

determining which patients can safely receive a  $\beta$ -lactam but is rarely obtained. When available, interpretation of the history is often limited by lack of comfort in determining risk of an allergic reaction. Our antimicrobial stewardship and allergy team created a standardized allergy history questionnaire and risk stratification tool. The purpose of this study was to validate this tool by comparing risk levels assigned by various clinicians to that assigned by an allergist.

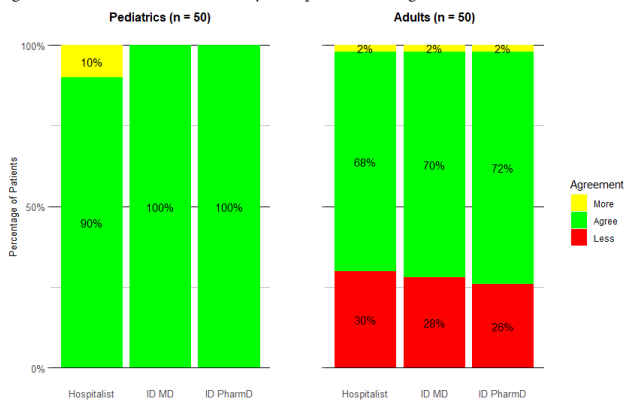
**Methods.** We prospectively identified 50 adult and 50 pediatric patients hospitalized between July 1, 2020 and March 31, 2021 with an allergy to penicillin, amoxicillin, ampicillin, or cephalexin. Patients with severe non-IgE mediated reactions were excluded. All patients (or caregivers) were interviewed by the same pharmacist using the allergy questionnaire. Clinicians from various subspecialties, including an adult and pediatric allergist, an adult and pediatric infectious diseases (ID) physician, an adult and pediatric hospitalist, and an adult and pediatric ID pharmacist, received anonymized completed questionnaires and the risk stratification tool, but were blinded to other clinicians' responses. The primary endpoint was overall concordance in risk stratification between non-allergists and allergists.

**Results.** Overall concordance was 66% (33/50) in adult and 90% (45/50) in pediatric patients (Table 1). Concordance between individual clinicians and the allergist are shown in Figure 1. In adults, anaphylaxis, difficulty breathing, and angioedema were associated with less severe stratification by non-allergists than allergists. No clinicians stratified any pediatric patient into a lower risk category than the allergist.

Table 1. Clinician Agreement with Allergist

	Adults (n = 50)	Pediatrics (n = 50)
Composite Agreement, n (%)	33 (66)	45 (90)
ID Physician with Allergist, n (%)	35 (70)	50 (100)
Hospitalist with Allergist, n (%)	34 (68)	45 (90)
ID Pharmacist with Allergist, n (%)	36 (72)	50 (100)

Figure 1. Risk Stratification Severity Compared to Allergist



**Conclusion.** Use of a  $\beta$ -lactam allergy risk stratification tool led to agreement with allergist assessment in the majority of patients. Variation in risk assignment was greater in adult patients; however, non-allergist pediatric providers assigned all patients at the same or more severe level as the allergist, indicating safety in this population.

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

### 1128. Antibiotic Stewardship in Nonoperative Management of Perforated Appendicitis: Oral Antibiotics Are an Alternative.

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**Session:** P-63. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

**Background.** Standard of care of nonoperative appendicitis patients involves ongoing antibiotic therapy. Yet, there is variability regarding the decision to continue outpatient parenteral antibiotic treatment (OPAT) or transition to oral (PO) antibiotics. We review antibiotic susceptibility patterns aiming to help guide antibiotic choice and reduce the need for OPAT.

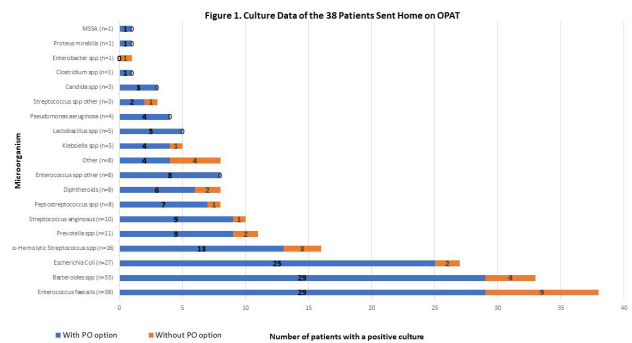
**Methods.** Single center retrospective study reviewing pediatric inpatients who underwent nonoperative management of perforated appendicitis with cultures obtained during drainage by Interventional Radiology (IR). We reviewed age, ethnicity, hospitalization length, antibiotic choice, route and duration, and culture data.

