

This Issue

- 1 CME Activity: Preventing Falls Among Adults Aged 65 Years and Older
- 2 Common Risk Factors for Falls
- 2 Algorithm for Fall Risk Assessment
- 3 Timed Up and Go Test
- 4 Best Practices for Preventing Falls
- 5 Fall Prevention Resources
- 5 Link to Online CME Test And Faculty Disclosures
- 7 Back-to-School Immunization Checklist
- 8 **Cal/OSHA Aerosol-Transmissible Diseases Standard Created to Protect Health Care Workers**
- 10 Vital Signs
 - New report on HIV/AIDS in LA County
 - Report shows life expectancy in LA County exceeds 80 years
 - Mortality report shows leading causes of death on the decline in LA County

CME ACTIVITY

Preventing Falls Among Adults Aged 65 Years and Older

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Introduction

Falls among older adults (age 65 years and older) are common.¹⁻³ Approximately 35% to 40% of community-dwelling, generally healthy, older Americans fall annually, with rates rising steadily after age 75.^{3,4} In nursing homes and hospitals, these rates are even higher (1.5 falls per bed annually).^{2,3} Nationally¹ and in Los Angeles County,^{4,5} falls are the leading cause of injury death among older adults and the most common cause of nonfatal injury hospitalization in this age group. In 2000, the total costs of treating fall-related injuries among older adults exceeded \$19 billion in the U.S.⁶; by 2020, these numbers are expected to climb to \$59 billion (adjusted to 2009 dollars),⁷ largely as a consequence of the number of aging baby boomers who will turn 65+ years beginning in 2011.¹⁻⁸ Collectively, falls and fall-related injuries (e.g., hip fractures) represent a growing public health problem that is frequently under-recognized and under-treated.²⁻⁴

Although an increased risk for falling is often perceived as an inevitable part of aging, this is not so—most falls are preventable regardless of age.^{3,9,10} Effective strategies (e.g., community-based self-care programs) are available to help individuals, physicians, and community agencies prevent falls in the aging population (see Fall Prevention Resources, page 5).^{3,4}

This article reviews the current evidence on fall detection and prevention, focusing on practical, evidence-based strategies that can be incorporated into daily practice.

Consequences of Falling

Falls can be life-altering. Older Americans who have fallen typically report suffering from moderate to severe injuries, including deep bruises, head trauma, and hip fractures—about 5% of all falls result in fractures and hospitalization.^{1,3} Fall-related injuries often alter mobility and limit independent living, requiring both formal and informal caregiving.^{3,4} Many of these injuries, such as hip fractures, increase the risk of premature death.^{1,3,12} For example, a recent survival analysis of men and women aged 50+ years who had a hip fracture concluded that hip fractures increased all-cause mortality

continued on page 2 >

Key Facts about Falls

- Falls are the leading cause of injury hospitalization and death among Americans aged 65 years and older.^{1,3,4}
- In 2007, 29,000 Angelenos aged 65 and older were hospitalized, and 400 died from fall-related injuries.^{5,11}
- The impact of fall-related morbidity and mortality will increase as the number of older adults continues to grow.^{1,8,9}
- The total costs of treating fall-related injuries among older Americans exceed \$19 billion per year.⁶



Cal/OSHA Aerosol-Transmissible Diseases Standard Created to Protect Health Care Workers

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In December 2009, Oakland Police and Fire Departments and an ambulance service responded to the home of a patient, who was transported to a local medical center and later confirmed to have bacterial meningitis. Exposures to this patient resulted in the hospitalization of a medical center employee and an Oakland police officer for bacterial meningitis.

Four months later, the medical center was issued \$101,485 in citations by Cal/OSHA for employer violations of the state safety and health standards in connection to this exposure of bacterial meningitis. Additionally, this incident resulted in citations to the Oakland Police Department (\$31,520) and Fire Department (\$2,710). Citations to all three entities involved violations of the new Aerosol-Transmissible Diseases (ATD) standard (Title 8 CCR Section 5199).

