SASKATCHEWAN
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ASSOCIATION

SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
AUGUST 2017

GASTROENTERITIS ADULT

DEFINITION

Gastroenteritis, also known as enteritis or gastroenterocolitis, is an inflammation of the stomach and intestines that manifests as anorexia, nausea, vomiting, and diarrhea.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

- Moderate dehydration (6-10% loss of body weight) if blood pressure and mental status do not stabilize in the normal range within 1 hour of initiating rehydration therapy.
- Severe dehydration (> 10% loss of body weight)
- High fever and appears acutely ill
- Severe headache
- Altered mental status
- Tachycardia or palpitations
- Hypotension
- Bloody stools or rectal bleeding
- Severe abdominal pain
- Bowel sounds are absent
- Abdominal distension
- Age > 65 years, elderly with multiple medical problems
- Unable to tolerate fluids by mouth
- Multiple co-morbidities (e.g., diabetes, congestive heart failure, renal disease) or immunocompromised clients

Review SRNA CDTs Dehydration Adult and Diarrhea Adult as follow-up to this CDT.

CAUSES

- Gastroenteritis can be acute or chronic and can be caused by bacteria, viruses, parasites, injury to the bowel mucosa, inorganic poisons (sodium nitrate), organic poisons (mushrooms, shellfish), and drugs.
- Chronic causes include food allergies and intolerance, stress, and lactase deficiency.
- Gastroenteritis caused by bacterial toxins in food is often known as food poisoning. It should be suspected when groups of individuals present with the same symptoms.

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Organisms causing gastroenteritis:
Inflammatory Gastroenteritis

- Campylobacter
- Shigella
- Salmonella
- Enterohemorrhagic *Escherichia coli*
- *Clostridium difficile (C. difficile)*

Non-inflammatory Gastroenteritis

- Norwalk virus
- Rotavirus
- *Clostridium perfringens*
- *Staphylococcus aureus*
- Aeromonas species
- *Bacillus cereus*
- Giardia
- Drugs

PREDISPOSING AND RISK FACTORS

- Recent travel to third world countries
- Unclean water
- Contaminated food
- Crowded living conditions
- Institutional living
- Antibiotic and/or antacid use
- Immunocompromised
- Consumption of raw shellfish and seafood

HISTORY

- Sudden onset and duration of symptoms
- Contact with someone with similar symptoms
- Anorexia and/or vomiting
- Malaise, headache
- Myalgia
- Abdominal pain

- Medication history (prescription, non-prescription, and particularly broad spectrum antibiotics)
- Medical history
- Ingestion of contaminated water
- Animal exposure
- Travel, ingestion of raw or undercooked meat, raw seafood, unpasteurized milk, ill contacts
- With Giardia: cramping, pale, greasy stools, fatigue, weight loss, chronicity
- Illicit drug use, alcohol use

PHYSICAL FINDINGS

Subjective:

- Clients suffering from gastroenteritis present with varying degrees of nausea, vomiting, diarrhea, fever, abdominal pain, and cramping.
- Symptoms depend on the underlying cause but can also include:
    - Fatigue
    - Malaise
    - Anorexia
    - Tenesmus
    - Borborygmus

Objective:

- The physical exam is usually normal except for gastrointestinal problems.
- The exam should assess the degree of dehydration if present.
- Vital signs that may reflect dehydration are a fever with increased heart rate.
- Clients with prolonged illness and who are malnourished may present with edema resulting from hypoalbuminemia.

DIFFERENTIAL DIAGNOSIS

- Travellers' diarrhea
- Inflammatory bowel disease
- Ischemic bowel disease (especially in clients with peripheral vascular disease)
- Urinary tract infection
- Migraine headache

- Appendicitis
- Meningitis
- Bowel obstruction
- Colitis/Crohn's disease
- Intussusception
- Peptic ulcer/gastroesophageal reflux
- Diverticulitis
- Malabsorption
- Cancer
- Medications (e.g., antibiotics, non-steroidal anti-inflammatories (NSAIDs), anti-hypertensives, laxatives, antacids)
- Pelvic abscess

COMPLICATIONS

- Dehydration
- Electrolyte imbalance
- Long term changes in bowel pattern
- Irritable bowel syndrome
- Aspiration pneumonia
- Perforated esophagus

INVESTIGATIONS AND DIAGNOSTIC TESTS

- Laboratory tests are not usually necessary in clients with non-bloody diarrhea and no evidence of systemic toxicity.
- Selection of the appropriate tests is based on the history and physical exam as well as through consultation with a physician/RN(NP), as in most cases clients requiring testing are acutely ill.
- Stool testing for culture and sensitivity, ova and parasites, *C. difficile* toxin, may be considered in clients with bloody diarrhea.

