

Five Things Clinicians and Patients Should Question

1 Don't routinely continue antibiotics for surgical site infection prevention after the patient has left the operating room.

Surgical antibiotic prophylaxis (SAP) given immediately prior to surgery has been shown to significantly decrease the risk of surgical site infection (SSI). However, prolonged use has not demonstrated benefit over the single dose of preoperative antibiotics. As such, prolonged SAP results in unnecessary antibiotic exposure which may contribute to the development of resistant organisms. This does not apply to situations where there is infection that requires ongoing treatment.

2 Don't routinely order a CT abdomen/pelvis for paediatric trauma patients deemed low risk by established decision rules for clinically significant intra-abdominal injury.

CT imaging among paediatric trauma patients is often overused leading to increased risk from ionizing radiation, increased need for procedural sedation, and increased cost to the healthcare system. For paediatric trauma, abdominal/pelvic CT imaging is commonly ordered because of a concerning mechanism of injury, which has not on its own been demonstrated to correlate with intra-abdominal injury. Rates of CT abdominal/pelvic imaging can be safely reduced by utilizing evidence-based clinical decision rules, of which two exist to guide diagnostic imaging in this patient population.

3 Don't routinely treat positive blood cultures with a high suspicion of contamination in otherwise well-appearing children at low risk for true bacteremia. Do adopt a standardized, timely approach to managing these positive results based on risk assessment.

Fever in children is a very common reason to seek medical attention and blood cultures are often drawn with bloodwork irrespective of the patient's clinical presentation. Current rates of bacteremia in healthy vaccinated children are extremely low and contamination is common resulting in return visits, additional testing, and even hospital admissions and antibiotics. Blood cultures should only be sent when there is a clinical suspicion for bacteremia. When a contaminated result is suspected or confirmed, a standardized approach should be utilized based on the gram stain, subsequent culture results and patient risk level to guide treatment decisions.

4 Don't routinely continue broad spectrum antibiotics, such as vancomycin and meropenem after 48 hour cultures return, unless there is a clear clinical or microbiological indication.

Antibiotics are usually started when there is concern for possible infection. After two days, if culture results do not demonstrate a resistant organism, antibiotics should either be changed to a narrow-spectrum agent or discontinued if there is no longer evidence of infection. Minimizing patient exposure to broad spectrum antibiotics will help to decrease development of resistance to these agents and preserve their efficacy for future use.

5 Don't empirically start antibiotics for children over three months of age with low risk of urinary tract infection (UTI) without evidence of nitrites or significant pyuria on urine dipstick. Do stop antibiotics if the urine culture is negative.

Urinary tract infections (UTIs) are a common infection in children and a leading cause for acute care visits in paediatrics. The diagnosis is often made on the basis of clinical symptoms, pyuria on dipstick analysis, and confirmed by a positive urine culture. Since urine culture results are not immediately available, clinicians often empirically prescribe antibiotics to patients for suspected UTIs. However, since UTI symptoms are often nonspecific and urinalysis has varying sensitivity and specificity, children over three months of age that are low risk should not receive empiric antibiotics without evidence of nitrites or pyuria on urine dipstick. Empiric antibiotics should be discontinued if final urine culture results are negative.

How the list was created

The Department of Paediatrics at The Hospital for Sick Children (SickKids) in Toronto, Canada established its second set of Choosing Wisely Canada Top 5 recommendations through the following process. A diverse group of SickKids stakeholders including representatives from Diagnostic Imaging, Laboratory Medicine, Pharmacy, Paediatrics as well as the Hospital's Utilization Management and Antimicrobial Stewardship Committees were asked to submit recommendations deemed appropriate for providers at a tertiary/quaternary care paediatric hospital. In an iterative process, this list was reduced from 19 to 12 items by SickKids Choosing Wisely champions based on strength of evidence and appropriateness. The 12 items were then included in an anonymous survey sent to all full-time staff and core trainees in Department of Paediatrics. The survey, truncated to include only the recommendations applicable to surgical and perioperative scope of practice, was also sent to full-time staff and trainees in the Department of Surgery & Perioperative Services. All survey respondents were asked to rate their level of agreement with each recommendation based on the guiding principles of Choosing Wisely. Survey results were then used in combination with a weighted scoring model that factored in ease of measurement, capacity for implementation, and alignment with hospital strategic priorities.

Sources

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