PTA- 7D19: Monitor and adjust interventions in the plan of care in response to patient/client status and clinical indications



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Potential IPC Objectives PT-7D / PTA-7D: Practice Expectations

PT-7D28:

Implement changes to the plan of care, necessitated by a change in patient status due to infection, that considers interprofessional engagement and setting specific policies and procedures.

PTA-7D19:

As directed by the physical therapist, adjust interventions in the plan of care necessitated due to infection.



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CAPTE CRITERIA

PT-7D / PTA-7D: Participation in Health Care Environment

PT-7D37: Assess/document safety risks of patient and provider; design/implement strategies to improve safety in the healthcare setting as an individual and as a member of the interprofessional healthcare team

PTA-7D27: Contribute to efforts to increase patient and healthcare provider safety



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Potential IPC Objectives

PT-7D37 / PTA-27: Practice Expectations

PT-7D37/ PTA-27

- Discuss therapist role in infection prevention and control (e.g., recognizing unsafe activities, intervening when breaches in infection control are identified).
- Describe practice changes (e.g., altered standard of care) in the event of limited resources.
- Describe how a staff member with an infectious condition can pose a risk to other healthcare worker, patients, and visitors



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Example - PT-7D34: Address primary, secondary, tertiary prevention, health promotion, and wellness to individuals, groups, and communities

- Describe work practices that reduce the risk of infection transmission (e.g., immunization, not coming to work sick, hand hygiene).
- Describe signs, symptoms and diagnoses that require absence from work or work restrictions (e.g., fever with cough, fever with skin rash/lesion, fever with other respiratory symptoms, gastrointestinal symptoms).
- Explain the importance of healthcare worker participation in immunization programs.

[LINK: IPC Objectives Relative to CAPTE Criteria](#)



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Integration of Evidence-Based Recommendations for Effective IPC Practices into Existing Curriculum

- Structured practical exams and experience-based learning, including simulations have been identified in the literature as effective methods to teach and evaluate clinical skills.
- Building IPC into existing practicals, check-offs, simulations, etc. may be an effective method to reinforce this content
- In Administration/Management add in training of new employees in IPC, assessment tools, etc.

Lateef F. *J Emerg Trauma Shoc*, 2010
Swan Sein A. *Med Teach*, 2020



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Clinical Electrophysiology

Your patient is a 65 y.o. carpenter (now retired) with a 20 year history of OA affecting both knees. He underwent bilateral TKA's 1 week ago and you are seeing him as a home health patient. His quad strength is 2/5 bilaterally. He was diagnosed 1 week ago with a Methicillin-sensitive *Staphylococcus aureus* (MSSA) skin infection at the site of the TKA and is being treated successfully. Apply electrical stimulation for muscle reeducation bilaterally, combining it with SAQ's. Be prepared to participate in the overall rehab plan for this patient and explain the electrical stimulation parameters, expected frequency of treatment, etc.

- Discuss precautions you would take as a result of the MSSA infection including proper disinfection techniques to prevent the spread.
- MSSA infections tend to be associated with community-acquired infections. Discuss how a community-acquired infection is different than a healthcare-associated infection.



Cardiovascular and Pulmonary

- A 26 year old outpatient with cystic fibrosis (CF) is referred for PT after a Colles fracture. The patient has a long history of *Pseudomonas aeruginosa* infections
 - Differentiate between bacterial colonization and infection
 - Discuss why individuals with CF are especially susceptible to *Pseudomonas* infections
 - Discuss considerations for infection prevention and control when working with individuals with CF.



Acute Care - Oncology

- A 19 year old patient is hospitalized in an oncology unit for a 2 week treatment cycle of chemotherapy. The patient is in a positive pressure room (PPR) and referred for daily PT for exercise.
 - Discuss how a PPR works and what situations might necessitate a PPR room.
 - Discuss how a negative pressure room (NPR) works and what situations might necessitate a PPR room.
 - Determine necessary precautions when treating this patient.



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Home Health

- 58 year old home health patient following a colorectal resection has a surgical site infection (SSI) that was positive for Methicillin-resistant *Staphylococcus aureus* (MRSA).
 - Discuss how MRSA can be spread between people and between the environment and individuals, and appropriate ways to prevent this.
 - Describe precautions to take with this patient to protect yourself and their family.



