

# streamline

The Migrant Health News Source

## Diabetics at an Increased Risk for Tetanus Infection

[Editor's Note: The information in this article was developed from a presentation given at the March, 2005 National Immunization Conference. MCN would like to acknowledge the staff of the National Immunization Program at the Centers for Disease Control and Prevention for their assistance and expertise]

Many of us grew up with the fear of developing tetanus when we stepped on a nail or had a particularly dirty cut. More recently, immunizations have greatly reduced the risk of tetanus for much of the population in the United States. While there is reduced risk for the majority of people in the U.S., there are still populations at risk for developing tetanus, particularly the foreign born, elderly adults, and diabetics.

Tetanus is caused by contamination of wounds from bacteria (*Clostridium tetani*)

that live in the soil. Tetanus spores are ubiquitous in the environment. Tetanus is unique among diseases for which vaccination is routinely recommended in that it is non-communicable. In addition, one does not acquire immunity through infection with tetanus spores and there is no herd immunity. The only way to prevent tetanus is through vaccination.

A recent study examined tetanus epidemiology from 1972-2001 and found that the overall incidence of tetanus in the United States declined by 59% during this time period ("Trends in Tetanus Epidemiology in the United States, 1972-2001" presented at the 39th National Immunization Conference in March, 2005).

The analysis indicates a higher risk of tetanus in diabetics. The incidence of tetanus for diabetics is 0.7/million as compared to 0.2/million for nondiabetics. Overall, diabetics are 3.2 times more likely to

contract tetanus than nondiabetics. In addition, the case mortality among diabetics is 44% as opposed to 28% for nondiabetics.

Almost 30% of diabetic patients with tetanus had no antecedent acute wound. Rather than the more typical puncture or cut, these patients had chronic wounds, such as an ulcer or gangrene, and 8% had no discernable wound at all.

The retrospective study also found that 52% of all cases in the 1972-2001 time period were among those over age sixty and 74% of all deaths occurred in this age group.

### Other Recommendations

Based on findings from the review of tetanus epidemiology, the researchers recommend the following:

1. Immunization status against tetanus

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### Tetanus Immunization

The Centers for Disease Control and Prevention recommends the following immunization schedules for tetanus.

Routine childhood schedule for DTaP	Dose 1: 2 months; dose 2: 4 months; dose 3: 6 months; dose 4: 15-18 months; dose 5: 4-6 years
Routine adolescent and adult boosters with Td*	Age 11-12 years, then every 10 years
Catch-up schedule (minimal interval) for children aged 4 months to 6 years with DTaP	Dose 1 to dose 2: 4 weeks Dose 2 to dose 3: 4 weeks Dose 3 to dose 4: 6 months Dose 4 to dose 5: 6 months (5th dose not necessary if 4th dose administered after the 4th birthday)
Catch-up schedule (minimal intervals) for children aged 7 years to 18 years and for adults with Td*	Dose 1 to dose 2: 28 days Dose 2 to dose 3: 6 months Dose 3 to next booster: 10 years for adults or if 3rd dose given at age > 7 years 5 years if 1st dose given at age > 12 months and 3rd dose given at age < 7 years and current age > 11 years 6 months: if 1st dose given at age < 12 months and current age < 11 years

\* A Td vaccine with an acellular pertussis component, Tdap, was recently licensed by the FDA; routine adolescent and adult recommendations may soon be issued by the ACIP (Advisory Committee on Immunization Practices).

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should be routinely assessed in all patients, but particularly among the foreign born, older adults, and diabetics. It is important that clinicians ask about the completeness of the primary series (e.g. at least 3 DTP/DtaP/Td) as well as the date of the most recent booster.

2. Clinicians need to recognize that tetanus can occur even in the absence of the classic “tetanus-prone” injury. This is particularly critical for diabetic patients.
3. Accurate reporting of any tetanus cases is critical in the ongoing effort to eliminate this disease.

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### Wound Care

The following is CDC’s summary guide to tetanus prophylaxis in routine wound management. In addition to the tetanus prophylaxis, the CDC also recommends that all wounds be debrided and all devitalized tissue removed.

History of adsorbed tetanus toxoid (doses)	Clean minor wounds		All other wounds <sup>a</sup>	
	Td <sup>b</sup>	TIG (tetanus immune globulin)	Td <sup>b</sup>	TIG
Unknown or <three doses	Yes	No	Yes	Yes
> three doses <sup>c</sup>	No <sup>d</sup>	No	No <sup>e</sup>	No

- Such as, but not limited to, wounds contaminated with dirt, feces, soil, and saliva; puncture wounds; avulsions; and wounds resulting from missiles, crushing, burns, and frostbite.
- For children <7 years old DTaP or DTP (DT, if pertussis vaccine is contraindicated) is preferred to tetanus toxoid alone. For persons >7 years of age, Td is preferred to tetanus toxoid alone.
- If only three doses of fluid toxoid have been received, then a fourth dose of toxoid, preferably an adsorbed toxoid should be given.
- Yes, if >10 years since the last dose.
- Yes, if >5 years since the last dose. (More frequent boosters are not needed and can accentuate side effects.).

