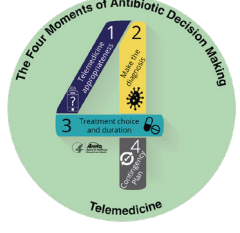


Best Practices in Managing Acute Diarrhea Over Telemedicine

Slide Title and Commentary	Slide Number and Slide
Best Practices in Managing Acute Diarrhea Over Telemedicine SAY: Welcome to the presentation titled, “Best Practices in Managing Acute Diarrhea Over Telemedicine.”	Slide 1 AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Best Practices in Managing Acute Diarrhea Over Telemedicine             
Objectives SAY: This presentation will use a clinical case–based format to discuss the approach to managing acute diarrhea. By the end of this presentation, participants will be able to— • Describe common causes of acute diarrhea in children and adults • Understand when a person presenting with acute diarrhea may need to be evaluated in person • Understand the nonantibiotic management of acute diarrhea over telemedicine • Discuss symptoms after the diagnosis of acute diarrhea that warrant a return to medical care	Slide 2 Objectives By the end of this presentation, participants will be able to— • Describe common causes of acute diarrhea in children and adults • Understand when a person presenting with acute diarrhea may need to be evaluated in-person • Understand the nonantibiotic management of acute diarrhea over telemedicine • Discuss symptoms after the diagnosis of acute diarrhea that warrant a return to medical care AHRQ Safety Program for Telemedicine: Improving Antibiotic Use             

Slide Title and Commentary	Slide Number and Slide
The Four Moments of Antibiotic Decision Making SAY: This presentation will review a clinical case using the Four Moments of Antibiotic Decision Making framework. Briefly, this framework consists of the following moments: Moment 1: Is my patient an appropriate candidate for a telemedicine visit? Moment 2: Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? Moment 3: If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? Moment 4: What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan? As with other presentations in this series, the discussion will be limited to adults and children 3 years of age and older.	Slide 3 The Four Moments of Antibiotic Decision Making  1. Is my patient an appropriate candidate for a telemedicine visit? 2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? 3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? 4. What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan? AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 3
Case Presentation SAY: Let's discuss a clinical case. Maria is a 31-year-old female in relatively good health who presents via telemedicine because of 2 days of loose watery stools. She has an important business trip in two days and is hoping antibiotics will speed up her recovery.	Slide 4 Case Presentation Maria is a 31-year-old female presenting to a telemedicine appointment with two days of loose, watery stools. She is interested in starting antibiotics.  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 4

Slide Title and Commentary	Slide Number and Slide
Moment 1: Obtaining the History (Part 1) SAY: To gather more information to determine if Maria is an appropriate candidate for a telemedicine visit, you ask the following series of questions: • Approximately how many stools a day have you had? • Have you noticed blood in the stools? • Have you had a fever, chills, lightheadedness, or confusion? • Have you had any syncopal episodes (could also be asked as “have you passed out or felt like you suddenly lost consciousness?”) • Have you also had vomiting or abdominal pain? • What color is your urine? (You can provide a range from light yellow to dark orange.) • What foods and liquids are you able to keep down? • Have you had any recent international travel? If so, to where?	Slide 5 Moment 1: Obtaining the History (Part 1) • Approximately how many stools a day have you had? • Have you noticed blood in the stools? • Have you had a fever, chills, light headedness, confusion? • Have you had any syncopal episodes? • Have you also had vomiting or abdominal pain? • What color is your urine? (You can provide a range from light yellow to dark orange.) • What foods and liquids are you able to keep down? • Have you had any recent international travel? If so, to where?  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 5

Slide Title and Commentary	Slide Number and Slide
Moment 1: Obtaining the History (Part 2) SAY: You continue asking for more details. • Have you eaten any undercooked meat or exotic food in the past week? • Have you started any new medications including antibiotics in the past few months? • Have you taken any medications after the diarrhea started? • Is there any chance you could be pregnant? • What is your profession? Do you work with young children or with animals? • What animals have you been exposed to in the past month? • Approximately how many separate bouts of diarrhea have you had in the past year?	Slide 6 Moment 1: Obtaining the History (Part 2) • Have you eaten any undercooked meat or exotic foods in the past week? • Have you started any new medications including antibiotics in the past few months? • Have you taken any medications after the diarrhea started? • Is there any chance you could be pregnant? • What is your profession? Do you work with young children or with animals? • What animals have you been exposed to in the past month? • Approximately how many separate bouts of diarrhea have you had in the past year?  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 6

