

**Background.** Febrile UTI/pyelonephritis is a common diagnosis for children presenting to the Emergency Department (ED). A Cochrane review of the management of pyelonephritis in children showed no difference between intravenous (IV) and oral antibiotics. Despite this, many children are treated with at least initial IV antibiotics. The reasons are often unclear and it is uncertain whether this is appropriate as the Cochrane review excluded children at the worse end of the clinical spectrum. Our aim was to determine why physicians made these decisions as a first step in determining whether this is necessary.

**Methods.** A prospective observational study of children presenting to the ED at the Royal Children's Hospital with UTI/pyelonephritis from Oct 2016 – Apr 2017. Data collection included demographic, clinical features, microbiology, treatment and outcomes. ED physicians were asked to record reasons for prescribing IV antibiotics and for treating the patient in hospital vs. in hospital-in-the-home (HITH).

**Results.** 170 children were included, 123 (72%) were treated with oral antibiotics, 43 (25%) IV and 4 (3%) intramuscular – these are now included in the IV group. In the IV group, 32 (19%) were admitted, 3 (2%) were transferred directly to HITH from ED and 13 had a single dose of IV antibiotics in ED and were discharged. A comparison of the clinically significant features between the two groups is outlined (Table 1). The commonest reasons cited for using IV antibiotics and for hospital admission vs. HITH is shown (fig 1 and 2).

**Conclusion.** This is the first study of decision-making for IV antibiotics and hospital admission for UTI/pyelonephritis in children. The fact that the reasons cited for IV antibiotics were often not evident on objective clinical data suggests that there may be overuse of IV antibiotics. We will present an assessment of appropriateness and suggest alternatives to the traditional IV and hospital admission route.

Table 1

	Oral Patient no. (%) n = 123	Intravenous Patient no. (%) n = 47	p value
Age(y), mean (range)	4.8(0.3–17.9)	5.4(0.3–16.5)	0.68
At presentation			
Prior antibiotics	14(11%)	12(26%)	0.03
History of resistant organism	7(6%)	9(19%)	0.02
Symptoms			
Fever	63(51%)	36(77%)	<0.01
Rigors	7(6%)	9(19%)	0.02

Figure 1 - Reason for i.v. antibiotics

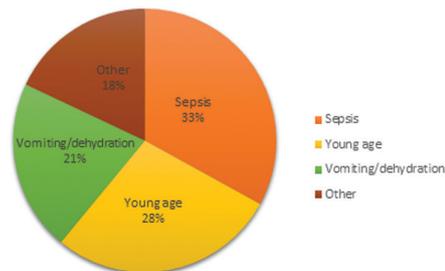
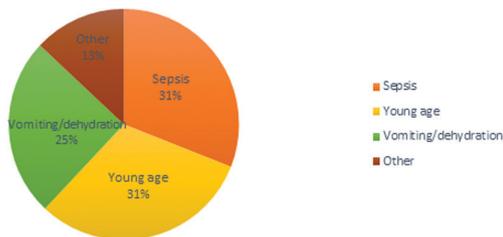


Figure 2 - Reason for hospital admission versus HITH



**Disclosures.** All authors: No reported disclosures.

**1132. Assessment of Reflex Urine Culture Criteria Changes and its Impact on Treatment of Asymptomatic Bacteriuria**

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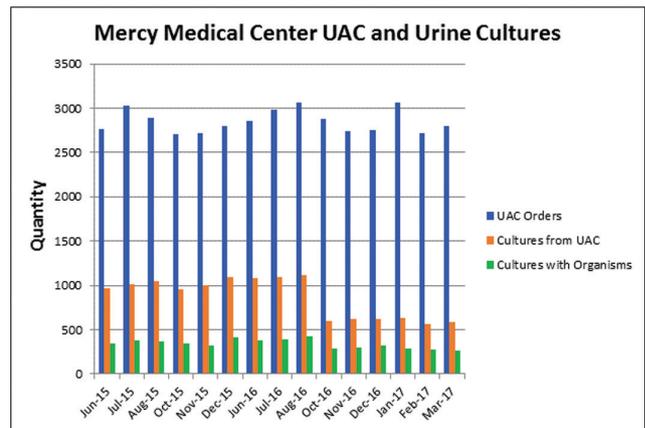
**Background.** Asymptomatic bacteriuria (ASB) is a common clinical condition identified by the presence of bacteria in the urine of a patient without signs and symptoms of a urinary tract infection (UTI). Treatment of ASB leads to unnecessary antimicrobial use and can cause more harm than benefit in many patients. This study is to determine the impact of more stringent criteria for urinalysis with culture if indicated (UAC), implemented in September 2016, on the treatment of asymptomatic bacteriuria.

**Methods.** A pre-post descriptive study of patients was conducted with an order placed for UAC in the Emergency Department (ED) or hospital. Data was collected retrospectively via chart reviews. The data on ASB patients from November 2015 to April 2016 was compared with the post-implementation period October 2016 to January 2017. The number of UAC orders and cultures were averaged for 6 months pre and post implementation of the criteria change.

**Results.** A total of 580 patient charts were assessed post-implementation of the UAC criteria change. A majority of the orders originated from the ED, (N = 430, 72.8%). ASB was treated inappropriately at a rate of 60.4% (N = 64/106) pre-implementation and a rate of 65% (N = 41/63) post implementation, P = 0.542. The total number of UAC ordered before and after implementation did not change, (N = 2852 pre-intervention vs N = 2825 post-intervention, P = 0.744), as seen in Figure 1. However, the number of reflexed urine cultures did significantly decrease post criteria change, (N = 1056 pre-intervention vs. N = 603 post-intervention, P < 0.0001). In addition, the number of positive urine cultures also significantly decreased, (N = 378 pre-intervention vs. N = 289 post-intervention, P = 0.0447). The impact the criteria change had on patient care is the number of potential antibiotic courses saved by reflexing fewer urine cultures off the UAC. Based on the decrease in positive urine cultures, it is estimated 702 courses of inappropriate antibiotics for ASB could be saved per year (59/month).

**Conclusion.** More stringent criteria for reflex urine cultures significantly decreases the number of urine cultures performed, therefore decreasing the number of patients treated with ASB. Additional stewardship measures are necessary to reduce the treatment of ASB for patients who have cultures performed.

Figure 1



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**1133. Susceptibility Trends of Urinary Tract Infections Over a 15 Year Period on a University Campus**

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**Background.** Acute uncomplicated cystitis (AUC) is one of the most common infections for which antimicrobials are prescribed. Despite IDSA AUC guideline recommendations, prescribing practices are varied throughout the US. Per IDSA recommendations, nitrofurantoin (NTF), fosfomicin, and trimethoprim/sulfamethoxazole (TMP/SMX) are all considered first line therapy for AUC, however there is concern of resistance to some of these agents. Quality improvement activity at the University of