



## On UTI in Children, New Patterns in Old Diseases, and Late PCI After MI

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Each month, Dr. Nahum Kovalski reviews a handful of abstracts from, or relevant to, urgent care practices and practitioners. For the full reports, go to the source cited under each title.

### Prevalence of UTI in Children

**Key point:** Prevalence is highest in infants younger than 3 months, girls with fever, and uncircumcised boys.

Citation: Shaikh N, Morone NE, Bost JE, et al. Prevalence of urinary tract infection in childhood: A meta-analysis. *Pediatr Infect Dis J.* 2008; 27:302-308.

During the past decade, many studies have assessed the prevalence of urinary tract infection (UTI) in children with fever. Investigators conducted a meta-analysis of data from 18 such studies (involving 22,919 children with UTI symptoms) to determine pooled estimates of UTI prevalence in children.

Prevalence rates of UTIs in febrile females were:

- 0-3 months: 7.5%
- 3-6 months: 5.7%
- 6-12 months: 8.3%
- >12 months: 2.1%

Among boys:

- 3 months, prevalence of UTI was 8.7%
  - uncircumcised boys: 20.1%
  - circumcised boys: 2.4%
- 3 to 6 months, prevalence was 3.3%
- 6 to 12 months, prevalence was 5.4%
  - uncircumcised boys: 7.3%

– circumcised boys: 0.3%

These pooled estimates can help clinicians select children who might benefit from diagnostic evaluation.

UTIs are common in infants younger than 3 months. After age 6 months, prevalence is highest in febrile girls and uncircumcised boys.

[Published in *J Watch General Med*, April 22, 2008—Howard Bauchner, MD.] ■

### Mumps and Varicella: On the Rebound?

**Key point:** Vaccine failures spell the need for ongoing monitoring and fine-tuning of guidelines.

Citations: Dayan GH, Quinlisk MP, Parker AA, et al. Recent resurgence of mumps in the United States. *N Engl J Med.* 2008;358:1580-1589.

Michalik DE, Steinberg SP, LaRussa PS, et al. Primary vaccine failure after 1 dose of varicella vaccine in healthy children. *J Infect Dis.* 2008;197:944-949.

Many decades into the vaccine era, we still are being surprised by new patterns in old childhood diseases. Two studies address these changing patterns.

In one study, researchers examined the largest U.S. mumps outbreak in two decades, which erupted in eight midwestern states in 2006. Almost 7,000 people were affected, with estimated incidence in 18- to 24-year-olds that was higher than in all other age groups combined.

Most of those in that age group had acquired the disease on college campuses, and most had received two childhood doses of mumps vaccine. To explain secondary vaccine failure on this



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large a scale, the researchers hypothesized a combination of waning vaccine immunity, lack of natural boosting by circulating wild virus, and sudden introduction of disease, possibly from a simultaneous large outbreak in the U.K.

In another study, researchers addressed the continued occurrence of varicella cases despite widespread vaccination. Researchers examined postvaccination antibody in 148 healthy children; only 76% seroconverted after a single dose of vaccine, a rate of primary vaccine failure significantly higher than that in many previous reports in which a different antibody assay was used.

These data support the booster-dose varicella vaccine recently recommended by the Advisory Committee on Immunization Practices.

Despite effective and widely implemented vaccines, childhood diseases still circulate and raise new questions, as patterns of herd immunity and background circulating disease evolve. Practitioners should remember to keep all the vaccine-preventable diseases on their diagnostic radar.

[Published in *J Watch General Med*, April 22, 2008—Abigail Zuger, MD.] ■

### Late Percutaneous Coronary Intervention After MI May Offer Benefit

**Key point:** PCI between 12 hours and 60 days after acute MI had better long-term survival & cardiac function than medical therapy.

Citations: Abbate A, Biondi-Zoccai GGL, Appleton DL, et al. Survival and cardiac remodeling benefits in patients undergoing late percutaneous coronary intervention of the infarct-related artery: Evidence from a meta-analysis of randomized controlled trials. *J Am Coll Cardiol*. 2008;51:956-964.

Sabaté M. Revascularization of the infarct-related artery: Never too late to do well. *J Am Coll Cardiol*. 2008;51:965-967.

Reperfusion of the infarct-related artery in stable patients >12 hours after acute myocardial infarction is controversial because of contradictory results from mostly small observational and randomized studies.

To examine this issue further, researchers conducted a meta-analysis of pooled data from 10 randomized controlled trials involving 3,560 stable acute MI patients, approximately 60% of whom were enrolled in the Occluded Artery Trial (OAT). The average median time from acute MI to percutaneous coronary intervention was 12 days, and the average median follow-up duration was 2.8 years.

The primary endpoint, all-cause mortality, was better with PCI than with medical therapy: 112 deaths (6.3%) vs. 149 deaths (8.4%), respectively (odds ratio, 0.49;  $P=0.03$ ). PCI was also associated with greater improvement in LV ejection fraction (4.4%;  $P=0.009$ ) in seven studies that assessed such changes.

Nonsignificant benefits for PCI were observed for other endpoints: death or MI (OR, 0.70); death, MI, reinfarction, or rehospitalization (OR, 0.66); and nonfatal MI (OR, 0.86). The benefit of late PCI was greatest in patients with residual ischemia and myocardial viability and was most apparent in longer term follow-up.

Taken together, these studies demonstrate that late PCI of the infarct-related artery after acute MI confers a significant survival and remodeling benefit. The findings contrast with those from the largest single study (OAT), which showed no benefit with this strategy but excluded patients with moderate to severe ischemia and had a median follow-up of only 34 months.

[Published in *J Watch Cardiol*, April 16, 2008—Howard C. Herrmann, MD.] ■

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