Slide Title and Commentary	Slide Number and Slide
Moment 1: Patient's History SAY: Maria reports she has had approximately four to five somewhat explosive watery stools per day over the past 2 days. She does not believe she has had any blood in the stools. She doesn't think she has a fever but is not sure. She has not had any vomiting but has had mild nausea. She has felt very bloated, and her abdomen feels more distended than usual, but she does not have any notable abdominal pain. Her mouth feels very dry, and her urine is dark yellow. She thinks she urinated twice today but is unsure because it might be mixed in at other times with her stools. She does not feel like she is confused or dizzy. Her appetite had been less than usual over the past two days, and she has mostly been drinking soda and eating leftover fried chicken she bought a few days ago. She travelled to Mexico two months ago but felt fine afterwards until two days ago. She does not think she ate anything unusual this past week. She recalls eating a hamburger a week ago but did not check to see if the meat was cooked properly. She has not been sexually active since her last period, which she reports as normal. She works at a marketing firm.	Slide 7 Moment 1: Patient's History • Approximately four to five watery, nonbloody stools per day for the past 2 days • Not sure if she has a fever • No confusion or dizziness • Mild nausea, no vomiting • Very bloated, no abdominal pain • Urine dark yellow • Low appetite for past 2 days; able to keep down fried chicken and soda • Travel to Mexico two months ago • Not sexually active since last period • No unusual animal exposure  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 7

Moment 1: Virtual Physical Examination

SAY:

Her general history appears reassuring against severe disease, but before deciding whether it is appropriate for her to be managed via telemedicine, you perform a virtual physical examination.

You observe that she is relatively well appearing. She does not appear ill or acting confused. She is speaking in coherent, full sentences. You proceed with checking her vital signs. Maria does not have a thermometer so you cannot measure her temperature. You ask her to measure her pulse rate by placing the tips of her index and middle fingers at her wrist and counting the beats (while you count to 15), then multiply the number of beats by four. You determine her pulse is around 100 beats per minute which suggests she is mildly tachycardic. A heart rate of 100 or higher meets criteria for tachycardia. You ask her if she has access to a blood pressure cuff, but she does not. Next you observe her breathing. You note that she is breathing comfortably without any difficulty.

Next, you start to evaluate for signs of dehydration. You ask her to show you her tongue and ask her if it feels dry or sticky. She says “yes.” You evaluate for sunken eyes, but this can be challenging without knowledge of what she looks like at baseline.

Measuring skin turgor can also help evaluate level of dehydration. You ask Maria to pinch the skin of her dorsal side of her forearm (i.e., the side with hair) and count how long the skin takes to recoil. Normally, skin returns to its original position within one second after release. For Maria, it takes about 2 seconds, suggesting she is mildly dehydrated.

You ask her to check her capillary refill by pressing her fingertip until her skin is blanched (which means becoming pale) and releasing. Tell her that if using a cell phone for the visit, to try to find a stable surface so she can use both hands. Normal capillary refill is under 2 seconds. For Maria, it is about 2 seconds, again indicating mild dehydration.

Next you examine her abdomen. Ask her to lie down supine (on her back) on a carpet or bed, to pull up her shirt to reveal just her abdomen, bend her knees, and focus the camera on her abdomen. Ask her to start pressing on her abdomen with light pressure while guiding her to press on all four quadrants of her abdomen. Ask her if she is feeling any tenderness. Ask her to cough and if she is experiencing any sharp pain in her abdomen when she does so. She acknowledges general discomfort and feeling like she has a lot of gas but does not

