



Diarrhea: is defined by UpToDate as the passage of loose or watery stools, typically at least three times in a 24-hour period. It is a reflection of increased water content of the stool, whether due to impaired water absorption and/or active water secretion by the bowel.

Acute: Under 14 days

Chronic: More than 30 days

Between 14-30 days is sometimes referred to as persistent, or subacute, diarrhea.

This distinction is important to make because, as you likely already know, the potential etiologies are highly dependent on how long the diarrhea has been occurring.

Another important distinction is whether the diarrhea is invasive (which is to say, containing blood), or watery - as this of course also changes the differential.

With that, let's dive into Case 1!

Case One: Covering Objectives 1a, 1b, 2, and 4

Our first patient of the day is Jayden Wilman, a 9 year old previously healthy boy who presents with vomiting, mild diffuse abdominal pain, and 8 episodes of watery diarrhea that began yesterday. He also reports feeling somewhat hot. Review of systems is otherwise unremarkable.

What are you thinking at this point? What else would you like to know?

Well, right off the bat, I'd like to do a focused physical exam, with particular attention on hydration status, vital signs, and a GI exam. In terms of history, I'd like a few more pieces of information as well. You mentioned ROS was otherwise negative, but I'd want to particularly get an infectious Review of systems:

- (sick contacts, recent travel, antibiotic use, common eating places if there are others with similar symptoms).

Great - in response to above, the patient recently had a sleepover at a friend's place - which had to be cut short because the friend had... you guessed it... vomiting and diarrhea.

This sounds like a textbook case of viral gastroenteritis. Before jumping the gun, what else could be on the differential for this kid?



Other differentials to consider would include other infectious causes, such as bacterial or parasitic infections, and then noninfectious causes, such as food poisoning, drug reactions (particularly to antibiotics), fecal impaction with stool leakage, malabsorption syndromes, or everyone's favourite: functional diarrhea, although these last two are typically persistent or chronic in nature.

Keep in mind, this differential looks a lot different than a chronic diarrhea case, which we'll cover in the next case.

Before clinching our provisional diagnosis of viral gastroenteritis, let's dive into our physical exam, which was recorded as follows:

- You see a healthy-looking 9 year old boy playing Fortnite on an iPad, in no apparent distress.
- Vital signs within normal limits except for mildly elevated temperature at 38.1 degrees celsius.

GI exam does not reveal any tenderness and there are no masses or peritonic signs. In terms of hydration status, Jayden has a slightly dry tongue. His mother also notes that he has been thirstier than usual today.

So, Hydration status is the last piece, and we're gonna take a bit more time on this one because this is really what ends up guiding our treatment, which typically involves... you guessed it... rehydration.

What are some signs and symptoms of dehydration that we should be looking out for?

I'll preface my answer by saying that checking hydration status should be done in all patients with diarrhea, but it becomes extra important in children, who are particularly susceptible to dehydration and the consequences of dehydration, not only because they tend to get diarrhea more frequently, but because of their larger surface area to volume ratio (meaning they have more insensible losses) and an inability to communicate thirst in younger children.

We are fortunate to have an incredibly low incidence of diarrheal related mortality in Canada, but worldwide, diarrheal diseases account for 1 in 9 child deaths worldwide, making it the



second leading cause of death among children under the age of 5. The vast majority of these are from profound dehydration [WHO].

So what can we do to look for dehydration?

We can check heart rate and blood pressure, respiratory rate, capillary refill and peripheral perfusion, sunken fontanelle (in infants), tear production, mucous membranes, skin turgor, urine output, and level of consciousness, to name a few.

We covered this pretty well in the dehydration episode, so won't go into the nitty gritty as you can have a listen there and we'll put a table in the shownotes for this episode as well.

Physical findings of volume depletion in infants and children			
Finding	Mild (3 to 5%)	Moderate (6 to 9%)	Severe (≥10%)
Pulse	Full, normal rate	Rapid*	Rapid* and weak or absent
Systolic pressure	Normal	Normal to low	Low
Respirations	Normal	Deep, rate may be increased	Deep, tachypnea or decreased to absent
Buccal mucosa	Tacky or slightly dry	Dry	Parched
Anterior fontanelle	Normal	Sunken	Markedly sunken
Eyes	Normal	Sunken	Markedly sunken
Skin turgor	Normal	Reduced	Tenting
Skin	Normal	Cool	Cool, mottled, acrocyanosis
Urine output	Normal or mildly reduced	Markedly reduced	Anuria
Systemic signs	Increased thirst	Listlessness, irritability	Grunting, lethargy, coma

* Tachycardia may be the first sign of hypovolemic shock in infants.