**Results.** Forty-six patients underwent nonoperative medical management for appendicitis (23[50%] 5-12 year olds (yo); 16[35%] 12-< 18yo; 23[50%] Latino;13[28%] White, 11[24%] Other; 5[11%] Asian; 1[2%] Black). Thirty-eight [83%] patients went home on OPAT, 6[13%] on PO, and 2[4%] completed therapy while inpatient. Time from admission to IR drainage was 1.9  $\pm$  2.8 days (34[75%] within 24 hours of

admission, 3[8%] within 24-48, and 2[5%] within 48-72). Duration of hospital stay was 9.7  $\pm$  4 days (PO) and 5.9  $\pm$  2.7 days (OPAT). Duration on antibiotics was 20  $\pm$  9.3 (PO) and 18.4  $\pm$  4.9 days (OPAT). Labs on admission and discharge are compared in Table 1. Eight [17%] patients were readmitted due to complications, 38[83%] went home with a drain, and 20[43%] had a fecalith on CT scan. Based on culture susceptibilities of the 38 OPAT patients, 29[76%] had oral antibiotics as an option. The three most common organisms in those sent home on OPAT included Enterococcus faecalis (38[100%]), Bacteroides spp (33[87%]) and Escherichia coli (27[71%]) (Figure 1). All patients who grew Pseudomonas aeruginosa had a PO option; similarly with 93% of E. coli, 81% of  $\alpha$ -hemolytic Streptococcus spp, and 76% of E. faecalis.

Table 1. Laboratory Tests on Admission and Discharge for PO and OPAT patients				
Laboratory Test*	PO patients, Admit	PO patients, Discharge	OPAT patients, Admit	OPAT patients, Discharge
WBC (K/ $\mu$ l)	23.8 (12.6)	10 (3.5)	17.2 (6.1)	9.5 (3.3)
Neutrophils (%)	65.4 (22.8)	60.9 (18.4)	76.7 (10.1)	57.7 (13.4)
Band Neutrophils (%)	26.5** (0.7)	1.6 (1.5)	5.4** (5)	2.2 (2.3)
Hgb (gm/dL)	12.1 (1.6)	11.1 (0.8)	12.4 (1.7)	14.8 (20.5)
Platelet Count (K/ $\mu$ l)	351.2 (98.3)	436.5 (68.1)	311.8 (101.9)	444.4 (125.6)
CRP (mg/L)	150.8 (65.5)	29.5 (25.3)	175.6 (115.3)	42.1 (22.4)
ESR (mm/hr)	30	55	69.3 (34.6)	53.2 (31.7)
AST (units/L)	59.5 (39.3)	44.3 (21.9)	31.7 (25.5)	36 (13.4)
ALT (units/L)	28.3 (11.8)	28 (8.8)	32.1 (21.6)	30 (6.2)
Albumin (gm/dL)	3.9 (0.7)	3.4 (0.3)	4 (0.5)	2.9 (0.4)
Creatinine (mg/dL)	0.6 (0.3)	0.4 (0.1)	0.6 (0.2)	0.4 (0.1)

\*Results show as mean with standard deviation in parenthesis  
\*\*Indicates significance (P<0.05) between PO and OPAT patients  
Abbreviations: White Blood Cell Count=WBC, Hemoglobin=Hgb, C-Reactive Protein=CRP, Erythrocyte Sedimentation Rate=ESR, Aspartate Aminotransferase=AST, Alanine Aminotransferase=ALT



**Conclusion.** Nearly 80% of patients sent home on OPAT had PO antibiotic regimens options based on the culture results & susceptibility profiles. This data indicates that using cultures and susceptibility data can help guide antibiotic management, significantly reducing PICC line placement and likely reduce healthcare costs and complications associated with central lines.

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### 1129. Outpatient Prescribing During the COVID-19 Pandemic

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**Session:** P-63. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

**Background.** The Joint Commission requires ambulatory healthcare systems to collect, analyze and report antimicrobial prescribing data. Duke University Health System (DUHS) piloted a dashboard to capture outpatient prescribing for pediatric patients with URI. Implementation in 2020 allowed for an assessment of antibiotic prescribing during the pandemic.

