

DUHS Inpatient Adult BioFire® GI Panel Interpretation and Management Guidance

Treatment for many GI pathogens does not decrease duration of illness. Recommendations below are provided with a goal of minimizing unintended consequences to the patient. Patient specific factors (e.g. immunocompromised host) should influence treatment decisions.

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Bacterial Cause – Treatment Recommended

Pathogen	Therapy Options (Dosing below)
Bacteria	
<p>Salmonella</p> <p><i>*GI Panel is unable to identify salmonella serotype. With non-typhoidal Salmonella, treatment may prolong shedding*</i></p> <p><i>*Call micro lab for AST testing as clinically indicated*</i></p>	<p>Antibiotic Options:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Ceftriaxone x 7 days • Alternative <ul style="list-style-type: none"> ○ Azithromycin x 7 days ○ TMP/SMX x 7 days ○ Fluoroquinolone x 7 days
<p>Shigella/Enteroinvasive E. coli (EIEC)</p> <p><i>*Will automatically reflex to culture and susceptibility testing*</i></p>	<p>Antibiotic Options:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Azithromycin x 3 days • Alternative <ul style="list-style-type: none"> ○ TMP/SMX x 3 days ○ Ceftriaxone x 5 days ○ Ciprofloxacin* x 3 days <p><i>*Resistance possible</i></p>

Bacterial Cause – Treatment Considered in Special Circumstances

Pathogen	Treatment Considerations	Therapy Options (Dosing below)
Bacteria		
<p>Campylobacter (jejuni, coli and upsaliensis)</p>	<p><i>Majority of infections are self-limiting and do not require antibiotic therapy</i></p> <p>Treatment recommended for special populations or severe disease:</p> <ul style="list-style-type: none"> • High fever • ≥ 8 stools / day • Significant dehydration • Immunocompromised 	<p>Antibiotic options for special populations or severe disease:</p> <ul style="list-style-type: none"> • Preferred: <ul style="list-style-type: none"> ○ Azithromycin x 3 days • Alternative: <ul style="list-style-type: none"> ○ Fluoroquinolone* x 3 days <p><i>*Emergence of FQ-resistant campylobacter after approval of these agents in poultry</i></p>

Plesiomonas shigelloides	<p><i>Majority of infections are self-limiting and do not require antibiotic therapy</i></p> <p>Treatment recommended for special populations or severe disease:</p> <ul style="list-style-type: none"> • High fever • ≥ 8 stools / day • < 1 year of age or > 50 years of age • Immunocompromised 	<p>Antibiotic options for special populations or severe disease:</p> <ul style="list-style-type: none"> • Preferred: <ul style="list-style-type: none"> ○ Azithromycin x 3 days • Alternative: <ul style="list-style-type: none"> ○ TMP/SMX x 3 days ○ Fluoroquinolone x 3 days
Yersinia enterocolitica	<p><i>Majority of infections are self-limiting and do not require antibiotic therapy</i></p> <p>Treatment recommended for special populations or severe disease:</p> <ul style="list-style-type: none"> • High or persistent fever • ≥ 8 stools / day • Age < 1 year or > 50 years • Immunocompromised 	<p>Antibiotic options for special populations or severe disease:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ TMP/SMX x 5 days • Alternative <ul style="list-style-type: none"> ○ Ceftriaxone x 5 days ○ Doxycycline x 5 days ○ Ciprofloxacin x 5 days
Vibrio (parahaemolyticus, vulnificus)	<p><i>Antibiotics not indicated in mild cases. No significant decrease in severity of illness or duration of diarrhea.</i></p> <p>Treatment recommended for persistent diarrhea (> 5 days) or invasive disease:</p> <ul style="list-style-type: none"> • Vibrio vulnificus may cause bacteremia / SSTI and treatment with empiric doxycycline is warranted in this setting 	<p>Antibiotic options for persistent diarrhea:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Doxycycline x 3 days • Alternative <ul style="list-style-type: none"> ○ Azithromycin x 3 days ○ Ciprofloxacin x 3 days <p>Invasive disease: Doxycycline 100 mg PO BID + Ceftriaxone 2 g IV daily x 7 days</p>
Vibrio cholerae	<p>Antibiotics may be indicated in moderate to severe dehydration.</p> <p>Therapy reduces diarrhea ~ 50%, shortens duration of illness, and reduces risk of transmission</p>	<p>Antibiotic options in moderate to severe dehydration:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Doxycycline x 3 days • Alternative <ul style="list-style-type: none"> ○ Azithromycin x 3 days
Enterotoxigenic E. coli (ETEC) lt/st	<p>Antibiotics shown to shorten duration of illness, indicated for moderate to severe diarrhea.</p> <p>Consider in: > 4 stools / day, fever, bloody stools</p>	<p>Antibiotic options for special populations:</p> <ul style="list-style-type: none"> • Azithromycin 1g x 1 dose • Ciprofloxacin 750 mg x 1 dose