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[I think we covered this pretty well recently in dehydration episode, what do you think?]

~~Based on the above information, we can broadly categorize hydration status into mild (3-5% total volume loss), moderate (6-9% volume loss), or severe (>15% volume loss). Volume loss is simply calculated as pre-illness weight minus current weight.~~

~~For Mild dehydration: Often there are no signs and this is guided purely by history, but you might notice dry mucous membranes and mildly reduced urine output (although in reality, patients tend to not record their urine output as you might expect).~~

~~For Moderate dehydration: This is where the signs and symptoms start to show up. Look for rapid pulse, particularly in infants – where this can often be the first sign of hypovolemic shock. Also look for reduced skin turgor, sunken eyes, sunken anterior fontanelle in infants, reduced~~



~~urine output, delayed cap refill, and deep respirations with or without an increase in absolute respiratory rate.~~

~~Of these, cap refill, skin turgor, and deep respirations have shown to be the most predictive signs of dehydration in a systematic review of the literature. [UpToDate]~~

~~For severe dehydration, it's all of the above and then some. These are hard to miss and will often present in shock-like conditions, so look for things like cool and mottled extremities, lethargy, and deep respirations with an increase in rate.~~

~~**~~

Before we jump back into our case, how do we rehydrate patients appropriately?

Oral rehydration therapy (ORT or ORS), which are specially prepared fluids based on a WHO formula containing glucose, sodium, and potassium, is the preferred treatment for children with mild to moderate hypovolemia OR in severe hypovolemia as a *second* phase of treatment once their effective blood volume has been initially corrected with emergent IV fluids. If they're severely dehydrated, we're in shock territory and they'll need IV fluid resuscitation.

Long story short, Oral rehydration therapy (think Pedialyte or Enfalyte or any of the "lytes") is by far the best option for most patients. They're cheap, effective, and safe.

What about water?

Nope. Parents should be specifically instructed not to offer plain water to dehydrated children, like those with acute diarrhea, to avoid hyponatremia and hypoglycemia.

What about gatorade or fruit juice?

Short answer is no.

What's the long answer? Do I want to know?

It's kind of interesting, actually: a Canadian clinical trial in children between 6 months to 5 years of age with mild gastroenteritis and **no** clinical signs of dehydration demonstrated that half-strength apple juice (diluted 1:1 apple juice:water) compared with apple-flavored commercial



standard ORT resulted in fewer episodes of treatment failure - so its reasonable to consider half-strength apple juice for the most of the mild patients.

But, no gatorade, no soda, no ginger ale, and no tea. Also, homemade solutions that use sugar and sodium should also not be used because of the risk of major errors.

In a pinch, the WHO created an oral rehydration recipe for these cases, particularly where fancy stuff like pedialyte is simply not available. They suggest 1L of safe, or well boiled, water, mix in 8 tsp of sugar, 4 tsp of salt, and 1 cup of orange juice.

Ok, that was a fairly big detour, but an important one nonetheless.

Jumping back into our case, you determine the most likely cause of Jayden's symptoms is a simple viral gastroenteritis without any red flag signs or symptoms.

Antibiotics are obviously not necessary in this case of viral gastroenteritis, and are typically not indicated in bacterial gastroenteritis either. [Host], when might we consider antibiotics?

Generally speaking, you should consider antibiotics if there's one of the following:

1. Severe disease (fever, more than six stools per day, volume depletion warranting hospitalization)
2. Features suggestive of invasive bacterial infection, such as bloody or mucoid stools (except in cases of nonsevere disease when fever is low or absent)
3. Host factors that increase the risk for complications, including age >70 years old and comorbidities such as cardiac disease and immunocompromising conditions

Basically, if it's really bad, really bloody, or the patient is immunocompromised in some way, think about starting empiric antibiotics. You'll typically reach for something like azithromycin or a fluoroquinolone - but refer to your local protocols to be sure.