## MCN’s Environmental and Occupational Health Program is Expanding!

**M**CN is excited to announce a major series of expansions to our Environmental and Occupational Health programs. The following outlines four new grants and cooperative agreements recently awarded to MCN.

### Mi Casa Es Su Casa: Healthy Homes for Migrant and Seasonal Farmworkers

**EPA—Region III, 2 year grant, start date October 2005**

This project will educate migrants about environmental health issues in order to strengthen the capacity of migrant farmworker households to control and minimize in-home environmental risks. The project will include a partnership with Migrant Head Start and utilize the *promotora de salud* model to offer migrants an overview of the environmental hazards, the reasons migrants should be concerned (e.g. the potential health effects of environmental exposures) and simple behavioral changes to minimize

such exposures. The project also includes environmental health training for clinicians.

### Saving Lives by Changing Practice: Pesticide-Related Health Conditions Prevention Change Concept

**EPA — Office of Pesticide Programs — 5 year Cooperative Agreement, anticipated start date September 2005**

The purpose of this project is to develop and test a model for change of practice behaviors in the clinical setting in regard to pesticide-related health conditions.

1. Organize strategic meetings with primary health care providers, health care clinics, and other health care delivery systems to communicate the need to incorporate pesticide education and awareness into the practice settings.
2. Design and implement methods of integrating of the key practice skills required

for health care providers to deal effectively with pesticide related health conditions in the practice settings.

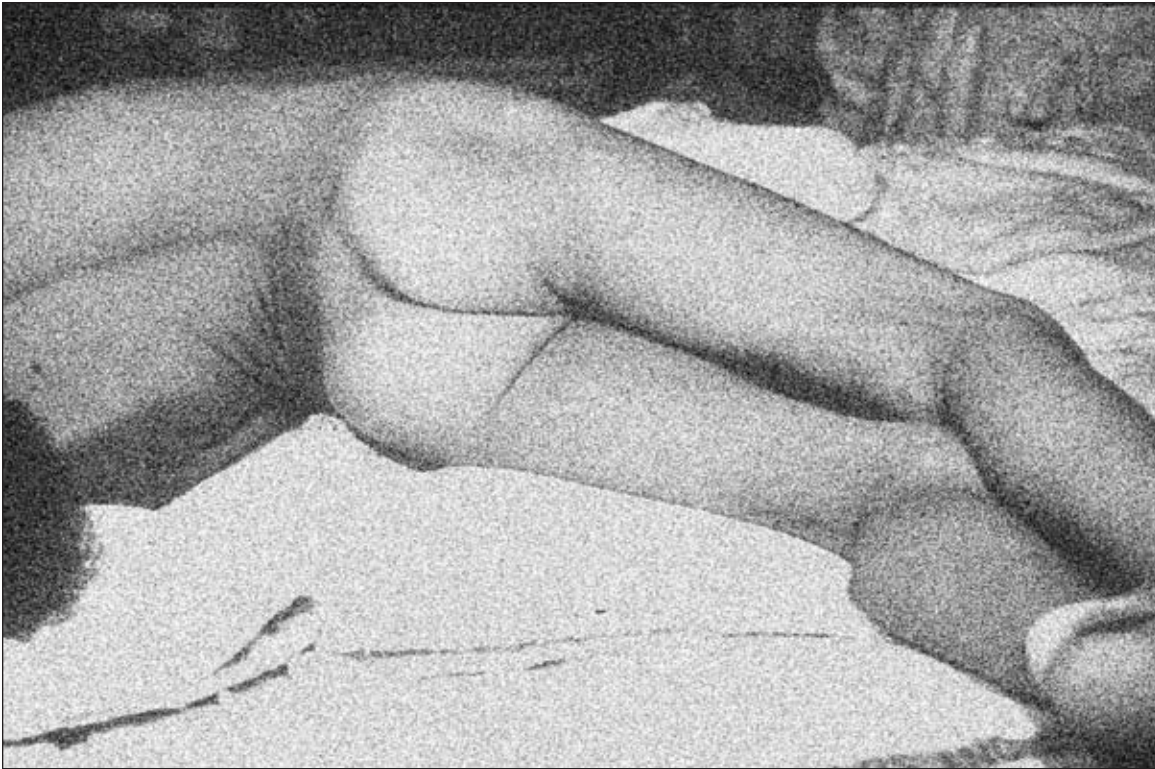
3. Develop and provide access (through training, continuing education, MCN’s website) to relevant resources and tools that health care providers need to deal effectively with pesticide-related health conditions.
4. Develop and test a training model for primary health care providers that incorporates key practice skills for the recognition and treatment of pesticide poisonings.
5. Evaluate and promote the use of a training model for health care providers across a wide range of practice settings.