Slide 8

Moment 1: Virtual Physical Examination

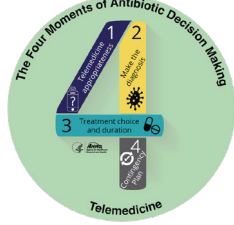
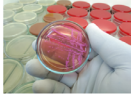
- Not ill appearing or confused; speaking in coherent, full sentences; eyes do not appear sunken in to suggest dehydration
- Pulse 100 beats per minute, no blood pressure cuff, normal breathing
- Slightly delayed skin recoil and slightly prolonged capillary refill at 2 seconds
- General discomfort but no abdominal tenderness



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Acute Diarrhea 8

Slide Title and Commentary	Slide Number and Slide
report any points of tenderness. If she did report significant abdominal tenderness, an in-person visit would be suggested to evaluate for more focal abdominal pathology.	
Moment 1: Telemedicine Appropriateness SAY: Maria meets criteria for acute diarrhea, which is defined as the passage of three or more loose or watery stools in a 24-hour period lasting less than or equal to 14 days. Moreover, she appears to have mild dehydration based on her dry mouth, dark and infrequent urination, slightly abnormal skin turgor, and delayed capillary refill. Of note, in general both adults and children should produce urine at least every 8 hours. As Maria can take and keep down (without vomiting) oral fluids, she can likely be managed with supportive care at home, which we will discuss further in Moment 4. Fortunately, she does not have any concerning symptoms that would warrant in person care at this time, which include the following: First, if Maria reported bloody stools, high fevers, confusion, or severe abdominal pain there would be concern for a bacterial diarrhea, ischemic colitis, or other pathology warranting an in-person visit, preferably to the emergency department. Second, if Maria mentioned she also had intractable vomiting preventing the intake and/or retention of fluid, dizziness, or significant lethargy suggestive of severe dehydration, this would also warrant an in-person visit, again preferably to an emergency department. Third, if she had acute diarrhea for over 7 days with no improvement, there would be concern for an alternate diagnosis (for example inflammatory bowel disease) warranting an in-person visit. Finally, if Maria were pregnant or had severe immune compromise, an in-person visit would be preferred to evaluate for unusual pathogens (e.g., <i>Listeria</i>) or systemic disease such as concomitant bacteremia.	Slide 9 Moment 1: Telemedicine Appropriateness Can be seen over telemedicine unless patient meets any of the following criteria as intravenous fluids may be needed, alternative diagnoses investigated, or diagnostic testing (e.g., stool cultures, computed tomography [CT] scan of abdomen):^{1,2} 1. Bloody stools, high fevers, confusion, or severe abdominal pain • Concern for bacterial diarrhea, ischemic colitis 2. Intractable vomiting the intake and/or retention of fluid, dizziness, or significant lethargy • Concern for severe dehydration 3. Acute diarrhea for over 7 days with no improvement • Concern for an alternate diagnosis 4. Pregnant or has severe immune compromise • Concern for unusual pathogens (e.g., <i>Listeria</i>) or systemic disease (e.g., concomitant bacteremia) AHRQ Safety Program for Telemedicine: Improving Antibiotic Use 

Slide Title and Commentary	Slide Number and Slide
Moment 2: Need for Antibiotics SAY: You move on to Moment 2, which states, “Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?”	Slide 10 Moment 2: Need for Antibiotics  1. Is my patient an appropriate candidate for a telemedicine visit? 2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 10
Moment 2: Diagnostic Testing (Part 1) SAY: Maria’s signs and symptoms appear consistent with a viral cause of acute diarrhea given she had an abrupt onset of watery diarrhea, with some mild nausea, and possible low-grade (but not high-grade) fevers. Most cases of acute diarrhea can be managed over telemedicine. Additionally, most cases are caused by viruses such as norovirus, rotavirus, and adenovirus, which do not respond to antibiotics. Additionally, there are no antiviral medications to treat viral diarrhea in immunocompetent patients, so referring her for diagnostic testing does not appear necessary. Viral diarrhea is often but not always linked to household or community outbreaks. Even if a viral cause of diarrhea appears most likely, patients with features suggestive of severe illness should be advised to seek in-person evaluation. This allows assessment for possible hospitalization, laboratory testing for electrolyte abnormalities (e.g., basic metabolic panel), stool culture if necessary, and abdominal imaging if clinically warranted.	Slide 11 Moment 2: Diagnostic Testing (Part 1)¹⁻² • Viral acute diarrhea ◦ Most visits can be managed over telemedicine ◦ Typical symptoms: abrupt onset, mild nausea, low-grade fevers ◦ Common viruses include norovirus, rotavirus, and adenovirus ◦ Does not improve with antibiotics ◦ No antiviral medications for immunocompetent patients ◦ Often linked to household or community outbreaks • In-person visit recommended if severe dehydration to determine need for hospitalization and for laboratory tests (e.g., basic metabolic panel)  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 11

