

LTCE NURS 1-734

Infection Control: Use of Masks, Cough Etiquette, Hand Hygiene, Antibiotic Use

Start Date: August 31, 2013

Click on any topic below

[*Which nurses should take this course?*](#)

[*Why infection control measures by staff are a concern for nurses*](#)

[*Learning objectives/course content*](#)

[*Disclosure statement*](#)

[*Qualified planner and faculty*](#)

Which Nurses Should Take this Course?

Nurses in most health care settings, hospitals, nursing homes, physician practices, etc., are increasingly being exposed to such infectious agents as CRE-Bacteria and MRSA and need to be aware of how to manage the spread of these infectious agents.

Nurses in all institutional settings will have an interest in better understanding these infectious agents.

[back to top](#)

Why These Infection Control Measures are a concern for nurses

Infection control has become a major concern for hospitals, long term care facilities, and most other health care providers due to the combined presence of increasingly drug resistant

infectious agents and low levels of mask, cough and hand hygiene compliance among health care workers.

The increasing presence of CRE is a good example.

Carbapenem-resistant Enterobacteriaceae (CRE)

CRE, which stands for carbapenem-resistant Enterobacteriaceae, are a family of germs that are difficult to treat because they have high levels of resistance to antibiotics. *Klebsiella* species and *Escherichia coli* (*E. coli*) are examples of Enterobacteriaceae, a normal part of the human gut bacteria, that can become carbapenem-resistant. Types of CRE are sometimes known as KPC (*Klebsiella pneumoniae* carbapenemase) and NDM (New Delhi Metallo-beta-lactamase). KPC and NDM are enzymes that break down carbapenems and make them ineffective.

Healthy people usually do not get CRE infections. In healthcare settings, CRE infections most commonly occur among patients who are receiving treatment for other conditions. Patients whose care requires devices like ventilators (breathing machines), urinary (bladder) catheters, or intravenous (vein) catheters, and patients who are taking long courses of certain antibiotics are most at risk for CRE infections.

Some CRE bacteria have become resistant to most available antibiotics. Infections with these germs are very difficult to treat, and can be deadly—one report cites they can contribute to death in up to 50% of patients who become infected.

An additional area of increasing concern is the high prevalence of drug-resistant MRSA. MRSA is increasingly occurring in the nursing home setting, hospitals and even community-associated strains are beginning to emerge.

Nearly all nurses practicing in health care settings of all types need to be aware of infections such as these and be educated about how to control these infections.

MRSA is increasingly a health care concern for institutional health care setting

Henry Ford Hospital study: A MRSA strain linked to high death rates

A strain of MRSA that causes bloodstream infections is five times more lethal than other strains and has shown to have some resistance to the potent antibiotic drug vancomycin used to treat MRSA, according to a Henry Ford Hospital study.

The study found that 50 percent of the patients infected with the strain died within 30 days compared to 11 percent of patients infected with other MRSA strains.

The average 30-day mortality rate for MRSA bloodstream infections ranges from 10 percent to 30 percent.

MRSA in the long term care setting is also of concern.

High Prevalence of Drug-Resistant MRSA Found in Nursing Homes

CHICAGO (February 11, 2013) While most infection control measures are focused on hospitals, a new study points to the need for more targeted interventions to prevent the spread of drug-resistant bugs in nursing homes as community-associated strains of methicillin-resistant *Staphylococcus aureus* (CA-MRSA) are on the rise in these facilities. The study is published in the March issue of *Infection Control and Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America.

CA-MRSA is a growing cause of invasive disease, including bloodstream infections, abscesses, and pneumonia. The prevalence of CA-MRSA in nursing homes has not been well characterized compared with that in hospitals. Since most nursing home residents are admitted directly from hospitals, importation of CA-MRSA may increase in nursing homes as CA-MRSA increases in hospitals. Nursing home residents also have increased risk factors for MRSA, including diabetes, long-term use of indwelling devices, and inability to perform activities of daily living.

Researchers at the University of California, Irvine assessed the frequency of CA-MRSA carriage among residents in a convenience sample of 22 of the 72 nursing homes in Orange County, California, during the period October 2008–May 2011. Strains were found by swabbing the noses of 100 residents in each nursing home at a single visit and up to another 100 additional swabs from newly admitted residents.