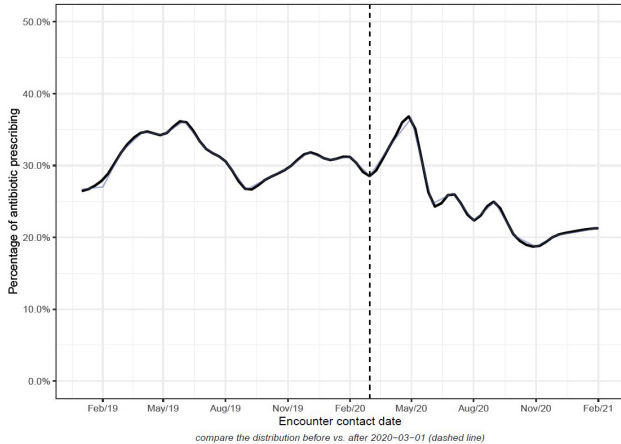
**Methods.** We included patients 0 - < 19 years seen at DUHS for URI and pharyngitis from 1/1/2019 - 2/21/2021. Patient characteristics included: age, sex, race, ethnicity, Pediatric Medical Complexity Algorithm (PMCA) score and insurance status (public versus private). Provider characteristics included: type (physician, NP, PA) and specialty (pediatrics, family medicine, internal medicine, other). We compared pre- and post-COVID (March 1, 2020) prescribing and prescribing during telehealth versus in-person visits. A logistic regression model was used to identify factors independently associated with antibiotic prescribing.

**Results.** 62,447 children were seen during the study period, 29% of whom received an antibiotic. Amoxicillin was the most commonly prescribed antibiotic (64.4%), followed by cefdinir (11%) amoxicillin-clavulanic acid (10%) and azithromycin (8%). Factors associated with antibiotic prescribing are shown in Table 1. White race, private insurance, visits with nurse practitioners and visits with non-pediatric providers were associated with high prescribing. Higher PMCA scores, indicating greater medical complexity, were associated with decreased likelihood of prescribing. Although the total number of outpatient visits plummeted during the COVID period, rates of prescribing only decreased mildly from 31% to 25% (Figure 1).

Table 1. Factors Associated with Antibiotic Prescribing in Logistic Regression Model

	Odds Ratio (95% Confidence Interval)
<b>Age (years)</b>	1.05 (1.04 – 1.05)
<b>Sex</b>	
Male	Ref
Female	0.97 (0.94 – 1.01)
<b>Race/Ethnicity</b>	
Hispanic	Ref
Non-Hispanic Black	0.92 (0.87 – 0.98)
Non-Hispanic White	1.15 (1.09 – 1.22)
Other/Unknown	0.97 (0.91 – 1.04)
<b>Insurance Status</b>	
Public	Ref
Private	1.23 (1.19 – 1.28)
Other/Unknown	1.20 (1.08 – 1.33)
<b>PMCA Score</b>	
Tier 1	Ref
Tier 2	0.92 (0.88 – 0.96)
Tier 3	0.93 (0.88 – 0.98)
<b>Telemedicine</b>	
No	Ref
Yes	0.41 (0.36 – 0.46)
<b>Provider Type</b>	
Physician (MD/DO)	Ref
Nurse Practitioner	1.22 (1.17 – 1.28)
Physician Assistant	1.05 (0.99 – 1.12)
Resident	0.49 (0.48 – 0.55)
<b>Provider Specialty</b>	
Pediatrics	Ref
Family Medicine	1.45 (1.34 – 1.52)
Internal Medicine	1.45 (1.30 – 1.61)
<b>COVID Indicator</b>	
Before March 1, 2020	Ref
On or after March 1, 2020	0.90 (0.85 – 0.94)

Figure 1: Percentage of antibiotic prescribing from 2019-01-01 to 2021-02-21



**Conclusion.** Outpatient prescribing was associated with multiple patient and provider characteristics. Similar to other studies, white race, private insurance, and visits with non-physician, non-pediatric providers were associated with antibiotic prescription. Despite a large decrease in the number of outpatient visits during the pandemic, rates of prescribing for URI decreased minimally. A better understanding of factors associated with antibiotic prescribing during the pandemic may identify priority targets for outpatient stewardship as mitigation strategies are relaxed.

