**1. In all patients with diarrhea,**

**a) Determine hydration status:**

*-heart rate, BP, orthostatic vital signs, mucous membranes, skin turgor, urine output, capillary refill time, eyes, fontanelle (peds), production tears (peds)*

**b) Treat dehydration appropriately.**

*-mild-moderate dehydration: trial of PO rehydration*

*-Severe or failure of PO rehdration: IV fluid therapy – NS or RL bolus*

**2. In patients with acute diarrhea, use history to establish the possible etiology Note: acute diarrhea is <14days duration**

***Infectious etiology****:*

* *Bacterial: shigella, salmonella, campylobacter, yersinia, ecoli, clostridium, vibrio, staph aureus, bacillus cereus*
* *Viral: norovirus, rotavirus, adenovirus, CMV, HSV*
* *Parasitic: cryptosporidium, microsporidia, entamoeba histolytica, giardia lamblia, cyclospora*

***Medications:*** *Antibiotics, colchicine, laxatives, magnesium containing antacids*

***Food Intolerance:*** *Lactose, fructose in soft drinks, sorbital, coffee*

***Intestinal Diseases (acute episodes):*** *Celiac, inflammatory bowel dz*

***Clues from hx regarding specific cause:***

* *presence of fever, bloody diarrhea and tenesmes suggest inflammatory diarrhea (eg. Shigella, salmonella, campylobacter, c diff colitis or IBD)*
* *Consider norovirus with classic history of nausea, vomiting, intense cramping, and watery diarrhea that usually lasts 48-72 hrs*
* *Travelers diarrhea is most commonly caused by enterotoxogenic E. Coli, but still consider other causes of diarrhea and specific organisms based on area of travel*
* *Exposure to contaminated water or camping think of parasites (giardia, cryptosporidium and entamoeba)*
* *Exposure to animals: Young cats/dogs 🡪 campylobacter; Turtles 🡪 Salmonella*
* *Organisms that cause food poisonings:*
  + *Dairy food -*Campylobacter *and* Salmonella *species; Eggs -*Salmonella *species*
  + *Ground beef - Enterohemorrhagic* E coli
  + *Poultry -*Campylobacter *species*
  + *Pork -*C perfringens, Y enterocolitica
  + *Seafood - Astrovirus and* Aeromonas, Plesiomonas, *and* Vibrio *species*
  + *Oysters - Calicivirus and* Plesiomonas *and* Vibrio *species*
  + *Vegetables -*Aeromonas *species and* C perfringens

**3. In patients with acute diarrhea who have had recent hospitalization or recent antibiotic use, look for clostridium difficile.**

* *Suspect if antibiotic use within the last 2 months or discharge from hospital within last 72 hours; can happen with almost all antibiotics (although clinda is the classical example). Presents with watery diarrhea that is rarely bloody, crampy abdo pain, malaise, fever, anorexia.*
* *Can lead to fulminant colitis and toxic megacolon*

**4. In patients with acute diarrhea, counsel about the timing of return to work/school (re: the likelihood of infectivity).**

* *No return to work until no diarrhea for at least 48 hours*
* *Food handlers/daycare workers/health care workers may require negative stool samples on 2 occasions at least 24 hrs apart prior to returning to work to prevent outbreaks*

**5. Pursue investigation, in a timely manner, of elderly with unexplained diarrhea, as they are more likely to have pathology.**

* *Any change in bowel habit should raise possibility of colorectal cancer*
* *Also consider other pathology such as diverticulitis, inflammatory bowel disease, etc.*

**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).**

* *Red flags: fevers/chills, weight loss, bloody stool, mucousy stool, nocturnal diarrhea, large volume stool, greasy stool, FHx of IBD or cancer, anemia, persistent daily diarrhea or constipation, severe pain*
* *Rome III criteria:*
  + *Recurrent abdominal pain or discomfort for at least 3 days per month in the last 3 months associated with 2 or more of the following:*
    - *Improvement with defecation*
    - *Onset associated with a change in frequency of stool*
    - *Onset associated with a change in form (appearance of stool)*
  + *criteria fulfilled for the last 3 mths with sx onset at least 6 mths prior to dx*
  + *Supportive sxs that are not part of the diagnostic criteria include:*
    - *a) <3 BM/week, b) >3BM/day or abnormal stool form c) lumpy/hard stool d) loose/watery stool e) defecation straining f) urgency or feeling of incomplete bowel movement, passing mucus or bloating*
  + *in the absence of structural or metabolic abnormalities to explain the sxs*
  + *“discomfort” means an uncomfortable sensation not described as pain*

**7. In patients with chronic or recurrent diarrhea, look for both gastro-intestinal and non-gastro-intestinal symptoms and signs suggestive of specific diseases**

* **Malabsorption Syndrome:**
  + *Stool tend to be pale, greasy, voluminous, and foul-smelling*
  + *Patients typically have weight loss despite adequate food intake*
  + *Common disorders with malabsorption include: Lactose intolerance, chronic pancreatitis, Celiac disease, Bacterial overgrowth of the small intestine*
* **Cholecystecomy:**
  + *Reported in 5-12% of patients following cholecystectomy, due to excessive bile salts entering the colon*
  + *Usually resolves spontaneously over the course of weeks to months*
  + *Can be treated with cholestryamine*
* **Inflammatory Bowel Disease:** crohn’s and ulcerative colitis
  + *Age on onset typically between 15 and 40, but may have a second peak between 50 to 80*
  + *Extraintestinal manifestions: iritis/uveitis, arthritis, skin changes, aphthous stomatitis, nail changes, pericholangitis, and sclerosing cholangitis*
  + *Need to monitor for cancerous changes in colon*
  + *Crohn’s:* 
    - *present with abdo pain, diarrhea, weight loss and fever; hemoccult positive stools are common, macroscopic bleeding less common*
    - *Can get inflammation anywhere along GI tract (“from gums to bum”) in discontinuous fashion*
    - *Inflammation is transmural therefore commonly get fistula formation*
  + *Ulcerative colitis:*
    - *Only involves colon, always starting distally and ascends in continuous manner*
    - *Variable presentation depending on extent of disease, typically presents with bloody diarrhea, fever, weight loss,*

**References:**

Wanke, CA. (2011). Approach to the adult with acute diarrhea in developed countries. In D.S. Basow (Ed.), UpToDate. Retrieved from <http://www.uptodate.com/home/index.html>

Bonis, PA and LaMont, JT. (2011). Approach to the adult with chronic diarrhea in developed countries. In D.S. Basow (Ed.), UpToDate. Retrieved from <http://www.uptodate.com/home/index.html>

http://emedicine.medscape.com/

Aberra, FN (2011). Clostridium difficile colitis. Retrieved from http://emedicine.medscape.com/

Guandalini, A. (2010). Diarrha. Retrieved from http://emedicine.medscape.com/

Rowe. WA (2011). Inflammatory bowel disease. Retrieved from http://emedicine.medscape.com/

Therapeutic Choices Sixth edition. Ottawa, Canadian Pharmacists Association. 2011.