### Pesticide Education Program for the Paso del Norte Region

**Paso Del Norte Health Foundation, 22 month grant, start date July 2005**

As part of the Paso del Norte Health

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Tetanus infection can provoke painful seizures when two opposing muscle groups are simultaneously activated. Unlike with other major seizures, patients experiencing tetanic seizures remain conscious.

Photo courtesy of the Centers for Disease Control and Prevention

### Blindsided by Tetanus:

# Are You Psychotic, Overdosing, or Did You Just Forget Your Booster Shot?

Claire Panosian Dunavan, MD, Professor of Medicine and Infectious Diseases, University of California at Los Angeles School of Medicine

*This article was originally published in "Discover" magazine January 2000. It is reprinted with the permission of "Discover," which holds the copyright. MCN would like to thank the Immunization Action Coalition (IAC) for allowing MCN to reprint the article from their website [www.immunize.org](http://www.immunize.org)*

**E**duardo rubbed his jaw and tried to open his mouth, wondering about the tight muscles in his face and neck that had plagued him all day. Then he noticed the flashing lights of a police cruiser in his rearview mirror. As an illegal [immigrant] in a battered pickup without cash, driver's license, or friends, Eduardo felt that this was becoming his worst nightmare.

Charged with weaving across lanes and driving an unregistered vehicle, Eduardo spent the next two days in a holding cell. As the hours passed, his cellmates noticed that he grew stiff, grinned oddly, and ignored his food. Then, one of the guards saw him violently jerk his neck and torso. The guard thought, "This guy's faking seizures to get out of jail." But Eduardo's spasms persisted, and other prisoners began backing away from him. The staff decided to pack him off to the county hospital's psychiatric unit.

During my years as the sole infectious diseases specialist at that small county hospital in southern California, I wasn't called to the psychiatric emergency room often. But when I was, the cases were never boring, [and this case was no exception].

Eduardo posed a challenge. As I and the resident both knew—but the police did not—psychosis and [drug] overdose were not the only conditions that could produce a rigid neck and torso, a mute smile, and jerking movements. An infection of the central nervous system was another possibility, and we'd recently seen a few cases of mosquito-borne encephalitis in the area. "¿Cómo está?" I asked as I approached the young man lying on a gurney in a curtained cubicle. The greeting was a courtesy. Eduardo was in no shape to talk. Invisible pulleys had stretched his mouth into a tight smirk. But his eyes were wide open, alert, and terrified—no sign of confusion or coma.

"Great—you got here fast!" The resident's voice rang out as he flung back the curtain.

The sharp sound and sudden motion startled Eduardo. His head jerked back, his shoulders and trunk arched up, and he gasped in pain. But he remained conscious throughout the 15-second attack. That's not

consistent with spasms induced by brain disorders. This was no ordinary seizure. Suddenly the diagnosis dawned on me. Twelve years earlier, as a medical volunteer in Haiti, I had watched a rigid yet fully conscious pregnant woman arch her body in just the same way.

She'd had tetanus.

"Get the ICU team here as soon as possible," I said to the resident. I spoke softly to avoid startling Eduardo into another spasm. "The next time this happens, he could stop breathing," I told the resident. "You make sure he gets an airway. Meanwhile, I'll order up some antitoxin."

In the specialty of infectious diseases, few physical displays are as dramatic as the spasms provoked by tetanus. Its cause is a protein toxin so potent that many victims require months to recover from its effects, if they survive at all.

But the toxin is not the ultimate perpetrator of tetanus. That honor is reserved for the bacillus *Clostridium tetani*, which produces the toxin. Excreted in the feces of animals and widely distributed in soil, mature *C. tetani* resemble tennis rackets, bulging at

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## ■ **Blindsided by Tetanus: Are You Psychotic, Overdosing, or Did You Just Forget Your Booster Shot?** continued from page 3

one end with a hardy spore. It doesn't always take an old nail puncturing a foot to get these into a human host. All the bacteria need is a minor breach of the skin—a laceration, a burn, or even an insect bite. And if they land in tissue that receives little oxygen, they will thrive—multiplying and manufacturing their deadly product.