And, as a quick note, remember that antibiotics are contraindicated in suspected EHEC, particularly in children, given the risk of precipitating hemolytic uremic syndrome (HUS). You might be suspecting EHEC in an infant or toddler with bloody diarrhea, abdominal pain, mild to no fever, and a history of raw meat or raw vegetable consumption.

Back to Jayden: He's mildly dehydrated and able to reasonably tolerate oral fluids. You educate Jayden's mom on some of the commercially available ORT solutions and advise against water,



sodas, and other sugary drinks. If Jayden won't drink the ORT solution, half-strength apple juice is reasonable. No IVs needed today thankfully.

What about probiotics?

For acute infectious diarrhea in children, the evidence in support of probiotics is still lacking, although the general consensus appears to suggest that probiotics are not beneficial for treating children with acute gastroenteritis. Keep your eyes peeled though, this could change in the future as more high quality studies are performed.

What about antidiarrheal agents like loperamide?

Don't use them. Evidence-based guidelines all recommend against them in children. Ondansetron, however, can be considered as an antiemetic in some cases - predominantly as a way to increase the likelihood that oral rehydration is successful.

The management algorithm from AAG for ADULTs suggest loperamide can be useful for short periods of time, we'll discuss that in case 3. for mild illness and watery diarrhea (no blood). As well as for moderate-severe illness with watery diarrhea if it is NOT travel-associated and WITHOUT fever, then you can trial Loperamide for less than 48 hours to help symptoms. This algorithm for adults will be in the shownotes