Moment 2: Diagnostic Testing (Part 2)

SAY:

Common bacterial causes of bacterial enteritis both in the United States and for returning travelers (sometimes referred to as “traveler’s diarrhea”) include *Salmonella*, *Campylobacter*, *Shigella*, and *E. coli* 0157:H7 (with the latter commonly referred to as Shiga toxin–producing *E. coli*). Bacterial causes of diarrhea seem less likely in Maria’s case given her lack of high fevers, bloody stools, or severe abdominal pain. *Clostridioides difficile* infection (or *C. diff*) is a bacterial infection that can cause colitis with symptoms similar to these other bacterial infections.

If there was a concern for a bacterial cause of her diarrhea based on epidemiologic factors but Maria’s symptoms were mild—for example, mild fevers and abdominal pain—referral to a commercial laboratory for a stool culture or stool multiplex PCR in the absence of an in-person visit is reasonable. Some examples of these scenarios include the following:

- Her trip to Mexico had been in the past week, increasing the risk of bacterial and parasitic causes of enteritis
- She ate undercooked beef in the past few days, increasing the risk of *E. coli* 0157:H7 enteritis, which occurs within about 2–5 days of ingesting contaminated food such as undercooked ground beef. Maria ate a hamburger that may or may not have been undercooked about a week ago. Given that ingestion of hamburgers is so common, unless a patient clearly states having eaten undercooked beef, the risk of a hamburger causing bacterial diarrhea is very low.
- She works at a daycare center, increasing her risk of *Shigella*, *Cryptosporidium*, or *Giardia* enteritis
- She recently interacted with reptiles or ingested a food known to be implicated in a recent *Salmonella* outbreak
- She is currently receiving antibiotics or completed a course of antibiotics within the past 3 months, increasing her risk for *C. difficile*

If Maria’s symptoms were concerning for a bacterial cause and there were concerns for severe dehydration, an in person visit—potentially to an emergency department for fluid resuscitation and evaluation for possible hospitalization—should be recommended. In this scenario, laboratory tests (e.g., basic metabolic panel, complete blood count with differential, stool bacterial culture, stool bacterial culture testing, stool multiplex PCR, blood culture) could be ordered.

Slide 12

Moment 2: Diagnostic Testing (Part 2)¹⁻⁴

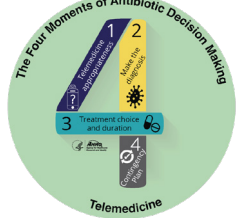
- Bacterial causes of acute diarrhea
 - Typical symptoms include high fever, bloody stools, severe abdominal pain
 - Common bacterial causes include *Salmonella*, *Campylobacter*, *Shigella*, and *E. coli* 0157:H7 (Shiga toxin–producing *E. coli*)
 - *Clostridioides difficile* infection (or *C. diff*) can cause a colitis with similar symptoms
 - Reasonable to refer for a stool culture and/or stool multiplex PCR if concern for a bacterial cause based on epidemiologic factors
 - In-person visit recommended if severe dehydration to determine need for hospitalization and for laboratory tests (e.g., basic metabolic panel)