Of the MRSA-positive swabs, 25 percent (208/824) were positive for CA-MRSA. The study also found CA-MRSA was present in 20 out of 22 nursing homes tested.

“Community-type strains first arose among healthy community members without exposure to the healthcare system and have steadily infiltrated many hospitals,” said Courtney R. Murphy, PhD, the study’s lead researcher. “We believe these at-risk facilities could benefit from further infection control interventions, such as enhanced environmental cleaning or skin decolonization.”

CA-MRSA was more common in nursing homes in which a larger percent of residents were under the age of 65 years. In the community, CA-MRSA frequently infects children and younger adults, particularly in high-contact settings, such as child care centers, sports activities, and the military. In turn, younger nursing home residents may be more mobile and better able to interact with others, increasing their risk of MRSA acquisition. The strain also was also less common at admission compared to later sampling, suggesting CA-MRSA may be transmitted among residents. Infection control strategies to prevent transmission may need to be tailored to the nursing home setting, since the goal of encouraging social interaction in nursing homes presents unique challenges for infection control compared to hospitals.

The purpose of the course:

At the end of the course the learner will be able personally observe and be able to instruct others how to control influenza in their health care setting, be able to control coughs safely, be able to use and instruct others in safe hand hygiene, and be able to monitor antibiotic to detect overuse overuse.

[back to top](#)

Learning objectives/course content

Each learner will identify how influenza is transmitted.

Each learner will recognize the best combination of infection control strategies to use in institutional settings.

Each learner will recognize when to wear masks to reduce the spread of influenza.

Each learner will recognize when it is necessary to take droplet precautions.

Each learner will recognize the elements of good hand-hygiene techniques, specifically how to select hand hygiene agents and identify good skin care while using hand hygiene agents.

This course covers four topics of importance to nurses practicing in multiple health care settings:

- Controlling flu
- Controlling coughs
- Hand hygiene
- Overuse of antibiotics

File 1 reading:

Use of masks to control influenza

<http://www.cdc.gov/flu/professionals/infectioncontrol/maskguidance.htm>

What you will learn

- How influenza is transmitted
- What combination of infection control strategies to use
- When health care staff should wear a mask

To think about as you read

Flu is highly contagious and easily transmitted. Yet, no studies have definitively shown that mask use by either infectious patients or health-care personnel prevents influenza transmission. What will you require in your health care setting?

File 2 reading:

Cough etiquette respiratory hygiene

<http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>

What you will learn

- What infection control measures to implement at the first point of contact with a potentially infected person.
- The importance of covering coughs
- The role of hand hygiene in flu prevention and control
- Whether to mask the resident and or staff
- Droplet precautions

To think about as you read

What is the advisability of asking residents to wear masks? Is this a precaution that unacceptably suggests “I live in an institution” to the resident?

File 3 reading:

Infection control: hand hygiene in the health care settings

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5116a1.htm>

Handwashing is a persistent problem in the health care setting. Studies have shown that compliance is poor by all levels of staff including physicians. Facility staff's hands always have resident flora which tend to not transmit infections. However, transient flora are the organisms most frequently associated with health care associated infections. The hands of health care workers may become persistently colonized with pathogenic flora (e.g. *S. aureus*), gram-negative bacilli, or yeast. Handwashing is one of the two or three most important parts of any effort to control infections in the long term care facility.

In this course you will learn the national recommendations to improve hand-hygiene practices. You will learn:

- Indications for handwashing and hand antisepsis
- Hand-hygiene technique
- Surgical hand antisepsis
- How to select hand-hygiene agents
- Skin care while using these agents
- Healthcare worker educational and motivational programs
- Administrative measures available to the long term care administrator

File 4 reading:

<http://www.cdc.gov/getsmart/healthcare/learn-from-others/factsheets/longterm-care.html>

Antibiotic use in the health care setting.

Antibiotics are commonly believed to be overused.

In this brief reading you will learn

- The scope of the problem
- Six reasons it is important to address overuse of antibiotics
- Why long term care settings are an especially important focus
- What long term care facilities can do to address overuse of antibiotics

To think about as you read

Antibiotics are among the most commonly prescribed medications in the long term care setting.