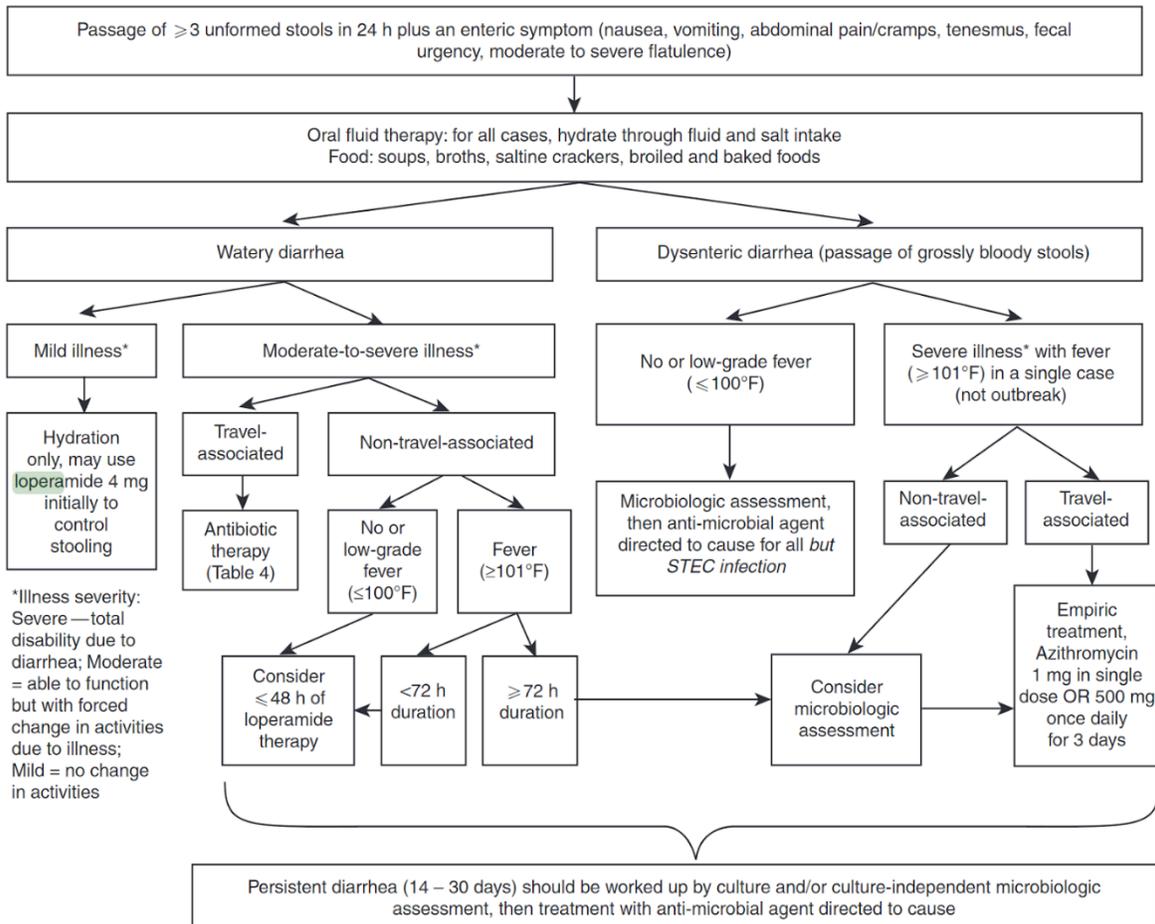


Figure 1. Approach to empiric therapy and diagnostic-directed management of the adult patient with acute diarrhea (suspect infectious etiology).

And what about prevention?

Wash those hands with soap and water, and make sure they have received the oral live attenuated rotavirus vaccine as part of their routine childhood immunizations.

What about school?

The National Institute for Health and Care Excellence, or NICE, out of the UK recommends waiting around 48 hours from the last episode of diarrhea before returning to school. This will largely be a clinical call on your part though.



Should we be doing any labs?

Take it on a case by case basis, but labs are typically not required for acute mild diarrhea. Generally speaking, if they're not sick enough to need IV fluids, they're not sick enough to need blood work.

That wraps up case 1. It really boils down to ruling out those red flags and recognizing and treating dehydration. Remember those red flags, which boil down to really sick patient, bloody diarrhea, or old/immunocompromised patients. With that, let's move onto **case 2**

Case Two: Covering Objectives 6 and 7.

You're locuming for a full-service clinic in Victoria, BC, and check the EMR to see your next patient: A previously healthy 26 y/o female who presents with a 4 month history of alternating constipation and diarrhea accompanied by abdominal pain that is relieved by defecation.

She denies nausea, vomiting, weight loss, blood in her stool, or nocturnal symptoms.

She also denies constitutional symptoms.

Her symptoms started gradually around the time she graduated from university, which has been a fairly stressful time for her. She estimates having about 2 "normal days" without symptoms each week - which has remained fairly constant over the past 4 months.

She denies any recent travel or known sick contacts, antibiotic use, new medications or supplements, or dietary changes.

She has tried removing dairy and gluten from her diet with no avail. She has no known allergies.

Family history is noncontributory, and negative for colon cancer and IBD.



Moving into the physical exam, Danielle sits comfortably in front of you in no apparent distress. She is afebrile and the remainder of her vital signs are within normal limits. Her BMI is slightly elevated at 27.4.

Cardiovascular, respiratory, and abdominal exam are also unremarkable.

Alright, so, quite a lot of information was presented there. What are you thinking of the most likely cause at the moment, and what else would be on your differential?

So, this sounds a lot like irritable bowel syndrome (or IBS) to me, although symptoms of IBS can be notoriously non-specific, and so the differential can be fairly broad. Other things I'm thinking about include:

- Inflammatory bowel disease (Crohn's or Ulcerative Colitis)
- Carbohydrate malabsorption (typically lactose intolerance)
- Celiac disease (which can present in patient's of all ages, not just children)
- Bile acid diarrhea (in those patients with a history of cholecystectomy)
- Drug reactions or side effects (with your culprit drugs changing based on whether or not symptoms are predominantly diarrhea or constipation)
- And very unlikely, but neoplasm is always gonna be on the DDX (especially in older patients, those with a family history, genetic conditions like Lynch syndrome, or those with blood in their stools or signs of anemia)

As I was going through that list, you'll note that we were effectively able to rule out the vast majority of those items based on history alone, which is very often the case in the real world too.

So - would you be getting any investigations in this case?

That's a great question.. In a patient who **meets the diagnostic criteria for IBS without any red flag signs or symptoms**, you're actually able to make the diagnosis **without** requiring any extensive investigations. This is a clinical diagnosis.