**Disclosures.** Michael J. Smith, MD, M.S.C.E, Merck (Grant/Research Support)Pfizer (Grant/Research Support)

**1130. Impact of a New Pediatric Antibiotic Stewardship Program on Ceftriaxone Use at an Academic Medical Center**

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**Session:** P-63. Pediatric Antimicrobial Stewardship (inpatient/outpatient pediatric focused)

**Background.** Hoop's Family Children's Hospital is a pediatric hospital with 72 beds, nested within Cabell Huntington Hospital. There is an established adult antibiotic stewardship program (ASP), however, since 2014 there has not been a pediatric

infectious disease (ID) specialist and no pediatric ASP. With the recent hire of a pediatric ID specialist in Oct 2019 and the formation of a targeted pediatric ASP, we tracked the use of ceftriaxone (CRO) in our facility.

**Methods.** Starting January 2020, education was provided to pediatric providers in regards to appropriate CRO dosing and clinical indications via email communication. The main goals were to limit 100mg/kg/day dosing to severe infections and reduce CRO use in community-acquired pneumonia. This was sustained through intermittent prospective audits and feedback. A retrospective chart review was done from 2019-2021 for the months of January, April and December of each year. Patients ≤18 years of age who received CRO were included. Dosing, interval frequency, indication, and treatment duration were reviewed. Patients who received a single dose of CRO were excluded.

**Results.** From Jan 2019 – April 2021, 391 patient charts were reviewed (189 in the pre-intervention period and 202 in the post intervention period). There were no significant differences in age, race/ethnicity and gender in the two study groups. In the pre-intervention period, 86% of patients were prescribed CRO at severe infection dosing vs 33% in the post intervention period (p< 0.0001) (Figure 1). When dosing was paired with indication, only 20% of patients in the pre intervention period had the appropriate dosing per clinical indication compared to 83% in the post intervention period (p< 0.0001) (Figure 2). We also saw that in the pre-intervention period the most common indication for CRO was pneumonia (66%), which decreased to 57% in 2020 and to 35% in 2021 (p< 0.0001) (Figure 3).

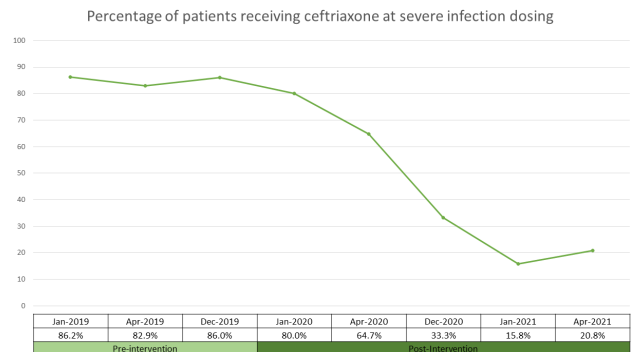


Figure 1 describes the percentage of patients receiving ceftriaxone at severe infection dosing. This changed from an average of 86% in the pre-intervention period to 33% in the post-intervention period.

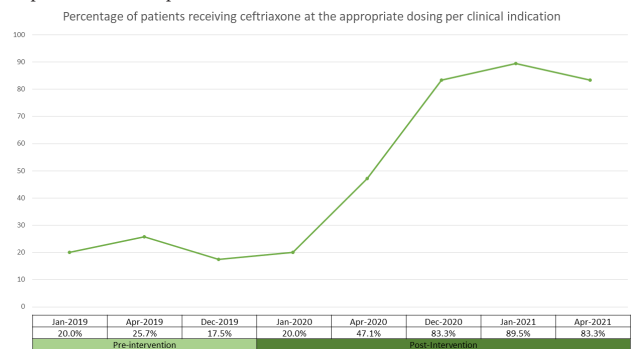


Figure 2 describes the percentage of patients receiving ceftriaxone at the appropriate dosing dependent on the clinical indication provided. This changed from 20% in the pre-intervention period to closer to 90% in the post-intervention period.

**Conclusion.** Pediatric specific ASP efforts and expertise proved to be crucial in appropriate CRO use in our institution. With a feasible education strategy and targeted prospective audit and feedback, there has been a sustained impact in inappropriate CRO use. This underscores the importance of targeted pediatric ASP efforts in pediatric hospitals within larger adult hospitals.

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**1131. You're Never Too Old for a Time-Out: Implementing Antibiotic Time-Outs on Pediatric Inpatient Teams**

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