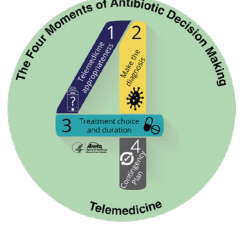


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Acute Diarrhea 12

Slide Title and Commentary	Slide Number and Slide
Of note, <i>E. coli</i> 0157:H7 toxin is not included in standard stool multiplex PCRs and requires targeted testing. Confirm with the testing laboratory whether the <i>E. coli</i> 0157:H7 toxin test is automatically performed or requires a specific request before you place the order.	
Moment 2: Diagnostic Testing (Part 3) SAY: There are parasitic infections that cause diarrhea—although these typically result in symptoms lasting over 14 days. Common causes include <i>Giardia</i> and <i>Entamoeba histolytica</i>. <i>Giardia</i> typically presents as foul-smelling, greasy, and watery (due to malabsorption). Patients may describe abdominal cramps, bloating, and flatulence. People at highest risk include returning travelers who went to areas with poor sanitation or unsafe drinking water, campers/hikers drinking environmental sources of water, children in daycare and daycare workers, and men who have sex with men. <i>Entamoeba</i> can present either as viral or bacterial causes and is known to occasionally present with bloody stools and is almost acquired from travel to endemic areas with poor sanitation. If there is concern for a parasitic infection, a referral to a commercial laboratory for stool testing including stool ova and parasites and/or multiplex stool PCR is suggested prior to treatment. Multiplex stool PCRs typically include both common bacterial and parasitic targets. If symptoms (such as greasy, foul-smelling stools) appear suggestive of <i>Giardia</i> and have been continuing for more than two weeks, it may be reasonable to consider prescribing metronidazole 500 mg by mouth twice a day for 5–7 days over telemedicine, even in the absence of confirmatory testing or a clear epidemiological exposure, given this is unlikely to cause severe disease or further complications, in contrast to <i>Entamoeba</i>. Additionally, a week of metronidazole is a relatively low risk antibiotic. As with likely viral or bacterial causes, referral for an in-person visit—preferably to an emergency department—should be recommended if there are concerns for severe dehydration.	Slide 13 Moment 2: Diagnostic Testing (Part 3)¹⁻² - Parasitic causes of diarrhea - Symptoms generally persist over 14 days <i>Giardia lamblia</i>⁵ - Typical symptoms include foul-smelling, greasy stools with flatulence - Risk factors: returning travelers from areas with poor sanitation or unsafe drinking water, campers/hikers drinking environmental sources of water, children in daycare and daycare workers, men who have sex with men - Empiric treatment with metronidazole can be considered <i>Entamoeba histolytica</i> - Can present similar as viral or bacterial causes of diarrhea - Almost acquired from travel to endemic areas with poor sanitation - Refer to a commercial laboratory for stool testing including stool ova and parasites and/or multiplex stool PCR AHRQ Safety Program for Telemedicine: Improving Antibiotic Use  Acute Diarrhea 13

Slide Title and Commentary	Slide Number and Slide
Moment 2: Antibiotic Therapy SAY: Empiric antibiotic therapy is not suggested over telemedicine, even if there is a concern for bacterial enteritis, because antibiotics could be harmful in certain cases. For example, taking antibiotics for <i>E. coli</i> 0157:H7 can trigger a bacterial stress response, which increases the risk of developing hemolytic uremic syndrome, leading to devastating outcomes. Similarly, administering unnecessary antibiotics for <i>C. diff</i> infection (e.g., fluoroquinolones) could exacerbate patient outcomes. Antibiotics can also cause antibiotic-associated diarrhea independent of <i>C. diff</i>. If Maria were currently taking antibiotics, it would be reasonable to review the reason she is on antibiotics and determine if they need to be continued. If the infection for which she was receiving antibiotics appears to have resolved, it would be preferable to suggest discontinuation of the antibiotics. If Maria had prolonged antibiotics for a month or longer, it would be reasonable to refer for an in-person evaluation with a primary care clinician or gastroenterologist to evaluate for noninfectious causes of diarrhea such as inflammatory bowel disease, celiac disease, or food intolerances. Antibiotic therapy is not suggested for any of these conditions.	Slide 14 Moment 2: Antibiotic Therapy¹⁻² • Empiric antibiotic therapy not suggested over telemedicine ◦ Taking antibiotics for <i>E. coli</i> can trigger a bacterial stress response, increasing risk of developing hemolytic uremic syndrome³ ◦ Unnecessary antibiotics for <i>C. difficile</i> infection can exacerbate patient outcomes • If patient is currently taking antibiotics: ◦ Review reason and determine if needs to be continued ◦ If infection resolved, suggest discontinuation of antibiotics • If diarrhea continues for over a month without improvement, consider referral for an in-person visit to evaluate for noninfectious cause (e.g., inflammatory bowel disease, celiac disease, food intolerance) ◦ Antibiotic therapy not suggested for these conditions  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 14
Moment 3 SAY: Moment 3 states, “If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe?” As stated above, antibiotics are not recommended in the absence of diagnostic testing confirming a bacterial infection, so let’s move on to Moment 4.	Slide 15 Moment 3  1. Is my patient an appropriate candidate for a telemedicine visit? 2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? 3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 15