Speaking of diagnostic criteria, we're using everyone's favourite ROME IV criteria to make that diagnosis, which are as follows (you can find these through a quick Google search or on your online medical calculator of choice):



The diagnostic criteria are recurrent abdominal pain (occurring on average at least 1 day per week in the previous 3 months, with the onset of symptoms occurring at least 6 months before diagnosis) with at least 2 of the following:

- a. related to defecation
- b. associated with a change in stool frequency, and/or
- c. associated with a change in stool appearance.

These patients with IBS usually present with symptoms of recurrent abdominal pain and a change in stool form or frequency.

Stool changes can manifest as predominantly diarrhea (IBS-D) or constipation (IBS-C) or an alternation between the two, as with our patient (IBS-M for mixed)

Extragastrintestinal symptoms are also common and include headache, dysmenorrhea, dyspareunia and fatigue.

Irritable bowel syndrome frequently occurs in patients with other medically unexplained or affective disorders, such as fibromyalgia, depression or anxiety. The symptoms tend to also be aggravated by stress in many cases.

As you might expect, we don't have a great understanding of the underlying pathophysiology, but it's tied closely with the elusive brain-gut axis.

Going back to those diagnostic criteria, they apply to your patient under the assumption that there are no red flag signs or symptoms. So its critical to make sure we ask about red flags. If even one of them is positive, we'll need to do some more investigations based on our suspicions.

If you want to pause us for a second and think about those red flags, feel free to do so. Otherwise, the critical red flags that warrant investigations are as follows:

- First presentation at age > 50 yr without age-appropriate colon screening
- Weight loss
- Signs or symptoms of Rectal bleeding or iron deficiency anemia
- Palpable lymphadenopathy or masses
- Nocturnal symptoms
- History of recent antibiotic use



- Family history of colorectal carcinoma in the absence age-appropriate colon screening

Those can be found on the MDCalc page for ROME IV criteria. The primary article we're using for this case, a 2020 article titled "An approach to the care of patients with irritable bowel syndrome" in CMAJ, also lists Raised inflammatory markers as a red flag - although you typically won't have this information and shouldn't need to order it in the absence of other red flags.

For patients with IBS-D (diarrhea subtype), the CMAJ article lists CBC, inflammatory markers (e.g., C-reactive protein), ferritin, vitamin B12, folate and celiac serologies as reasonable investigations to exclude iron deficiency anemia, malabsorption and celiac disease.

Treatment of IBS is targeted mainly at symptom control. The aforementioned CMAJ article from 2020 titled "*An approach to the care of patients with irritable bowel syndrome*" has a wonderful flowchart for treatment, which we'll link in the show notes. It goes into more depth than we will, but very generally speaking:

For those with constipation, think about psyllium or PEG. For those with diarrhea, consider loperamide. For those with significant abdominal pain, consider antispasmodics, peppermint oil, TCAs, or SSRIs. Yes - peppermint oil actually has evidence. Other treatments are aimed at altering the gut microbiota, which includes RiFAXimin (a poorly absorbed antibiotic) and probiotics.

And of course, given the association with stress, consider psychological treatments for patients whom you think could benefit from it. Cognitive behavioural therapy (CBT), dynamic psychotherapy and hypnotherapy have been shown to be effective in recent reviews. Along that same line, patient education is really important for these chronic conditions. Consider printing off a patient education sheet and referring them to some trusted online resources.

And that wraps up case 2. IBS is an incredibly common disorder, it affects about 4% of men and 8% of women in Canada and has a peak incidence around 18-34 years. As a chronic condition, it can have a significant toll on patients, emotionally, physically, and financially. The big takeaway is being able to make that diagnosis, which as we said, is clinical. Keep an eye out for those red flags.

Case Three Covering Objectives 3 and 5

With that, we jump into our third and final case. It's a beautiful sunny day out and you can hear the beach calling you, but before that - we have one more patient waiting to see us.

Up next is Henry Lewison, a 68 year old man with non-insulin dependent type II diabetes, controlled hypertension, and controlled dyslipidemia. He was treated with antibiotics as an inpatient nearly two weeks ago for a moderate community acquired pneumonia but was discharged home in stable condition last week.

Unfortunately, he presents with complaints of around 4 days of profuse foul-smelling watery diarrhea with scant blood associated with mild intermittent abdominal cramping and a low grade temperature.