Once secreted, the toxin molecule sneaks into the root-like hairs of nerve fibers, climbs toward the spinal cord, and binds itself to inhibitory neurons, thus disrupting their function. That takes the brakes off the peripheral nerve cells, and they start firing faster. The result is muscle rigidity that typically begins in the head and neck, then

harvest of tetanus toxin. Because they've received a series of tetanus vaccines in childhood as well as the occasional tetanus booster, their bodies have plenty of protective antibodies. Reported tetanus cases in the United States often number no more than 100 a year.

But people in the developing world are less likely to receive tetanus vaccines and they suffer the consequences. Tetanus kills an estimated 300,000 each year; almost all deaths occur in developing countries. Newborns are particularly vulnerable. During the first few weeks of life, their only defense against pathogens comes from antibodies imported from their mothers. Infants born to

signs of infection; that ruled out encephalitis or meningitis. And just in case he was suffering from dystonia—a movement disorder triggered by certain prescription drugs—he got a dose of diphenhydramine (Benadryl), the usual antidote. That maneuver proved fruitless as well. The only remaining tests were blood and urine assays for strychnine, and those results might not be back for days. Tetanus was the leading contender.

"We'll start the antitoxin as soon as pharmacy brings it up," said the ICU chief, taking me aside. "In the meantime, he's intubated, with diazepam [Valium] by IV. Now what about antibiotics?"

Although Eduardo had no visible signs of infection, at least somewhere in his tissues there must be *C. tetani* pumping out toxin. Penicillin was in order. The drug would wipe out the toxin-producing bacteria. And we hoped the antitoxin—antibodies culled from horses or humans immunized against tetanus—would intercept the poisons in his blood and prevent his symptoms from getting worse.

Unfortunately, its effects were far from Lazarus-like. Eduardo remained in the ICU for a full month, while the toxin was slowly leached from his spinal cord and brain. I was hoping for a full recovery, but sometimes tetanus so damages nerves that muscles are left permanently weakened. Even muscle relaxants, low lights, and tiptoeing doctors and nurses couldn't prevent Eduardo's spasms, so we paralyzed his muscles and put him on a ventilator. Thankfully, he made it through.

Several weeks after his discharge from the hospital, I saw Eduardo at a follow-up visit. He was still thin and leaning on a cane. When I greeted him in the hall, he seemed to remember me.

"Tetanus vaccine?" he responded laconically to my first eager question. "I don't remember any vaccines in the village where I grew up."

I made a mental note to ask our nurse to vaccinate him. Ironically, so little toxin is released during an infection that even a full-blown case of tetanus builds no immunity against future attacks.

"What about an injury?" I persisted. "Usually a wound precedes tetanus."

"Ah, the soccer game," he mused. "A few weekends before I started getting stiff, something sharp went right through the sole of my shoe. Glass, I think." [This information let me put the last piece of the puzzle in place: Eduardo's untreated puncture wound explained the cause of his tetanus episode. Case closed.] ■



An early symptom of tetanus infection is *risus sardonicus*, consisting of a rigid 'smile', raised eyelids and wrinkled forehead.

Photo courtesy of the Centers for Disease Control and Prevention

moves to the chest and abdomen, and eventually reaches the extremities.

Lockjaw, or trismus, is an early sign of tetanus. It means the toxin has affected nerves in the masseters, or chewing muscles. Another early symptom is risus sardonicus, a term from Roman times for the tetanus victim's telltale smile, raised eyelids, and wrinkled forehead. The most vivid hallmark of all is the wrenching spasms, which result when two opposing muscle groups are simultaneously activated. The spasms can be triggered by anything from a sudden noise, movement, or draft of air to such internal stimuli as a full bladder or a cough.

Fortunately, most people in industrialized countries needn't worry that everyday scratches and scrapes will yield an internal

nonimmunized mothers are tetanus cases waiting to happen. One dirty knife or soiled bandage on the umbilical stump is all it takes. Today neonatal tetanus accounts for over half of the more than 500,000 cases worldwide.

In my quick exam of Eduardo, I hadn't seen a scratch. I suspected tetanus, but there's no definitive diagnostic test for the disease because the toxin hides away in the central nervous system. To confirm my suspicion, I needed to exclude the possibility that another condition was mimicking tetanus symptoms.

Tests of Eduardo's electrolytes were normal, which ruled out a low calcium level as the cause of his spastic muscles. And Eduardo's spinal fluid showed no

# Don't Panic — Prepare

*Deliana Garcia, MA, Director of Development and International Programs, MCN*

Increasing attention is being given to the possibility of an influenza pandemic in the near future. Images from the three influenza pandemics that occurred in the 20th century fuel the present anxiety. The last influenza pandemic occurred in 1968 and caused 34,000 deaths in the United States alone.

