## Study finds less-invasive method for identifying osteomyelitis is effective

Researchers have found that using hybrid 67Ga single-photon emission computed tomography and X-ray computed tomography (SPECT/CT) imaging combined with a bedside percutaneous bone puncture in patients with a positive scan is "accurate and safe" for diagnosing osteomyelitis in patients with diabetes who have a foot ulcer without signs of soft-tissue infection.

The new method, which avoids an invasive bone biopsy, has a sensitivity of 88% and a specificity of 93.6%. In the study of 55 patients, antibiotic treatment was avoided in 55% of suspected cases.

"**Diagnosing diabetic foot osteomyelitis in patients without signs of soft tissue infection by coupling hybrid 67Ga SPECT/CT with bedside percutaneous bone puncture**," published by *Diabetes Care*, followed patients for at least a year.

## MRSA strains will likely continue to coexist in hospitals and communities

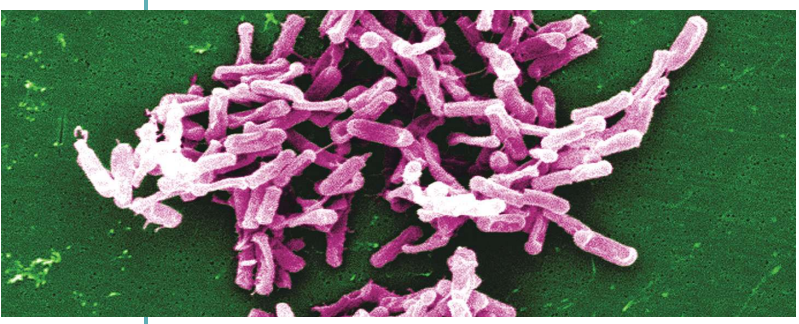
The strains of methicillin-resistant *Staphylococcus aureus* (MRSA) differ in the hospital and community settings, and both are likely to coexist in the future, according to a study in *PLOS Pathogens*.


"**Hospital-community interactions foster coexistence between methicillin-resistant strains of *Staphylococcus aureus***" notes that previously it was thought that the more invasive community strains would become more prevalent (and even eliminate) hospital strains. This new information could have significant consequences for public health because of the differences in the resistance of the two strains.

## *C. difficile* prevention actions fail to stop spread

Despite increasing activities to prevent the spread of *Clostridium difficile*, infection from *C. difficile* remains a problem in healthcare facilities, according to a **survey** of infection preventionists by the Association for Professionals in Infection Control and Epidemiology (APIC).

The survey found that 70% of preventionists have adopted additional interventions in their healthcare facilities since March 2010, but only 42% have seen a de-



cline in *C. difficile* infection rates; 43% saw no decline.

A total of 1,087 APIC members completed the survey in January 2013. The survey also found that more than 92% of respondents have increased emphasis on environmental cleaning and equipment decontamination practices, but 64% said they rely on observation, rather than more accurate and reliable monitoring technologies, to assess cleaning effectiveness.

In addition, 60% of respondents have antimicrobial stewardship programs at their facilities, compared with 52% in 2010. Such programs promote the appropriate use of antibiotics, which can help reduce the risk of *C. difficile* infection.

**According to the Centers for Disease Control and Prevention**, diarrhea caused by *C. difficile* is linked to 14,000 American deaths each year.

## Mast cells may not play significant role in wound healing

"**Evidence that mast cells are not required for healing of splinted cutaneous excisional wounds in mice**," published in *PLOS One*, analyzed wound healing in three types of genetically mast-deficient mice and found they reepithelialized their wounds at rates similar to control mice. At the time of closure, the researchers found that scars in all the mice groups were similar in both "quality of collagen deposition and maturity of collagen fibers." The findings fail to support the previously held belief that mast cells are important in wound healing.

## Study identifies effective casting for diabetes-related plantar foot ulcers

Nonremovable casts that relieve pressure are more effective than removable casts or dressings alone for the treatment of plantar foot ulcers caused by diabetes, according to an analysis of clinical trials.

