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Title: The oral Antibiotic Appropriateness score (OASIS) – A novel scoring system to assess antibiotic route in pulmonary exacerbations of cystic fibrosis (CF)

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Body: Objectives: Prompt antibiotic treatment for CF pulmonary exacerbations probably preserves lung function and prolongs survival. Oral administration is common, but choice can be determined by resource and social factors as well as clinical need. We developed an objective score to support appropriate oral antibiotic choice in CF. Methods: Adult CF patients underwent baseline assessment and follow up for 1 year. Clinical factors associated with choice of antibiotic route for first exacerbation were identified by logistic regression and comprised the Oral Antibiotic Appropriateness Score (OASIS). The relationship between OASIS, treatment choice and exacerbation rate was determined. Results: Of 254 patients (31±9yrs), 198 (78%) had >1 exacerbation. Factors associated with intravenous antibiotics for first exacerbation were baseline FEV₁ <47% predicted, IV antibiotics in previous year, chest symptoms, Ps. aeruginosa/ gram –ve bacteria on sputum culture. OASIS allocates 1 point per factor, range 0 (good) to 4 (bad). Patients with lower OASIS had less annual exacerbations (0, 2.2; 1, 2.7; 2, 2.9; 3, 3.5; 4, 4.4, p<0.001) and were less likely to re-exacerbate following a course of oral antibiotics (p=0.02)

OASIS Score		0	1	2	3	4	Total Number of Patients
Further exacerbation within 52 weeks	No	5(31.3%)	10(25.0%)	8(19.0%)	2 (6.9%)	0(0.0%)	25(18%)
	Yes	11(68.8%)	30(75.0%)	34(81.0%)	27(93.1%)	12(100%)	114(82.0%)
Total of Patients		16	40	42	29	12	139

OASIS score and outcomes after oral antibiotics

Conclusion: OASIS identifies patients with exacerbations more likely to respond to oral antibiotics. This use is currently undergoing further validation.