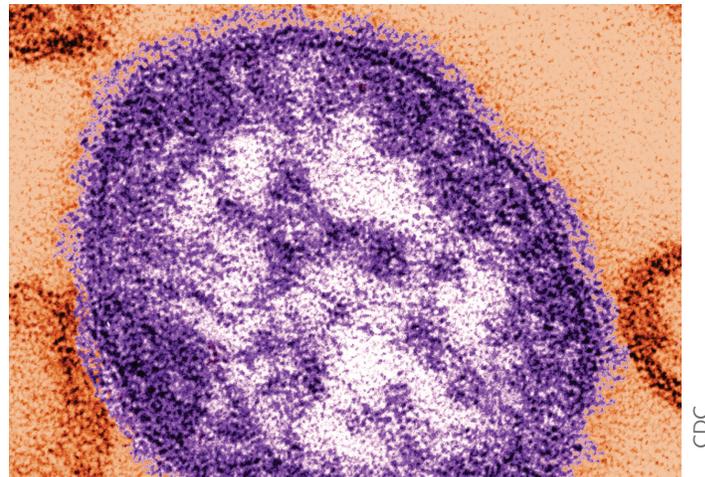
This landmark standard by the California Division of Occupational Safety and Health (Cal/OSHA), which went into effect on August 5, 2009, represents the nation's first specific regulatory response to comprehensive worker health and safety regarding respiratory diseases such as SARS, H1N1, and tuberculosis. A 1997 federal OSHA proposed standard on Occupational Exposure to Tuberculosis was withdrawn in 2003.

ATDs are epidemiologically important diseases or pathogens that are transmitted via the airborne or droplet route (Table 1). Of note, novel pathogens such as the H1N1 influenza virus that emerged in 2009 are considered reportable airborne-transmissible disease and need to be treated as such.

Who Is Affected by the Standard?

The standard applies to a variety of covered employers whose staff may have or may cause occupational ATD exposure to others, such as hospitals, nursing facilities, clinics, medical offices, home health care, public health services, medical laboratories, police services, medical transport, correctional facilities, homeless shelters, medical outreach services, drug treatment programs, mortuaries, coroners, firefighter and paramedic emergency medical responders, and maintenance or repair operations involving potentially contaminated areas or equipment.

Included in the standard are measures to prevent worker ATD exposures and procedures to follow if an exposure occurs. Many covered employers have most or many of these processes already in place. For example, the standard includes training requirements, TB screening, and the use of personal protective equipment. It also restates requirements of Cal/OSHA's preexisting Respiratory Protection Standard (8CCR5144) to fit test respirators and to ensure confidential medical evaluation before initial fit testing. Additionally, employers must have written ATD exposure control plans, which include notification to everyone involved in a timely



CDC

This transmission electron micrograph reveals the ultrastructural appearance of a single virus particle, or virion, of measles virus.

manner, such as the local health officer and other employers.

Employers with staff members who may be exposed to ATDs must establish a written respiratory protection program or incorporate it into their ATD Exposure Control plan. They also must maintain records of employee training and exposure incidents, and require their designated health care professional to confidentially maintain employee medical records.

New ATD Standards Take Effect

Effective September 1, 2010, health care employers must offer vaccine for measles, mumps, rubella, varicella zoster, and Tdap (tetanus, diphtheria, acellular pertussis), as well as annual influenza vaccinations to employees at no cost. If an employee elects not to be vaccinated, a written declination is required as part of the confidential employee medical record.

Also effective as of this date, the employer shall provide a powered air-purifying respirator with a high-efficiency particulate air (HEPA) filter(s), or a respirator providing equivalent or greater protection to employees who perform high-hazard procedures on airborne infectious disease cases or suspected cases.

The Cal/OSHA standard can be found at www.dir.ca.gov/Title8/5199.html.

A California Department of Public Health presentation on Immunization Recommendations for Employees Covered under the standard can be found at www.cdph.ca.gov/programs/immunize/Documents/HCW%20Immunization_ATD.ppt#502.2 

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Table 1. List of Aerosol-Transmissible Diseases

AIRBORNE INFECTION ISOLATION

- Aerosolizable spore-containing powder or other substance that is capable of causing serious human disease; for example: *Bacillus anthracis*
- Avian influenza viruses
- Measles virus
- Monkeypox virus
- Novel or unknown pathogens
- Severe acute respiratory syndrome (SARS)
- Smallpox (variola)/Variola virus
- Tuberculosis (TB)/*Mycobacterium tuberculosis*
- Varicella disease

Any other disease for which public health guidelines recommend airborne infection isolation

DROPLET PRECAUTIONS

- Diphtheria/*Corynebacterium diphtheriae*
- Epiglottitis, due to *Haemophilus influenzae* serotype b
- Group A Streptococcal disease
- *Haemophilus influenzae* serotype b (Hib) disease
- Influenza, human
- Meningitis
 - *Haemophilus influenzae*, serotype b known or suspected
 - *Neisseria meningitidis* (meningococcal) known or suspected
- Meningococcal disease
- Mumps (infectious parotitis)

DROPLET PRECAUTIONS (continued)