He's also feeling slightly more fatigued than normal and is intermittently nauseous with a mildly reduced appetite but denies any other GI symptoms. He also denies constitutional symptoms. A detailed review of systems is otherwise negative and, other than his recent antibiotics, his home medications, supplements, and diet have remained unchanged. He also denies any known sick contacts or recent travel.

Unlike our last patient, who was young and healthy, Henry is a different story. His age alone should prompt you to pay close attention.

Thankfully his abdominal pain is only mild and intermittent - because geriatric abdominal pain scares me, and it should scare you too. Some estimates place the mortality rate for geriatric acute abdominal pain at nearly 10%, which is insanely high, so don't mess around when it comes to these patients.

Back to Henry. Vital signs are normal with a very slight temperature bump of 37.9. A focused physical exam is remarkable for mild diffuse abdominal tenderness (which he describes as "bloating") without any peritonitic signs or palpable masses. Cardiovascular and respiratory exams are both unremarkable.

Ok, so what's the differential?

So, this is acute diarrhea in an adult, so as with earlier, we can broadly categorize it into infectious and non-infectious causes. With adults, especially older adults, especially since there was a bit of scant blood in the diarrhea, we need to expand our differential a bit larger than before.

In particular, we also want to think of that lower GI bleed differential using the handy mnemonic C-HAND (colitis, hemorrhoids, angiodysplasia, neoplasm, diverticulitis).

That said, at the top of my differential sits *C. Difficile* infection.

As with Henry, antibiotic use is the most widely recognized risk factor for *C. Diff* infection, and longer courses further increase the risk. Any antimicrobial agent can cause *C. difficile* infection, but clindamycin is the most common, followed by cephalosporins and fluoroquinolones.



Other risk factors include severe illness, being older than 70 years, gastric acid suppression (commonly with PPIs), and obesity, among others. And of course, hospitalization is another big risk factor as anyone who has spent time on an inpatient medicine ward will tell you.

Next step is the work-up. This is an older patient, and there was a bit of scant blood, so unlike our last two cases, we're going to want some tests.

To rule out C. Diff, we're going to need a C. Diff enzyme immunoassay or a C Diff NAAT (which is a PCR test). Check your local practice patterns to decide on which to order, but broadly speaking, the PCR test is more sensitive but less specific (as it can't distinguish between active infection or past colonization), whereas the immunoassay is less sensitive but highly specific for active infection.

Check out Table 3 in the 2020 AAFP article "Clostridoides difficile infection: Update on management", linked in show notes, for a deeper dive.

Other investigations to consider include your basic CBC looking for leukocytosis (which actually provides good information about disease severity and can help guide treatment), BMP looking for electrolyte derangements in the context of profuse diarrhea, and a lactate and albumin as well, since lactic acidosis and hypoalbuminemia can both be indicators of disease severity.

Stool studies like Ova & parasites and stool cultures can be hit or miss. They're generally not recommended, but can be considered in severe cases or in less clear cut cases.

What about imaging?

In patients with signs of severe disease, radiographic imaging (e.g., plain radiography, contrast-CT abdomen/pelvis) can be considered to look for colonic dilation, wall thickening, stranding, and ascites.

So again, you only need imaging in severe cases. When we say severe infection, we're referring to severe abdominal pain, abdominal distention with apparent ileus, fever, hypovolemia, lactic acidosis, hypoalbuminemia, and/or marked leukocytosis. As you'll note, some of those are lab findings, which is why we'll want to grab some blood work up front.

And as a brief side note, lower endoscopy is sometimes ordered but is not indicated if C. Diff is suspected based on clinical findings, laboratory tests, and/or response to empiric treatment. If it



is performed, it must be done cautiously to avoid perforating the bowel, and you'll be looking for that characteristic finding of pseudomembranous colitis.

Ok, so we order the investigations and send Henry home with counselling around hand hygiene. He'll follow up in about 48 hours, at which point his investigations will be done. Are we treating for C. Diff on speculation? Or do we wait?

According to the AAFP, It is reasonable to start antibiotics empirically if diagnostic test results will take longer than 48 hours to obtain or if the patient presents with severe symptoms. Patients who are clinically stable can be treated on an outpatient basis after they have been counseled about infection control.

We decide to not start treatment quite yet, and Henry returns 48 hours later with his lab results. They show a slight bump in his white count at 13.8, but the remainder of his lab work is normal, with the exception of a C Diff PCR, which is... positive!

