CONSTIPATION

Constipation

- Definition : varies among physicians and other health care providers.
- Three or fewer bowel movements/week

Constipation

- Primary/ Functional
- Secondary

Secondary Causes of Constipation

- **Mechanical Obstruction**
  Anal stenosis
  Colorectal cancer
  Extrinsic compression
  Rectocele or sigmoidocele
  Stricture

Medications

Antacids
Anticholinergic agents (e.g., antiparkinsonian drugs, antipsychotics, antispasmodics, tricyclic antidepressants)
Anticonvulsants (e.g., carbamazepine, phenobarbital, phenytoin)
Antineoplastic agents (e.g., vinca derivatives)
Calcium channel blockers (e.g., verapamil)
Diuretics (e.g., furosemide)
5-Hydroxytryptamine3 antagonists (e.g., alosetron)
Iron supplements
Nonsteroidal anti-inflammatory drugs (e.g., ibuprofen)
Mu-opioid agonists (e.g., fentanyl, loperamide, morphine)

- **Metabolic and Endocrinologic Disorders**
  Diabetes mellitus
  Heavy metal poisoning (e.g., arsenic, lead, mercury)
  Hypercalcemia
  Hyperthyroidism
  Hypokalemia
  Hypothyroidism
  Panhypopituitarism
  Pheochromocytoma
  Porphyria
  Pregnancy

Neurologic and Myopathic Disorders

Amyloidosis
Autonomic neuropathy
Chagas' disease
Dermatomyositis
Intestinal pseudo-obstruction
Multiple sclerosis
Parkinsonism
Progressive systemic sclerosis
Shy-Drager syndrome
Spinal cord injury
Stroke

Rome III Criteria for Functional Constipation

≥2 / 6 must be present*:

- Straining during at least 25% of defecations
- Lumpy or hard stools in at least 25% of defecations
- Sensation of incomplete evacuation for at least 25% of defecations
- Sensation of anorectal obstruction/blockage for at least 25% of defecations
- Manual maneuvers to facilitate at least 25% of defecations (e.g., digital evacuation, support of the pelvic floor)
- Fewer than three defecations/wk

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* Criteria fulfilled for the previous 3 months with symptom onset at least 6 months prior to diagnosis.

Clinical Classification of Functional Constipation

CATEGORY	FEATURES	CHARACTERISTIC FINDINGS
Normal-transit constipation	Incomplete evacuation; abdominal pain may be present but not a predominant feature	Normal physiologic test results
Slow-transit constipation	Infrequent stools (e.g., ≤1/wk); lack of urge to defecate; poor response to fiber and laxatives; generalized symptoms, including malaise and fatigue; more prevalent in young women	Retention in colon of >20% of radiopaque markers five days after ingestion
Defecatory disorders (pelvic floor dysfunction, anismus, descending perineum syndrome, rectal prolapse)	Frequent straining; incomplete evacuation; need for manual maneuvers to facilitate defecation	Abnormal balloon expulsion test and/or rectal manometry

Pain Abdomen

- Acute
- Subacute
- Chronic

Anatomy

Sensory neuroreceptors

- Hollow viscera : mucosa and muscularis
- Serosal structures :peritoneum and mesentery.

- Afferent nerve fibers:
  unmyelinated C fibers
  myelinated A-δ fibers.

VISCERAL PAIN

- C fibers
- Dull, cramping, burning, poorly localized, and more gradual in onset and longer in duration
- Perceived to be in the midline
- Visceral pain is not well localized.
- Secondary autonomic effects such as sweating, restlessness, nausea, vomiting, perspiration, and pallor often accompany visceral pain.
- The patient may move about in an effort to relieve the discomfort

- The principal mechanical signal -- stretch
- Cutting, tearing, or crushing of viscera does not result in pain.

- **<u>Mechanoreceptor stimulation can result from :</u>**

  - rapid distention of a hollow viscus (e.g., intestinal obstruction),
  - forceful muscular contractions (e.g., biliary pain or renal colic),
  - rapid stretching of solid organ serosa or capsule (e.g., hepatic congestion).
  - torsion of the mesentery (e.g., cecal volvulus) or tension from traction on the mesentery or mesenteric vessels (e.g., retroperitoneal or pancreatic tumor)

- Abdominal visceral nociceptors also respond to various chemical stimuli.
- These receptors are activated directly by substances released in response to local mechanical injury, inflammation, tissue ischemia and necrosis, and noxious thermal or radiation injury.
- Accumulation of nociceptor-reactive substances may change the microenvironment of the injured tissue and thereby reduce the pain threshold.