The authors of "**Pressure-relieving interventions for treating diabetic foot ulcers**," published by The Cochrane Library, reviewed 14 randomized clinical trials that included 709 participants. Nonremovable pressure-relieving casts were compared to dressings alone, temporary therapeutic shoes, removable pressure-relieving devices, and surgical lengthening of the Achilles tendon.

The study also notes that when combined with Achilles tendon lengthening, nonremovable devices were more successful in one forefoot ulcer study than the use of a nonremovable cast alone.

Most studies were from the United States (five) and Italy (five), with Germany, the Netherlands, Australia, and India each contributing one study.

## Prescriber preference drives use of antibiotics in long-term care

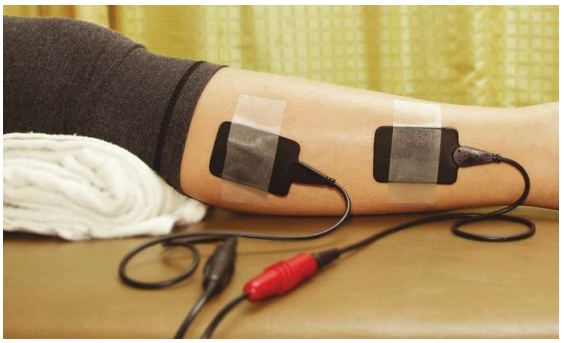
"**Prolonged antibiotic treatment in long-term care: Role of the prescriber**," published by *JAMA Internal Medicine*, found that the preferences of prescribers, rather than patient characteristics, drive antibiotic treatment.

The study of 66,901 patients from 630 long-term care facilities found that 77.8% received a course of antibiotics. The most common length (41%) was 7 days, but the length exceeded 7 days in 44.9% of patients. Patient characteristics were similar among short-, average-, and long-duration prescribers.

The study authors conclude: "Future trials should evaluate antibiotic stewardship interventions targeting prescriber preferences to systematically shorten average treatment durations to reduce the complications, costs, and resistance associated with antibiotic overuse."

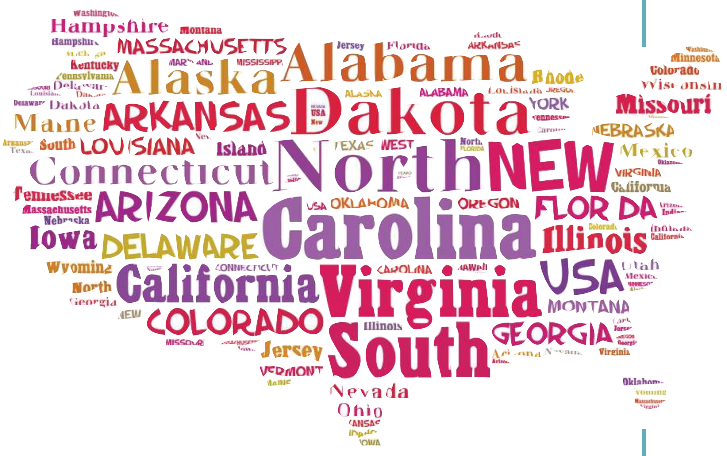
## Electrophysical therapy may be helpful for diabetic foot ulcers

"**Electrophysical therapy for managing diabetic foot ulcers: A systematic review**" concludes that electrophysical therapy is potentially beneficial because in each randomized clinical trial it outperformed the control or



sham electrical stimulation.

The authors of the study in *International Wound Journal* reviewed eight trials with a combined total of 325 patients. Five studies were on electrical stimulation, two on phototherapy, and one on ultrasound. Because of the small number of trials, the possibility of harmful effects can't be ruled out, and the authors recommend "high-quality trials with larger sample sizes."




## ignificant geographic variations in spending, mortality exist for diabetic patients with foot ulcers and amputations

"**Geographic variation in Medicare spending and mortality for diabetic patients with foot ulcers and amputations**" reports healthcare spending

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