- Mycoplasmal pneumonia
- Parvovirus B19 infection
- Pertussis (whooping cough)
- Pharyngitis in infants and young children/Adenovirus, Orthomyxoviridae, Epstein-Barr virus, Herpes simplex virus
- Pneumonia
 - Adenovirus
 - Group A *Streptococcus*
 - *Haemophilus influenzae* serotype b in infants and children
 - Meningococcal
 - Mycoplasma, primary or atypical
- Pneumonic plague/*Yersinia pestis*
- Rubella virus infection (German measles)
- Scarlet fever in infants and young children
- Streptococcal disease (group A *Streptococcus*)
 - Skin, wound or burn, major
 - Pharyngitis in infants and young children
 - Pneumonia
 - Serious invasive disease
- Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses (airborne infection isolation and respirator use may be required for aerosol-generating procedures)

Any other disease for which public health guidelines recommend airborne infection isolation

**It's Time to
Order Vaccine for
the 2010-2011
Flu Season**

For the 2010-2011 flu season, the U.S. Advisory Committee on Immunization Practices recommends universal influenza vaccination for all persons 6 months of age and older who do not have a contraindication to vaccination, such as an egg allergy.

A trivalent vaccine will protect your patients from the flu virus strains that are most likely to circulate in the fall: A/California/7/2009, A/Perth/16/2009, and B/Brisbane/60/2008. Since the pandemic H1N1 strain is included in this year's seasonal vaccine, there will be no need for a separate pandemic H1N1 flu vaccination.

Trivalent seasonal flu vaccine will not be provided through the national centralized flu vaccine distribution program that was in place to support pandemic H1N1 flu vaccination.

Providers who usually purchase flu vaccine and have not yet placed a flu vaccine order with a manufacturer or distributor should do so immediately. Lists of manufacturers and distributors are posted at www.flusupplynews.com/resources.cfm and www.preventinfluenza.org/profs_production.asp.

Stay up-to-date with the latest flu vaccination information by visiting the following websites:

- Los Angeles County Department of Public Health: www.publichealth.lacounty.gov
- California Department of Public Health: www.getimmunizedca.org
- California Immunization Coalition: www.immunizeca.org

Rx for Prevention is published 10 times a year by the Los Angeles County Department of Public Health. If you would like to receive this newsletter by e-mail, go to www.publichealth.lacounty.gov and subscribe to the ListServ for *Rx for Prevention*.

Rx for Prevention

Promoting health through prevention in Los Angeles County

Upcoming Training

Healthy Aging for Women + Women & Health Care Reform

Physicians and other health care providers and leaders are invited to two free community dialogues on women's health. *Healthy Aging for Women* will focus on preparing our communities for the upcoming increase in the population of aging women in LA. *Women & Health Care Reform* will look at prioritizing and protecting women's health as Los Angeles begins to implement health care reform.

Hosted by the Office of Women's Health, LA County Department of Public Health, and 30 collaborating organizations

- October 5, 2010 | 8:30 am-5 pm
- The California Endowment

For a registration form, e-mail cortal@ph.lacounty.gov.

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Index of Disease Reporting Forms

All case reporting forms from the LA County Department of Public Health are available by telephone or Internet.

Animal Bite Report Form
Veterinary Public Health (877) 747-2243
www.publichealth.lacounty.gov/vet/biteintro.htm

Animal Diseases and Syndrome Report Form
Veterinary Public Health (877) 747-2243
www.publichealth.lacounty.gov/vet/disintro.htm

Adult HIV/AIDS Case Report Form
For patients over 13 years of age at time of diagnosis
HIV Epidemiology Program
(213) 351-8196
www.publichealth.lacounty.gov/HIV/hivreporting.htm

Pediatric HIV/AIDS Case Report Form
For patients less than 13 years of age at time of diagnosis
Pediatric AIDS Surveillance Program
(213) 351-8153
Must first call program before reporting
www.publichealth.lacounty.gov/HIV/hivreporting.htm

Confidential Morbidity Report of Tuberculosis (TB) Suspects & Cases
Tuberculosis Control (213) 744-6160
www.publichealth.lacounty.gov/tb/forms/cmr.pdf

Lead Reporting
No reporting form. Reports are taken over the phone.
Lead Program (323) 869-7195

Reportable Diseases & Conditions Confidential Morbidity Report
Morbidity Unit (888) 397-3993
Acute Communicable Disease Control
(213) 240-7941
www.publichealth.lacounty.gov/acd/reports/CMR-H-794.pdf

Sexually Transmitted Disease Confidential Morbidity Report
(213) 744-3070
www.publichealth.lacounty.gov/std/providers.htm (web page)
www.publichealth.lacounty.gov/std/docs/H1911A.pdf (form)

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