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Neurology

- 76 year old female was hospitalized following a CVA and is now an inpatient in a rehabilitation hospital. She requires moderate physical assistance in toileting and personal hygiene. PMH includes Type 2 diabetes and frequent past UTI's predominantly from *Escherichia coli* (*E. coli*).
 - Describe how you would protect the therapist (and how the therapist might instruct the family) to assist while using adequate precautions during these activities.
 - Describe procedures to ensure the patient can perform personal hygiene without cross contamination.
 - Discuss the need for handwashing and fingernail management for cleanliness.



Acute Care

- 66 year old IP with confirmed COVID-19 referred to PT for exercise, transfer training, gait training, and balance exercises. The patient is on high flow oxygen therapy.
 - Discuss the precautions you would take in treating this patient (both to protect the patient and yourself).
 - Determine the specific appropriate PPE.
 - Discuss the time of day most appropriate for seeing this patient.
 - If the patient's oxygen saturation levels fall to 85% during treatment what will you do?



Administration/Management

• Infection Control Assessment Tools

Assess infection prevention and control practices and guide quality improvement activities

- [Infection Prevention and Control Assessment Tool for Acute Care Hospitals](#)
- [Infection Prevention and Control Assessment Tool for Outpatient Settings](#)
- [Infection Prevention and Control Assessment Tool for Long-term Care Facilities](#)



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Infection Control Assessment Tools

VIII.a. Respiratory Hygiene/Cough Etiquette		
Elements to be assessed	Assessment	Notes/Areas for Improvement
<p>A. Facility has policies and procedures to contain respiratory secretions in persons who have signs and symptoms of a respiratory infection, beginning at point of entry to the facility and continuing through the duration of the visit.</p> <p>Policies include:</p> <ul style="list-style-type: none"> i. Offering facemasks to coughing patients and other symptomatic persons upon entry to the facility, at a minimum, during periods of increased respiratory infection activity in the community. ii. Providing space in waiting rooms and encouraging persons with symptoms of respiratory infections to sit as far away from others as possible. <p><i>Note: If available, facilities may wish to place patients with symptoms of a respiratory infection in a separate area while waiting for care.</i></p>	<p>○ Yes ○ No</p> <p>○ Yes ○ No</p> <p>○ Yes ○ No</p>	
<p>B. Facility educates HCP on the importance of infection prevention measures to contain respiratory secretions to prevent the spread of respiratory pathogens.</p>	<p>○ Yes ○ No</p>	

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Infection Control Assessment Tools

X.a. Environmental Cleaning		
Elements to be assessed	Assessment	Notes/Areas for Improvement
A. Facility has written policies and procedures for routine cleaning and disinfection of environmental surfaces, including identification of responsible personnel.	<input type="radio"/> Yes <input type="radio"/> No	
B. Personnel who clean and disinfect patient care areas (e.g., environmental services, technicians, nurses) receive training on cleaning procedures		
i. Upon hire, prior to being allowed to perform environmental cleaning	<input type="radio"/> Yes <input type="radio"/> No	
ii. Annually	<input type="radio"/> Yes <input type="radio"/> No	
iii. When new equipment or protocols are introduced	<input type="radio"/> Yes <input type="radio"/> No	
<i>Note: If environmental cleaning is performed by contract personnel, facility should verify this is provided by contracting company.</i>		
C. HCP are required to demonstrate competency with environmental cleaning procedures following each training.	<input type="radio"/> Yes <input type="radio"/> No	
D. Facility routinely audits (monitors and documents) adherence to cleaning and disinfection procedures, including using products in accordance with manufacturer's instructions (e.g., dilution, storage, shelf-life, contact time).	<input type="radio"/> Yes <input type="radio"/> No	
E. Facility provides feedback from audits to personnel regarding their adherence to cleaning and disinfection procedures.	<input type="radio"/> Yes <input type="radio"/> No	
F. Facility has a policy/procedure for decontamination of spills of blood or other body fluids.	<input type="radio"/> Yes <input type="radio"/> No	

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FREE IPC Training Opportunities and Resources

- [CDC Infection Control](#)
- [CDC/STRIVE Infection Control Training](#)
- [World Health Organization IPC](#)
- [APTA - Infectious Disease Control](#)
- [Coronavirus \(COVID-19\) Resources for the Physical Therapy Profession](#)
- [Academy of Education COVID-19 Resources](#)



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Presentation Slides, Glossary, and CAPTE Objectives

<https://www.utc.edu/physical-therapy/research/cidc.php>



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Questions??

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