SOMATIC-PARIETAL PAIN

- A-δ fibers
- Sharp, sudden, well-localized pain
- Somatic-parietal pain is usually aggravated by movement or vibration.
- Involuntary guarding and abdominal rigidity

- An example - acute appendicitis

VISCERAL PAIN	SOMATIC-PARIETAL PAIN
C fibers Dull, cramping, burning, poorly localized, and more gradual in onset and longer in duration perceived to be in the midline Visceral pain is not well localized. Secondary autonomic effects such as sweating, restlessness, nausea, vomiting, perspiration, and pallor often accompany visceral pain. The patient may move about in an effort to relieve the discomfort	A-δ fibers Sharp, sudden, well-localized pain Somatic-parietal pain is usually aggravated by movement or vibration. Involuntary guarding and abdominal rigidity

REFERRED PAIN

- Felt in areas remote from the diseased organ
- Visceral afferent neurons and somatic afferent neurons from a different anatomic region converge on second-order neurons in the spinal cord at the same spinal segment.
- This convergence may result from the innervation, early in embryologic development, of adjacent structures that subsequently migrate away from each other.

Chronology

- Rapidity of onset of pain
- Pain that is sudden in onset, severe, and well localized is likely to be the result of an intra-abdominal catastrophe such as a perforated viscus, mesenteric infarction, or ruptured aneurysm.
- In some disorders, such as gastroenteritis, pain is self-limited, whereas in others, such as appendicitis, pain is progressive.
- Colicky pain has a crescendo-decrescendo pattern that may be diagnostic, as in renal colic.

- Location

Intensity and Character

- **Three patterns.**
- Pain that is prostrating, physically incapacitating the sufferer, is usually caused by a severe, life-threatening disease such as a perforated viscus, ruptured aneurysm, or severe pancreatitis.
- By contrast, patients with obstruction of a hollow viscus, as in intestinal obstruction, renal colic, or biliary pain, present with the gradual onset of cramping pain that follows a sinusoidal pattern of intense pain alternating with a period of relief.
- The third pattern is of gradually increasing discomfort, usually vague and poorly localized at the start, but becoming more localized as the pain intensifies. This picture is usually caused by inflammation, as with acute appendicitis or diverticulitis. Some disorders, such as acute cholecystitis, may start out as colicky pain but evolve into a constant pain as cystic duct obstruction leads to gallbladder inflammation.

- Aggravating and Alleviating Factors

- Associated Symptoms

Abdominal Examination

- Tenderness
- Rebound tenderness
- Involuntary guarding and muscular rigidity.

Dysphagia

- Sensation that food is hindered in its passage from the mouth to the stomach

Oropharyngeal / transfer Dysphagia

- The inability to propel a food bolus successfully from the hypopharyngeal area through the upper esophageal sphincter (UES) into the esophageal body
- Processes that affect the mouth, hypopharynx, and upper esophagus
- The patient often is unable to initiate a swallow and repeatedly has to attempt to swallow.
- Patients frequently describe coughing or choking when they attempt to eat.

Causes of Oropharyngeal Dysphagia

Neuromuscular Cause	Structural Causes
Amyotrophic lateral sclerosis	Carcinoma
CNS tumors (benign or malignant)	Infections of pharynx or neck
Idiopathic UES dysfunction	Osteophytes and other spinal disorders
Manometric dysfunction of the UES pharyn	Prior surgery or radiation therapy
Multiple sclerosis	Proximal esophageal web
Muscular dystrophy	Thyromegaly
Myasthenia gravis	Zenker's diverticulum
Parkinson's disease	
Polymyositis or dermatomyositis	
Postpolio syndrome	
Stroke	
Thyroid dysfunction	

Esophageal Dysphagia

- **Motility Disorders**
- **Mechanical Disorders**

Answers to few questions are crucial

- Dysphagia with solids **and** liquids.
- Chest pain
- Sensitivity to hot or cold liquids
- Episodic and non progressive

Motility (Neuromuscular) Disorders

Primary Disorders	*Secondary Disorders*
Achalasia	Chagas' disease
Diffuse esophageal spasm	Reflux-related dysmotility
Hypertensive LES	Scleroderma and other rheumatologic disorders
Ineffective esophageal motility	
Nutcracker (high-pressure) esophagus	

Structural (Mechanical) Disorders

Intrinsic	*Extrinsic*
Carcinoma and benign tumors Diverticula Eosinophilic esophagitis Esophageal rings and webs (other than Schatzki ring) Foreign body Lower esophageal (Schatzki) ring Medication-induced stricture Peptic stricture	Mediastinal mass Spinal osteophytes Vascular compression