MAKING THE DIAGNOSIS

- Caution should be exercised in making the diagnosis and attributing gastrointestinal symptoms only to acute gastroenteritis.

- Clients may complain of symptoms that suggest dysentery: passage of numerous small volume stools containing blood and mucous.
- Report of voluminous stools is suggestive of a source in the small bowel or proximal colon.
- Small stools accompanied by a sense of urgency suggest a source in the left side of the colon, or rectum.
- Bloody stools suggest mucosal damage and an inflammatory process secondary to invasive pathogens.
- Frothy stools and flatus suggest a malabsorption problem.
- Often the incubation time of the pathogen, coupled with the presenting symptoms, will give specific clues in establishing a diagnosis:
  - Infectious processes of the small intestine often result in watery, secretory, or a malabsorptive type of diarrhea.
  - Infections of the large intestine tend to produce bloody diarrhea and abdominal pain.
  - Gastroenteritis with an onset of nausea and vomiting within 6 hours of exposure to a pathogen suggests food poisoning resulting from ingestion of a preformed toxin such as *Bacillus cereus.*
  - Incubation periods longer than 14 hours and initial symptom of vomiting are suggestive of viral infections.

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Prevent dehydration
- Alleviate symptoms

Appropriate Consultation

- Consult a physician/RN(NP) as soon as possible for any adult with signs of moderate to severe dehydration. If the client has presented with severe signs (e.g., shock), prepare client for transfer to hospital.
- Prolonged symptoms > 1 week

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Non-Pharmacological Interventions

- All clients who present with diarrhea require fluid and electrolyte management, particularly older adults and those who are immunocompromised.
- Review the SRNA CDTs Dehydration Adult and Diarrhea Adult for rehydration information.
- Clients with diarrhea require a diet that includes calories that come from boiled starches and cereals (e.g., potatoes, pasta, rice, wheat, and oats) which will facilitate electrolyte renewal and the addition of salt.
- Once stools are formed, the diet can be advanced as tolerated.

Pharmacological Interventions

- Treatment of nausea
  - DimenhyDRINATE (Gravol), 25-50 mg orally/IM/IV q4-6h prn
- Non-specific symptomatic treatment of acute diarrhea can decrease the occurrence by 50% and is most effective against secretory diarrhea.
- Antimotility drugs are the most frequently prescribed and most effective for symptomatic treatment of gastroenteritis. These drugs work by slowing intraluminal peristalsis thereby slowing passage of fluids through the bowel, facilitating absorption.
- Examples of drugs used are as follows:

Table 1
Drugs Commonly Prescribed: Symptomatic Treatment of Acute Diarrhea

Drug	Indication	Dosage	Comments
Bismuth subsalicylate (Pepto-Bismol)	Acute diarrhea	30 mL or 2 tablets every 30 minutes for 8 doses. May repeat same regimen on day 2.	Not as effective as loperamide in acute diarrhea. Do not use with antibiotics in clients with HIV infection.
Loperamide (Imodium)	Acute diarrhea	Initial dose (over the counter) 4 mg (2 tablets), then 2 mg after each loose stool, not to exceed 12 mg per day. Prescription dose should not exceed 16 mg/day for a 2 day limit.	Drug of choice for afebrile non-dysenteric cases of acute diarrhea. Minimal central opiate effect.

Note. Adapted from *Primary care: The art and science of advanced practice nursing* (4th ed.), p. 506, by L.M. Dunphy, J.E. Winland-Brown, B.O. Porter, & D.J. Thomas, 2015, Philadelphia: F.A. Davis.

Client and Caregiver Education

- The aim of client/caregiver education is prevention of the spread of disease from clients with infectious diarrhea to others.
- Teaching includes good handwashing and safe disposal of waste products.

- Counsel client/caregiver about appropriate use of medications (dose, frequency, side effects, etc.).

Monitoring and Follow-Up

- Follow-up is not usually required except in those clients suffering from chronic forms of infectious diarrhea such as from *C. difficile.*
- Client should be advised to return for follow-up if symptoms continue or become worse resulting in further dehydration.
- Re-evaluate the client with mild symptoms (treated at home) every 24 hours for 2 days. Be sure to recheck the client's weight. Ensure that the client is aware of the signs and symptoms of dehydration and instruct him or her to return immediately if dehydration worsens or if she/he cannot ingest an adequate quantity of fluid.

Referral

- Consult immediately with a physician/RN(NP) for any client with moderate to severe dehydration.
- Consult with a physician/RN(NP) for a client with underlying comorbidity (e.g., diabetes, complex medical history) or when a diagnosis of underlying cause is uncertain.

DOCUMENTATION

- As per employer policy

REFERENCES

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