Up to 70% of long term care facilities residents receive an antibiotic each year

Cost estimate for antibiotics in long term care facilities range from \$38 million to \$137 million per year.

Summary

You have now been introduced to two of the major concerns for infection control program in the healthcare setting. You can keep up on current developments and recommendations by regularly visiting the Centers for Disease Control website.

[back to top](#)

Disclosure Statement

This Disclosure Statement will be posted on our website and available to website visitor to view before signing up for a course. The course itself will also carry this disclosure statement at the opening of the course.

Successful completion of this online course requires learning the reading materials, passing the multiple choice examination with 70% or more correct answers, and completion of the course evaluation form. Upon completing the above the student will be able to print out the course certificate.

We believe no conflict of interest exists for this course. A conflict of interest exists when an individual has the ability to control or influence the content of an educational activity and has a financial relationship with a commercial interest, the products or services of which are pertinent to the content of the educational

activity. Commercial interest is defined by ANCC as any entity producing, marketing, reselling, or distributing healthcare goods or services consumed by or used on patients, or an entity that is owned or controlled by an entity that produces, markets, resells, or distributed healthcare goods or services consumed by or used on patients. Long Term Care Education exists solely to provide educational courses and has no commercial ties of any kind to any commercial interest. Mr. John Gotelli, the lead nurse planner for Long Term Care Education, is an employee of University of North Carolina Hospitals, Medicine/Geriatric Services where he serves as a Geriatric Nurse Practitioner (2006 to present). He has no financial interest of any type with the university hospital system other than as a salaried employee. No financial or personal relationship exists that would present a conflict of interest in the content of this educational activity.

No sponsorship or commercial support or relationships exist for this course. Participation in this course does not imply endorsement by the provider or NCNA of any commercial products. No activity relates to any produce use for a purpose other than that for which it was approved by the Food and Drug Administration.

The expiration date for award contact hours is August 31, 2015.

[back to top](#)

QUALIFIED PLANNER AND FACULTY

The qualified planner for this course is

John M. Gotelli, MSN, NP
University of North Carolina Hospitals, Medicine/Geriatric Service

Geriatric Practitioner
Nurse Practitioner licensed in the State of North Carolina
Geriatric Nurse Practitioner, ANCC Certified

Mr. Gotelli is enjoying a successful career in nursing and nursing education.

John M. Gotelli, MSN, NP
 1100 Joseph Johnston Ct
 Hillsborough, NC 27278
 jgotelli@unch.unc.edu

Education	Vanderbilt University School of Nursing, Nashville, TN Master of Science in Nursing (August 2000) Gerontology Nurse Practitioner Specialty
	Vanderbilt University School of Nursing, Nashville, TN Basic professional nursing component of the MSN program (August 1999)
	University of California, Davis, CA Bachelor of Arts, Psychology (June 1992)
Licensure and February 20013 Certification	Nurse Practitioner, licensed in the state of North Carolina through Geriatric Nurse Practitioner, ANCC Certification through September 2015
Work Experience	University of North Carolina Hospitals, Medicine/Geriatric Service <u>Geriatric Nurse Practitioner</u> (July 2006 to present) Clinical responsibilities: <ul style="list-style-type: none"> • Round daily with the medical team • Perform comprehensive geriatric evaluations on acutely ill hospitalized patients admitted to the geriatric service • Ensure problems such as poly-pharmacy, delirium, pressure sores, psychosocial issues, immobility and incontinence are addressed • Facilitate interdisciplinary rounds (social work, nutrition, case management and Recreation therapy) Leadership and Administrative responsibilities: <ul style="list-style-type: none"> • Serve as consultant to staff nurses hospital wide for geriatric clinical issues • Organize and implement curriculum for Geriatric Resource Nurse Program (also open to Nursing Assistants).A two day program which introduces staff to essential bedside geriatric care.

