

LTCE NURS 1-740

Infection Control: Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Settings

Start Date: August 31, 2013

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Which nurses should take this course: RNs and others.

This course is appropriate for nurses in most health care settings, hospitals, nursing homes and ambulatory care settings such as physician practices, in which they are susceptible to being exposed to TB.

There is little likelihood that TB will be eradicated. Nurses in all institutional settings have an interest in better understanding this infection, especially since drug resistant TB is beginning to appear around the world.

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Why exposure to TB is a concern for nurses in most practice settings

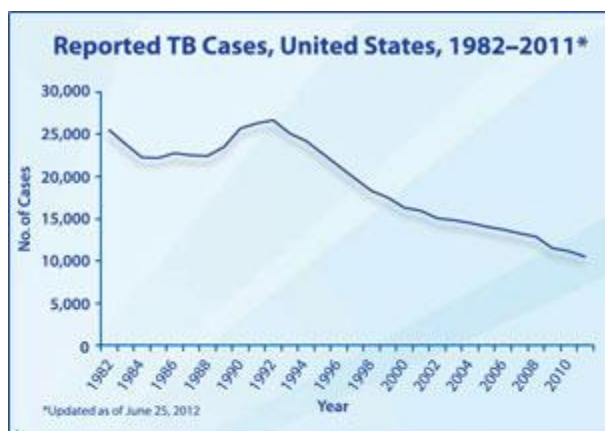
Tuberculosis is a contagious disease that nurses may encounter in both the majority of institutional health care settings and in ambulatory care settings such as the physician's office or the dentist's office.

While the prevalence of TB has been decreasing over the past few decades it is a disease about which nurses need to be knowledgeable.

Trends in Tuberculosis, 2011

How many cases of tuberculosis (TB) were reported in the United States in 2011?

A total of 10,528 TB cases (a rate of 3.4 cases per 100,000 persons) were reported in the United States in 2011. Both the number of TB cases reported and the case rate decreased; this represents a 5.8% and 6.4% decline, respectively, compared to 2010. The number of reported TB cases in 2011 was the lowest recorded since national reporting began in 1953.



Is the rate of TB declining in the United States?

Yes. Since the 1992 TB resurgence peak in the United States, the number of TB cases reported annually has decreased.



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Learning objectives/course content

The learning objectives for this course are for the student to

learn:

Each learner will identify which persons are at highest risk for exposure and infection with M. Tuberculosis.

Each learner will identify the characteristics of a patient with TB disease.

Each learner will identify the fundamentals of TB infection control: (1) administrative controls, (2) environmental controls and (3) respiratory protection controls.

Each learner will list the nine steps that must be taken to establish a TB infection control program.

The reading for this course is

Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health Care Settings

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm?s_cid=rr5417a1_e

Mycobacterium tuberculosis (TB) is of special concern in today's long term care facility setting because most residents were exposed to TB in their early life. Some residents will have latent TB within their systems which may activate at any time due to a weakening immune system.

M. tuberculosis is carried in airborne particles called droplet nuclei that can be generated when persons who have pulmonary or laryngeal TB disease cough, sneeze, shout, or sing. The particles are approximately 1-5µm; normal air currents can keep them airborne for prolonged periods and spread them throughout a room or building. *M. tuberculosis* is usually transmitted only through air, not by surface contact. Infection occurs when a susceptible person inhales droplet nuclei containing *M. tuberculosis*, and the droplet nuclei traverse the mouth or nasal

passages, upper respiratory tract, and bronchi to reach the alveoli. Knowledge about TB is important to every facility in order to minimize an outbreak...one has only to walk by the room in which an active TB resident is coughing or sneezing to contract TB by breathing the air in the hallway.

In this course you will learn

- Which persons are at highest risk for exposure and infection with *M. tuberculosis*?
- Characteristics of a patient with TB disease that increase the risk for infectiousness
- The risks for health care associated transmission of *M. tuberculosis*
- The fundamentals of TB infection control
 - Administrative control
 - Environmental controls
 - Respiratory protection controls
- Nine steps to take to establish a TB infection control program
- TB risk assessment
- TB screening risk classifications
- Components of a TB training and education program for healthcare workers
- Managing patients who have suspected or confirmed TB disease
- Prompt triage
- TB airborne precautions
- Guidelines for long term care facility programs
- Baseline testing newly hired employees
- Workplace restrictions for a healthcare worker with a baseline positive test result
- How to investigate a case of TB disease in a health care worker
- How to investigate possible patient-to-patient transmission of *M. tuberculosis*
- Collaboration with the local or state health department
- Ventilation concerns
- Air cleaning methods
- Estimating the infectiousness of a TB patient
- Treatment for TB disease
- Surveillance and detection of *M. tuberculosis* in the health care setting
- Respiratory protection for health care workers
- Terms and abbreviations used in TB surveillance and treatment

To think about as you read

What type of TB surveillance program would you organize for your organization?
Under what circumstances would you keep an active TB case in your organization?

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.

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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.

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

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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
1999)	Vanderbilt University School of Nursing, Nashville, TN Basic professional nursing component of the MSN program (August

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
Geriatric Nurse Practitioner (July 2006 to present)
- Clinical responsibilities:
- 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:
- 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.

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