For an influenza virus to cause a pandemic it must: 1) possess a new surface protein to which there is little or no pre-existing immunity in the population; 2) have the ability to cause illness in humans; and 3) have the ability for sustained transmission from person to person. While recent outbreaks of human disease were caused by an avian influenza strain, this strain has thus far not demonstrated an ability for sustained transmission between humans.

Modeling studies estimate that a “medium-level” influenza pandemic in the U.S. could cause as many as 89,000 to 207,000 deaths, 314,000 to 734,000 hospitalizations, 18 million to 42 million outpatient visits, and another 20 million to 47 million cases of illness. Fifteen to 35 percent of the U.S. population could be affected.

Concern over an approaching influenza pandemic and the impact it would have both on the population and the health care delivery system have resulted in calls for the major federal entities to declare their state of readiness. Federal public health officials are relying on the existing national influenza surveillance system and the recent modifications to identify the next influenza pandemic. With the current focus on the H5N1 influenza strain, avian flu now thought to be endemic in several Asian countries, there is an increasing effort to coordinate between animal health and public health officials. According to the CDC, nearly 70 percent of emerging infectious disease episodes in the last 10 years have been zoonotic diseases. In addition to surveillance a national plan must include purchase, distribution and administration of influenza vaccine, prioritizing of population groups for receipt of vaccine, quarantine and travel restrictions, health workforce capacity and the deployment of resources. The U.S. Department of Health and Human Services is principally responsible for coordinating the nation's public health emergency response.

Another concern is the inclusion of private and other non-health department based health care delivery sites. What will their role be in addressing an influenza pandemic? Does the current communication platform for the national surveillance system provide for communication with non-health department health care delivery sites? For example, the CDC early warning and response system,

the Health Alert Network (HAN), is designed to ensure that state and local health departments have timely access to emerging health information. Dissemination of this information outside of the health department framework is critical. One important role that migrant and community health centers could play is that of a sentinel surveillance system.

With many of these health centers located both in rural and densely populated urban areas, they are uniquely positioned to witness the early phases of an emerging pandemic. While hospital emergency rooms are likely to receive many of the newly ill at the onset of a pandemic, health centers are seen as the safety net provider of health care services in many communities. A strong communication network between these health centers could produce some of the first surveillance of an influenza pandemic.

## Health Center Preparedness

Health centers must consider a number of actions to improve their readiness for and increase their effectiveness in addressing a possible influenza pandemic.

1. Determine how and by whom decisions will be made concerning resources allocation, including vaccine and antiviral medications in your area. Knowing in advance by whom and how vaccines will be purchased and disseminated limits the delay of implementing an effective response to an emerging influenza outbreak.
2. Educate yourselves on the information stream at the state and local level for outbreak alerts. While there is still some uncertainty over the authority and decision making ability between federal and state public health officials, most communication networks are based on a flow of information from the federal level to state health authorities and on to local public health entities. The existence of a working relationship between the health center and the health department provides for rapid and accurate communication.
3. Segment your existing patient population according to priority group for vaccination. A priority list of population groups who will receive vaccine in the event of an influenza pandemic has been developed and is being presented to Secretary of Health and Human Services, Mark Leavitt, and the Influenza Task Force. While not yet accepted as policy, groupings are likely to remain unchanged and only their priority position altered.
4. Verify that organization infection control policies are updated and practiced
5. Implement patient education on infection

control measures to prevent the spread of disease.

## Diagnosis and Treatment

The abrupt onset of fever, myalgia, headache, malaise, nonproductive cough, sore throat, rhinitis and other constitutional and respiratory signs and symptoms characterize uncomplicated influenza illness. With children, otitis media, nausea, and vomiting are also commonly reported. Young children with influenza infection can have initial symptoms mimicking bacterial sepsis with high fevers, and < 20 percent of children hospitalized with influenza can have febrile seizures. Influenza infection has also been associated with encephalopathy, transverse myelitis, Reyes syndrome, myositis, myocarditis, and pericarditis.

The typical incubation period for influenza is 1–4 days, with an average of 2 days. Adults can be infectious from the day before symptoms begin through approximately 5 days after illness onset. Children can be infectious for > 10 days, and young children can shed virus for several days before their illness onset. Severely immunocompromised persons can shed virus for weeks or months. Influenza illness typically resolves after 3–7 days, although cough and malaise can persist for 2 weeks or more.