- Implement Continuous Quality Improvement (CQI) Projects related to geriatric clinical issues.
- Serve on various hospital committees: restraint reduction committee; nursing research council
- Improve continuity of care for seniors living in community retirement homes/health centers through collaborative initiatives between health systems
- Serve as Adjunct Faculty for University of North Carolina, Chapel Hill School of Nursing to foster relationship between UNC hospital and the nursing school
- Clinical tutor for 2nd year medical students Introduction to Clinical Medicine Course, UNC School of Medicine – 2007 and 2008
- Implemented Nursing Rounds, a collaboration between UNC School of Nursing and 8 bed tower to enhance nursing sensitive patient outcomes

Veterans Administration, Charlotte Community Outpatient Clinic
Nurse Practitioner, Primary Care Service Line (2000 – 2006)

- Provided primary care services to a veteran population with the collaboration of three physicians
- Managed a patient panel size of approximately 850
- Performed comprehensive history and physical examinations; ordered and interpreted laboratory and imaging diagnostic studies; maintained preventive health activities; coordinated a plan of care for episodic and chronic health conditions; communicated plan of care to patient and family members; ordered appropriate therapies including medications
- Coordinated care with other healthcare systems to ensure appropriate follow up and avoid duplication of services

Center for Social Services, San Diego, CA

Benefits Specialist/Case Manager (1997-1998)

- Provided public and private benefits counseling to San Diego residents and their families infected with and affected by HIV/AIDS
- Assisted in primary screening to access Social Security, SSI, Medi-Cal, Medicare, as well as Ryan White funded HIV clinics
- Participated in a comprehensive county wide Needs Assessment Survey
- Enrolled eligible participants and managed daily operations of the AIDS Drug Assistance Program

AIDS Foundation San Diego, San Diego, CA
Benefits Specialist (1996-1997)

- Duties were same as above

Case Manager (Temporary position from February – August 1996)

- Developed long-term case management treatment plans with clients and their families affected by HIV/AIDS
- Collaborated with medical providers in managing client illness as it related to social well-being
- Facilitated referrals to clinics, private medical practices, clinical drug trials, and community organizations

Honors and Affiliations

- Nursing Recognition Award presented by UNC Department of Medicine -2012
- North Carolina “Top 100” Nurses Award - 2009
- Adjunct Faculty, University of North Carolina Chapel Hill School of Nursing
- Member of the Gerontological Society of America
- Outstanding Geriatric Nurse Practitioner Student for the year 2000 class
- 1999 Luther Christman Award: Presented to the first year student with the most outstanding clinical skills

Publications and Presentations

Gotelli, J., Neelon, V., Carlson, J. (2010) Delirium and Functional Decline by Discharge in Acutely Ill Hospitalized Elders. Abstract presentation at 2010 Gerontological Society of America Annual Conference.

Gotelli, J., Merryman, P., Carr, C., McElveen, I., Epperson, C., & Bynum, D. (2008)
 A Quality Improvement Project to Reduce Complications Associated with Indwelling Urinary Catheters. *Urologic Nursing*, 28 (6), 465-467, 473.

Center for Life Long Learning, UNC School of Nursing. *Geriatric Pharmacology* (2012)
 Chapel Hill, NC

North Carolina Statewide Program for Infection Control and Epidemiology (SPICE)

Urinary Tract Infections in the Elderly. (2012) Chapel Hill, NC

North Carolina Association of Recreational Therapists 2007 Annual Meeting. *Delirium and Dementia.* (2007) Greenville, NC

Pain Specifics. *Pain in the Elderly* , UNC Hospitals Nursing Practice and Education Seminar. (2006) Chapel Hill, NC

Presented findings from the Summary of the Seventh American College of Chest Physicians Conference On Antithrombotic and Thrombolytic Therapy, CHEST 2004; 126 : 1635-6965, Charlotte VA Community Based Outpatient Clinic, September 2005

Research Interests Geriatric Syndromes – delirium, cognitive and functional decline, falls.

Mr. Gotelli has had a wide variety of nursing responsibilities in several health care setting over the past fifteen years including lecturing in the North Carolina Statewide Program for Infection Control.

Mr. Gotelli and Dr. Allen work together to identify continuing education course topics which are relevant to the needs of nurses currently practicing in a variety of nursing setting.