Slide Title and Commentary	Slide Number and Slide
Moment 4 SAY: Finally, let's move to Moment 4. The first part of Moment 4 asks, "What symptomatic relief should I offer or prescribe to my patient?" while the second part states "What should I tell my patient about the expected course and the followup plan?"	Slide 16 Moment 4  1. Is my patient an appropriate candidate for a telemedicine visit? 2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed? 3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe? 4. What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan? AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 16
Moment 4: Supportive Care (Part 1) SAY: The first part of Moment 4 asks, "What symptomatic relief should I offer or prescribe to my patient?" After letting Maria know she likely has acute diarrhea caused by a viral infection, it is important to provide advice on supportive care. Remind her to stay hydrated. The goal should be for her to produce urine at least every 8 hours. Suggest she drink plenty of fluids—water, broth, or oral rehydration solutions (like Pedialyte®). Since she is an adult, she should aim for about 2–3 liters (8–12 cups) of fluids per day. Most children need about 1–2 cups (8–16 ounces) of fluids or bland foods for younger kids and 2–4 cups (16–32 ounces) for older kids after each loose stool. Advise her to avoid sugary drinks (like the cola she has been drinking) and caffeine, as these can sometimes worsen diarrhea. Sports drinks are often high in sugar. They should be considered only if preferred options are unavailable or unlikely to be consumed. Eating small, bland meals, which is commonly referred to as the BRAT diet, can help people recovering from gastrointestinal issues such as diarrhea, nausea, or vomiting. The acronym BRAT stands for: bananas, rice (plain, white), applesauce, toast (plain, usually white bread). It is better Maria holds off on eating greasy foods like the fried chicken she has been eating until her symptoms improve, as they could exacerbate symptoms.	Slide 17 Moment 4: Supportive Care (Part 1)¹⁻² • Adults: Drink 8–12 cups of fluids per day (water, broth, oral rehydration solutions such as Pedialyte®) • Younger children: Drink 1–2 cups of fluids or eat bland foods • Older children: Drink 2–4 cups of fluids after each loose stool • Small, bland meals recommended until symptoms improve ◦ BRAT diet = bananas, rice (plain, white), applesauce, toast (plain, white) • Avoid sugary drinks, caffeine, and greasy foods • Sports drinks are often high in sugar; may be used if preferred options are unavailable or unlikely to be consumed. • Probiotics are not routinely recommended for acute diarrhea, as their benefits are uncertain and vary by product.  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 17

Slide Title and Commentary	Slide Number and Slide
Moment 4: Supportive Care (Part 2) SAY: It is typically not necessary to seek over-the-counter medications like loperamide (Imodium®) to help resolve diarrhea. Loperamide should be avoided if a patient has fevers or blood in the stool as they can prolong symptoms and lead to more severe disease. If Maria prefers taking loperamide, the dose is two tablets (4 mg) initially, then 2 mg after each unformed stool for 2 days or less, with a maximum of 16 mg/day. In randomized controlled trials, loperamide reduced the duration of diarrhea by about 1 day compared to placebo. For adults without fevers or bloody diarrhea who prefer antidiarrheal treatment, bismuth salicylate (Pepto-Bismol®) administered as 30 mL or two tablets every 30 minutes for eight doses is an alternative over-the-counter treatment, although it is somewhat less effective than loperamide. Loperamide is not recommended in children as it can cross the immature blood–brain barrier in young children and cause central nervous system toxicities. Similarly, Pepto-Bismol is not recommended for children under 12 years as it may increase the risk of Reye’s syndrome, given its active ingredient is related to aspirin. Of note, it is not suggested that probiotics be routinely recommended for acute diarrhea, as their benefits are uncertain and vary by product.	Slide 18 Moment 4: Supportive Care (Part 2)¹⁻² - Consider loperamide (Imodium®); only if patient has strong preference for antidiarrheal medication⁶ - Avoid if fevers or blood in stool – can lead to severe disease - Not recommended in children – can cause central nervous system toxicities - Alternative medication for adults with fevers or bloody diarrhea: bismuth salicylate (Pepto-Bismol®)⁷ - Not recommended for children under 12 years – may increase risk of Reye’s syndrome AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 18