Bacterial Cause – Treatment Not Recommended

Pathogen	Treatment Considerations	Therapy Options (Dosing below)
Bacteria		
Diarrheagenic E. coli/Shigella Enteroaggregative E. coli (EAEC) Enteropathogenic E. coli (EPEC)	Limited data. Generally self-limiting, antibiotics not indicated	Supportive care only
Shiga-like toxin-producing E. coli (STEC) stx1/stx2 <i>*Specific identification of E. coli 0157 serogroup within STEC will be reported when detected. Does not impact management*</i>	Antibiotics and antimotility agents should be AVOIDED	Supportive care only

Viral Cause – No Treatment Recommended

Pathogen	Treatment Considerations	Therapy Options (Dosing below)
Viruses		
Adenovirus F 40/41	Supportive care recommended	No antimicrobial therapy indicated
Astrovirus	Supportive care recommended	No antimicrobial therapy indicated
Norovirus GI/GII	Supportive care recommended	No antimicrobial therapy indicated <i>Antimotility agents may be useful</i>
Rotavirus A	Supportive care recommended	No antimicrobial therapy indicated
Sapovirus (I, II, IV, and V)	Supportive care recommended	No antimicrobial therapy indicated

Parasitic Cause

Pathogen	Treatment Considerations	Therapy Options (Dosing below)
Parasites		
Cryptosporidium	Treatment recommended for special populations or severe disease: <ul style="list-style-type: none"> Immunocompromised Severe symptoms with significant morbidity Diarrhea > 14 days Extraintestinal symptoms / disease 	Antiparasitic in special populations or in severe disease: <ul style="list-style-type: none"> Preferred <ul style="list-style-type: none"> Nitazoxanide x 3 days

Cyclospora cayetanensis	Treatment recommended	Antiparasitic Options: <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ TMP/SMX x 7 days • Alternative <ul style="list-style-type: none"> ○ Ciprofloxacin x 7 days
Entamoeba histolytica	<p><i>If asymptomatic, luminal agent recommended alone. In symptomatic patients, antiparasitic followed by luminal agent recommended</i></p> <p>Treatment recommended</p>	Asymptomatic Options: <ul style="list-style-type: none"> • Paromomycin x 7 days <p>Symptomatic Options:</p> <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Metronidazole x 7-10 days ○ <i>Followed by Paromomycin x 7 days</i> • Alternative <ul style="list-style-type: none"> ○ Tinidazole x 3 days ○ <i>Followed by Paromomycin x 7 days</i>
Giardia lamblia	<p>Only treat symptomatic patients. Antiparasitic agents have been shown to reduce duration of symptoms</p> <p>If asymptomatic, treatment recommended for special populations:</p> <ul style="list-style-type: none"> • Immunocompromised • Household contacts of pregnant women • Children in daycare setting 	Antiparasitic Options: <ul style="list-style-type: none"> • Preferred <ul style="list-style-type: none"> ○ Tinidazole x 1 dose • Alternative <ul style="list-style-type: none"> ○ Metronidazole x 5 days

Dosing recommendations

*Doses listed below are all in the setting of normal renal function. For renal dosing adjustments please refer to individual CustomID pages

*If specific dosing for indication differs from this chart, it will be outlined in chart above

Medication	Dosing for standard renal function
Azithromycin	500 mg PO daily
Ceftriaxone	2g IV daily
Ciprofloxacin	500-750 mg PO twice daily
Doxycycline	100 mg PO twice daily
Levofloxacin	750 mg PO daily
Metronidazole	500 mg PO three times daily
Nitazoxanide	500 mg PO twice daily
Paromomycin	25-35 mg/kg PO divided into three doses / day
Sulfamethoxazole – Trimethoprim (TMP/SMX)	1 DS tablet PO twice daily
Tinidazole	2 g PO daily

References

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2. Bennet JE, Dolin R, Blaser MJ. Mandell, Douglas, and Bennett's Principles and Practices of Infectious Diseases. Chapter 98: Diarrhea With Little or no Fever. Chapter 99: Acute Dysentery Syndromes (Diarrhea with Fever). Chapter 100: Typhoid Fever, Paratyphoid Fever, and Typhoidal Fevers. Chapter 101: Foodborne Disease. (2019)
3. The Sanford Guide to Antimicrobial Therapy. Sperryville, VA: Antimicrobial Therapy, Inc., 2021
4. DuPont HL. Acute infectious diarrhea in immunocompetent adults. N Engl J Med. 2014;370(16):1532-1540. doi:10.1056/NEJMra1301069
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