Because respiratory illness caused by influenza is difficult to distinguish from illness caused by other respiratory pathogens on the basis of symptoms alone, the use of diagnostic testing can aid clinical judgment and help guide treatment decisions. Diagnostic tests available for influenza include viral culture, serology, rapid antigen testing, polymerase chain reaction (PCR), and immunofluorescence assays. Commercial rapid diagnostic tests are available that can detect influenza viruses within 30 minutes. Some tests are approved for use in any outpatient setting, whereas others must be used in a moderately complex clinical laboratory. These rapid tests differ in the types of influenza viruses they can detect and whether they can distinguish between influenza types. None of the tests provide any information about influenza A subtypes. The types of specimens acceptable for use (i.e., throat, nasopharyngeal, or nasal aspirates, swabs, or washes) also vary by test. Among respiratory specimens for viral isolation or rapid detection, nasopharyngeal specimens are typically more effective than throat swab specimens. Samples should be collected within the first 4 days of illness.

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# Workers Arrested by ICE agents Posing as OSHA Trainers

On July 6th, 2005 special agents from U.S. Immigration and Customs Enforcement (ICE) in conjunction with The Defense Criminal Investigative Service, the Air Force Office of Special Investigation, the Social Security Office of the Inspector General, and the Johnston County Sheriff's Office arrested 48 undocumented immigrants in an investigation targeting unauthorized contract workers at the Seymour Johnson Air Force Base in North Carolina. The immigrant workers were arrested in a sting operation targeting unauthorized contract workers by luring them to a mandatory safety training meeting with Immigration and Customs Enforcement (ICE) agents posing as Occupational Safety and Health Administration (OSHA) trainers. This action has a number of implications for worker safety, the workers' compensation system and immigrant rights. We will more thoroughly analyze these issues in an upcoming *Streamline*.

The following is an official statement made by the American College of Occupational and Environmental Medicine (ACOEM) regarding this incident. ACOEM is an important partner of MCN and all those working on behalf of migrants. For more information about ACOEM and this statement please contact Joe Fortuna at [joe.fortuna@delphi.com](mailto:joe.fortuna@delphi.com). ■

*Statement by the American College of Occupational and Environmental Medicine – College Objects to Using a Safety and Health Training Program to Apprehend Undocumented Immigrant Workers*

The American College of Occupational and Environmental Medicine (ACOEM) with 6,000 members is the largest association of physicians focused on occupational and environmental medicine. ACOEM's mission is first and foremost to promote optimal health and safety to workers, workplaces and environments by educating health professionals and the public.

ACOEM and its Section on Underserved Occupational Populations has followed with great interest the news about the operation conducted in North Carolina by the Immigration and Customs Enforcement Agency during which several foreign-born construction workers were asked to attend a session on health and safety in the workplace which turned out to be an effort to identify and apprehend undocumented workers performing services at a military base.

While ACOEM fully appreciates and strongly supports the necessity of identifying and apprehending foreign-born persons in our midst who pose potential security risks, we believe that serious consideration should be given to the ramifications of using a safety and health training program to catch such undocumented immigrant workers.

Foreign-born workers in the United States are one-third more likely to die on the job than their U.S.-born counterparts. Immigrant workers, disproportionately work in high-hazard industries, such as construction (where they represent 17 percent of the workers) and agriculture (where they represent 78 percent of the workers). Such jobs carry mortality risks 5 to 10 times higher than those for general industry. Such workers often speak little or no English, and have presented workplace safety challenges that federal and state occupational health and safety agencies have struggled to address with only limited success.

Due to their status, these workers – the very people who can best benefit from safety and health information – are already fearful of arrest. Raising suspicion among them of the potential for identification and deportation as a result of trying to learn how to do their job safely or how to prevent the spread of serious communicable diseases such as drug-resistant TB (widespread in their ranks) can only lead to additional pain, suffering [sic] as well as the increased costs to society for their health care for such injuries and illnesses.

Experience has shown that safety and health training is a major key to reducing the [sic] workplace injuries, accidents, and deaths as well as communicable disease exposures in the population of migrant and undocumented workers on whom we depend for the performance of entry level and/or very physically demanding and dangerous work in our society.

The College believes that concealing efforts to apprehend undocumented workers as safety and health training will hinder these programs by raising suspicion in this population to a level that reduces attendance at these programs, and thus reduces the benefits of these programs to these workers and to our society.

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Rapid influenza tests provide results within 24 hours; viral culture provides results in 3–10 days.