Slide Title and Commentary	Slide Number and Slide
Moment 4: Expectations and Followup Plan SAY: The second part of Moment 4 asks, “What should I tell my patient about the expected course and the followup plan?” You can advise Maria that her diarrhea is expected to improve within 3 days. She should contact a clinician for an in-person visit for the following reasons: • The diarrhea lasts more than 7 days without any improvement to ensure she is remaining adequately hydrated or to investigate an alternative diagnosis • She develops intractable vomiting without the ability to keep fluids down, placing her at risk for severe dehydration • She develops significant weakness or lethargy suggesting severe dehydration • She develops fevers higher than 101.3 degrees Fahrenheit (38.5 degrees Celsius) as this may suggest a bacterial cause • She develops severe abdominal pain or bloody or black/tarry stools, as this may be suggestive of a bacterial cause, ischemic colitis, or another diagnosis requiring abdominal imaging	Slide 19 Moment 4: Expectations and Followup Plan¹⁻² • Symptoms should improve within 3 days • Seek in-person medical care if— ◦ Diarrhea lasts >7 days without improvement ◦ Develop intractable vomiting without being able to keep fluids down ◦ Develop significant weakness or lethargy ◦ Develop fevers higher than 101.3 degrees Fahrenheit (38.5 degrees Celsius) ◦ Develop severe abdominal pain, bloody or black/tarry stools  AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 19

Slide Title and Commentary	Slide Number and Slide
Take-Home Messages SAY: In summary, acute diarrhea is defined as the passage of three or more loose or watery stools per day lasting for less than 14 days. It is important to obtain a detailed history and physical examination to determine the patient's hydration status and to determine if diagnostic testing or an in-person visit is warranted. An in-person visit is preferred if patients have signs of moderate to severe dehydration that cannot be managed in the home setting; have bloody stools, high fevers, confusion, or severe abdominal pain; have had more than 7 days of diarrhea without any improvement; or are pregnant or have severe immune compromise. Remember to provide detailed instructions to patients on how to stay hydrated as well as instructions for when to return to medical care if symptoms are worsening or not improving. You can review additional toolkit resources about how you and your practice will manage acute diarrhea, such as the brief summary on managing acute diarrhea in the telemedicine setting intended for clinicians and healthcare workers, the sample patient portal scripts for communicating with patients efficiently about acute diarrhea, and the patient and family education materials.	Slide 20 Take-Home Messages ✓ Acute diarrhea is the passage of ≥3 loose or watery stools per day for ≤14 days ✓ Obtain a detailed history and physical examination to determine patient's hydration status and to determine if diagnostic testing or an in-person visit is warranted ✓ Most cases can be managed over telemedicine; in-person visits are necessary if patients— ○ Have signs of moderate to severe dehydration that cannot be managed at home ○ Have bloody stools, high fever, confusion, or severe abdominal pain ○ Have had more than 7 days of diarrhea without any improvement ○ Are pregnant or have severe immune compromise ✓ Provide detailed instructions to patients on staying hydrated as well as when to seek in-person medical care if symptoms are worsening or not improving AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 20
Disclaimer SAY: Please review this disclaimer.	Slide 21 Disclaimer • The findings and recommendations in this presentation are those of the authors, who are responsible for its content, and do not necessarily represent the views of AHRQ. No statement in this presentation should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services. • Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patient's conditions and possible contraindications and/or dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities. AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Acute Diarrhea 21

Slide Title and Commentary	Slide Number and Slide
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