You again reiterate the importance of proper hand hygiene and, as this is his first known case, you start him on Vancomycin, 125 mg orally 4 times per day for 10 days. Metronidazole is so last season, so don't use it.

You might also see Fidaxomicin used, which is also reasonable. For those repeat C. Diff customers with 2 or more episodes, we step up oral treatments and might also consider fecal microbiota transplant - but this is beyond the scope of our learning objectives, get the experts involved at that point.

Little pearl: You should not be performing stool transplants in your office. Although it would be cool to call yourself a transplant surgeon, assuming that stool transplants count.

And this probably goes without saying, but patients with severe *C. difficile* infection or fulminant colitis (AKA hypotension, shock, ileus, or megacolon) should receive immediate antibiotic therapy, supportive care, and close monitoring in a hospital setting. Some severe cases may require surgery for toxic megacolon, colonic perforation, or necrotizing colitis.

That wraps up case 3. It was a doozy, folks. We covered a lot of high yield stuff today.

It can be fairly algorithmic when you get down to it, and having that standardized approach makes your life a lot easier. Hopefully this episode has helped out with that a bit.



[Standard outro banter].

Objectives:

- 1 In all patients with diarrhea,
 - a) Determine hydration status,
 - b) Treat dehydration appropriately.
- 2 In patients with acute diarrhea, use history to establish the possible etiology (e.g., infectious contacts, travel, recent antibiotic or other medication use, common eating place for multiple ill patients).
- 3 In patients with acute diarrhea who have had recent hospitalization or recent antibiotic use, look for clostridium difficile.
- 4 In patients with acute diarrhea, counsel about the timing of return to work/school (re: the likelihood of infectivity).
- 5 Pursue investigation, in a timely manner, of elderly with unexplained diarrhea, as they are more likely to have pathology.
- 6 In a young person with chronic or recurrent diarrhea, with no red flag symptoms or signs, use established clinical criteria to make a positive diagnosis of irritable bowel syndrome (do not over-investigate).
- 7 In patients with chronic or recurrent diarrhea, look for both gastrointestinal and non-gastro-intestinal symptoms and signs suggestive of specific diseases (e.g., inflammatory bowel disease, malabsorption syndromes, and compromised immune system).

References

[Oral rehydration therapy and early refeeding in the management of childhood gastroenteritis CPS 2.qxd \(macpeds.com\)](#)

[Oral rehydration therapy - UpToDate](#)

[Approach to the adult with acute diarrhea in resource-rich settings - UpToDate](#)

[Approach to chronic diarrhea in children >6 months in resource-rich countries - UpToDate](#)

[Gastroenteritis in Children - American Family Physician \(aafp.org\)](#)



1 Guidance | Diarrhoea and vomiting caused by gastroenteritis in under 5s: diagnosis and management | Guidance | NICE

An approach to the care of patients with irritable bowel syndrome | CMAJ

Abdominal emergencies in the geriatric patient (nih.gov)

Community-acquired Clostridium difficile infection | The College of Family Physicians of Canada (cfp.ca)

Clostridioides difficile Infection: Update on Management - American Family Physician (aafp.org)

OVERFLOW CONTENT (use if needed/extra time):

Ok, [host], now it's time for a friendly pimping segment I like to call "name that infectious diarrhea etiology". It goes like this, I give you some key words and you tell me the most likely infectious agent. If you're playing along at home, pause before answers and make your own guess.

Are you ready [host]? Here we go:

1. Diarrhea after raw chicken or eggs: Salmonella
 2. Hospital acquired, foul-smelling, diarrhea: C. Diff
 3. Watery diarrhea in a hiker who drank fresh water: Giardia
 4. Watery diarrhea in someone who returned from a buffet that served reheated rice: Bacillus cereus
 5. Bloody diarrhea after eating undercooked meat: EHEC; enterohemorrhagic e coli
 6. Watery diarrhea in the returned traveler: ETEC; enterotoxigenic e coli. Remember T for traveller, H for hamburger.
 7. The most common infectious cause of diarrhea: viral (norovirus, rotavirus, adenovirus - less likely rotavirus since the introduction of the Rotavirus vaccine into routine childhood immunizations)
- 1.