Even with the availability of rapid diagnostic tests, collecting clinical specimens for viral culture is critical. Only culture isolates can provide specific information regarding circulating strains and their compatibility with vaccine strains and subtypes of influenza viruses. This information is also needed to guide decisions regarding treatment and chemoprophylaxis. Virus isolates also are needed to formulate vaccine for the coming year, monitor the emergence of antiviral resistance and the emergence of novel influenza A subtypes that might pose a pandemic threat.

### Treatment

Part of the national preparations for a possible influenza pandemic includes the produc-

tion of vaccine for the H5N1 strain. Development is underway so as to accelerate response time should an outbreak occur. The supply of vaccine is still below what would be required for thorough coverage should an outbreak occur soon. But every effort is being made to build the necessary vaccine stockpile for the influenza strain seen as the likely source of the next pandemic.

*Early in an influenza pandemic prior to identification of the specific strain or before vaccine is available, antiviral drugs may have a significant impact. Antiviral drugs could reduce or prevent the number of influenza-related deaths until a vaccine is available. They can be administered as a prophylactic or as a treatment if given within 48 hours of the onset of symptoms. While all four approved influenza antiviral drugs can be used against all strains of pandemic influenza, some strains can become*

*resistant to one or more of the drugs rendering it ineffective.*

*This information is provided in an effort to prepare health centers for a possible influenza pandemic. While considerable planning is underway at the national level, all direct care action will take place at the local level. Health centers will have an important role to play as part of any effective system of prevention, identification and response in a pandemic influenza pandemic.* ■

### Sources:

GAO-05-760T Testimony Before the Subcommittee on Health, Committee on Energy and Commerce, United States House of Representatives

Gerberding, Julie L., Pandemic Planning and Preparedness, Testimony Before the Subcommittee on Health, Committee on Energy and Commerce, United States House of Representatives

<http://www.cdc.gov/flu/professionals/diagnosis/>

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



# Newsflashes

## **CDC Recommends Meningococcal Vaccine for Adolescents and College Freshmen**

The Centers for Disease Control and Prevention (CDC) now recommends routine vaccination of children 11-12 years old, previously unvaccinated adolescents at high school entry, and college freshmen living in dormitories with the newly licensed meningococcal conjugate vaccine (MCV4). The new recommendation is designed to help achieve vaccination among those at highest risk for meningococcal disease. As the vaccine supply increases, CDC hopes, within three years, to recommend routine vaccination of all adolescents beginning at 11 years of age. For more information on meningococcal disease, visit [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm)

## **FDA Approves a New Combination Vaccine to Help Protect Adolescents and Adults against Whooping Cough**

On June 10th, the Food and Drug Administration (FDA) approved a new vaccine for a single booster immunization against pertussis (whooping cough), in combination with tetanus and diphtheria, for adolescents and adults 11-64 years of age. The vaccine will be marketed as Adacel by Aventis Pasteur Limited located in Toronto, Canada. Adacel is the first vaccine approved as a pertussis booster for adults. Vaccines for prevention of tetanus and diphtheria (Td vaccine) in adolescents and adults have been available for many years. Recently, FDA approved a similar vaccine called Boostrix, manufactured by GlaxoSmithKline, for use in adolescents 10-18 years of age. Since 1980, the rates

of reported pertussis cases have been increasing in adolescents and adults, as well as in young infants. Adolescents and adults have been implicated as the source of pertussis infection for susceptible young infants and other family members. To view the FDA's press release, visit <http://www.fda.gov/bbs/topics/ANSWERS/2005/ANS01361.html>.

## **CDC Releases Extensive Survey of Americans' Exposure to Environmental Chemicals**

The Third National Report on Human Exposure to Environmental Chemicals, released in July by the Centers for Disease Control and Prevention (CDC), offers one of the most extensive assessments ever of Americans' exposure to environmental chemicals. The report includes extensive data for such chemicals as mercury, lead, cadmium, and other metals; phthalates; organochlorine pesticides; organophosphate pesticides; pyrethroid insecticides; herbicides; polycyclic aromatic hydrocarbons; dioxins and furans; polychlorinated biphenyls; and phytoestrogens. CDC conducts this research to learn more about the effectiveness of public health interventions and better understand the health risks of exposure to chemicals in the environment. Research separate from the report's findings is needed to determine the relationship between levels of chemicals in the blood or urine and health effects. The results presented in this and future reports will help set priorities for research on human health risks resulting from exposure to environmental chemicals. The Third National Report on Human Exposure to Environmental Chemicals and an executive summary are available online at

the following Web site: <http://www.cdc.gov/exposurereport>.