Dr. Allen has attended the North Carolina Statewide Program for Infection Control and Epidemiology over the past decade and is an Infection Control Practitioner in the State of North Carolina.

Dr. Allen has over three decades of teaching health care administration at the UNC-CH School of Public Health. Over the years his courses have been attended by UNC-CH School of Nursing students and students from the UNC-CH School of Medicine.

Dr. Allen's text is a core medical title in the nursing field

Text selected as 2011 (and again May, 2013) Doody's Core Medical Title Nursing Home Administration, the text on which the courses on this website are based has been chosen as one of only five 2011 core medical titles in *the nursing field* being recommended by the library association for Health Sciences Libraries to add to their collection.

A “Core Medical Title” is defined as “...a book or software title that represents essential knowledge needed by professionals or students in each [healthcare] discipline and is highly

recommended for the collection of a library that serves health sciences specialists.”

(The other titles are: *Compact Clinical Guide to Chronic Pain*; *Dictionary of Nursing Theory and Research*; *Family Practice Guidelines*; *Nursing Interventions Through Time*).

Biographical sketch: James E. Allen

Education:

B.A., University of Arizona

S.T.M., Boston University

Ph.D., Boston University Graduate School

M.S.P.H. University of North Carolina at Chapel Hill

Professional Certifications License:

NHA -- licensed nursing home administrator,

State of North Carolina, License 812.

Certified Long Term Care Infection Control Practitioner, UNC-CH.

Consultant to law firms in North Carolina, South Carolina, Florida, Texas, Kansas, Connecticut, South Dakota and West Virginia.

Current Position:

President: Long Term Care Education.com (an education website)

longtermcareeducation.com

jamesallen@unc.edu; jeallen@mindspring.com

(Professor of Health Policy and Management, Emeritus

Department of Health Policy and Management,

School of Public Health, University of North Carolina at Chapel Hill

706 Greenwood Road, Chapel Hill, NC 27514-5923 email: jamesallen@unc.edu

Ph. Long Term Care Education: 919-815-0387 Fax 919-933- 6825)

Publications:

Thirty journal articles, over 100 published book reviews, five books. Most recent books:

NURSING HOME ADMINISTRATION, 6th Ed, New York: Springer Publishing Company, (www.springerpub.com) 2011, 700+ pp. (The standard text in the field for over 30 years, recently named as the leading text for nursing home administrators).

THE LICENSING EXAM REVIEW GUIDE IN NURSING HOME ADMINISTRATION, New York: Springer Publishing Company, (www.springerpub.com) 2011.

NURSING HOME FEDERAL REQUIREMENTS AND GUIDELINES TO SURVEYORS, 7th edition, New York: Springer Publishing Company, (www.springerpub.com) 2011.

ASSISTED LIVING ADMINISTRATION: THE KNOWLEDGE BASE, New York: Springer Publishing Company, 2004, 697 pages.. (www.springerpub.com).

The NAB Five-Step Administrator-in-Training Internship Manual for Nursing Home Administrators. The National Domains of Practice based administrator-in-training program authorized for use by colleges and state boards by The National Association of Boards of Examiners for Long Term Care Administrators. Washington: (www.nabweb.org) 2012 edition.

The National Exam and Self-Study Guide for Assisted Living Administration: The Knowledge Base. Based on the NAB Domains of Practice. Chapel Hill: (www.longtermcareeducation.com) 2010.

18 Manuals for Department Heads based on the current Federal Requirements and Guidelines to Surveyors. Chapel Hill: (www.longtermcareeducation.com) 2010.

Teaching

Dr. Allen has thirty-two years of experience teaching health management at the undergraduate and graduate levels in the Department of Health Policy and Management, School of Public Health, University of North Carolina at Chapel Hill.

Training Nursing Home and Assisted Living Administrators

Dr. Allen developed and taught the Administrator-in-Training (AIT) course for the North Carolina State Board of Examiners for Nursing Home Administrators (required of all AIT's in North Carolina 1985-2003). Developed and taught Long Term Care Administration courses at University of North Carolina at Chapel Hill. He teaches NHA licensure course for 3+ states. Provider of assisted living certification in NC and Texas. Provider of CEU education for 48 states.

[back to top](#)