## **Clinical Research Scholar Career Development Training Opportunity**

The multidisciplinary Clinical Research Training Program funded by the National Institutes of Health (NIH) through its K12 Roadmap initiative (see [www.nihroadmap.nih.gov/clinicalresearch/index.asp](http://www.nihroadmap.nih.gov/clinicalresearch/index.asp)) seeks outstanding candidates to fill 6 CR Scholar positions available in July 2006. This innovative program is a collaboration involving Case Western Reserve University (CASE), Cleveland Clinic Foundation, University Hospitals of Cleveland, MetroHealth Medical Center, and the Cleveland VA Medical Center. Each CR Scholar will embark on a 2-year to 4-year program of intensive training in multidisciplinary team-based patient-oriented research, combining a novel educational program with mentored research experiences. Qualified candidates will hold an MD, PhD or equivalent degree and have demonstrated keen interest in careers that focus on clinical research. Applications will be accepted from physicians, nurses, dentists, social and behavioral scientists, engineers, biostatisticians, epidemiologists, bioethicists, and other professionals with expertise relevant to clinical research. Successful candidates will receive a CASE appointment, with salary and benefits commensurate with prior experience and qualifications, research stipend, tuition benefits and access to a multidisciplinary pool of highly qualified mentors who will guide their research projects. Interested applicants should contact Rebecca Zuti, MBA, MA at [zutib@ccf.org](mailto:zutib@ccf.org). Applications must be received by October 14, 2005 for full consideration. Applicants must be U.S.

## **MCN's Environmental and Occupational Health Program Expansion** continued from page 2

Foundation's Healthy Homes Initiative, MCN will work with organizations in the border region of El Paso, Texas and Cd. Juárez, Mexico to implement effective community based interventions that reduce risks to area residents from exposure to pesticides. The expected project products include:

1. A needs assessment of organizations to develop an appropriate request for proposal.
2. In-depth technical assistance to train, support and build capacity among the organizations funded by the Foundation

to implement and evaluate community based interventions aimed at minimizing the risks to pesticide exposure.

3. *Manual del Promotor*—a tool to assist community organizations to improve the implementation of the community based intervention aimed at minimizing the risks to pesticide exposure. The need for this resource was demonstrated in the previous pesticide project. It is more in-depth than the "*Aunque Sano...Cerca*" comic book, which targets farmworker parents, but not as detailed as the train-

ers' manual. The manual will include information about working in the community.

## **National Children's Center for Rural Agricultural Health and Safety, 5 year partnership, start date October 2004**

MCN continues to serve as internal and external advisor in order to keep NCC informed of, and assist in addressing, migrant related health and safety issues." ■



## Migrant Clinicians Network

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## calendar

### **2005 Annual Convention & Community Health Institute**

National Association of Community Health Centers (NACHC)  
September 16 - 21, 2005  
Miami Beach, FL  
1-800-548-8886  
<http://www.nachc.com>

### **Environmental Exposure and Health**

October 5-7, 2005  
Atlanta, GA  
<http://www.ce.gatech.edu/research/MESL/EEH2005/>

### **18th Annual East Coast Migrant Stream Forum**

October 20 -22, 2005  
Memphis, Tennessee  
919.469.5701  
[http://www.ncphca.org/ECMSF\\_2005.htm](http://www.ncphca.org/ECMSF_2005.htm)

### **13th Annual HIV/AIDS Update Conference/Border Health Summit**

October 20-22, 2005  
South Padre Island, Texas  
Valley AIDS Council and the Texas/Oklahoma AETC  
<http://www.valleyaids.org/>

### **NWRPCA/CHAMPS Fall 2005 Primary Care Conference**

October 22-26, 2005  
Seattle, Washington  
(206) 783-3004  
<http://www.nwrpca.org/conf/fall.php>

### **State-of-the-Art Conference (SOTAC 2005)**

American College of Occupational and Environmental Medicine  
October 26-30, 2005  
Chicago, Illinois  
[http://www.acoem.org/education/conference.asp?EVENT\\_ID=431](http://www.acoem.org/education/conference.asp?EVENT_ID=431)

### **American Public Health Association**

133rd Annual Meeting  
New Orleans, Louisiana  
November 5-9, 2005  
<http://www.apha.org/meetings/>

### **Midwest Stream: Farmworker Health Forum**

Facing the Challenges of Diversity in Health Care  
November 10-12, 2005  
South Padre Island, TX  
(512) 312-2700  
<http://www.ncfh.org/>

### **15th Annual Western Migrant Stream Forum**

January 27-29, 2006  
Portland, Oregon  
(206) 783-3004  
<http://www.nwrpca.org/conf/forum.php>

### **National Rural Health Association's 2006 Annual Conference**

May 15-19, 2006.  
Reno, Nevada  
<http://www.nrharural.org/conferences/sub/AnnConf.html>