

Microchapter	Overview Template
<p><b>Historical Perspective</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• [Disease name] was first discovered by [scientist] in [year] during/following [event].</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>• <i>Shigella</i> was first discovered by Dr. Kiyoshi Shiga following a bacillary dysentery outbreak in Japan in 1896.</li> </ul> <p><b><u>Additional Sentences</u></b></p> <ul style="list-style-type: none"> <li>• In [year], the first [event] occurred/was first reported following/during [event]</li> <li>• In [year], the first [discovery] was developed by [scientist] to treat/diagnose [disease name].</li> <li>• There have been several outbreaks of [disease name] which are summarized below.</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• In 1918, the first major human influenza pandemic occurred.</li> <li>• In 2003, human-to-human transmission of avian influenza was first reported during the influenza A H5N1 outbreaks in Southeast and Central Asia.</li> <li>• In 1978, the first cell-cytotoxicity assay was developed by Te-Wen Chang to diagnose <i>C. difficile</i> infection based on fecal toxins A and B.</li> <li>• There have been several outbreaks of avian influenza which are summarized below.</li> </ul>
<p><b>Classification</b></p>	<p><b><u>Classification of Non-Malignant Diseases</u></b></p> <p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• [Disease name] may be classified according to [classification method] into [number] subtypes/groups: [group1], [group2], [group3], and [group4].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Silicosis may be classified according to the duration</li> </ul>

	<p>of exposure, development of symptoms, pulmonary function, and findings on chest imaging into 4 subtypes: simple chronic, interstitial pulmonary fibrosis, accelerated silicosis, and acute silicosis.</p> <ul style="list-style-type: none"> <li>Legionellosis may be classified according to the affected organ system and the clinical presentation into 3 subtypes: Legionnaires' disease, Pontiac fever, and extrapulmonary infection.</li> </ul> <p><b><u>Classification of Malignant Diseases</u></b></p> <p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>According to the [staging system + reference], there are [number] stages of [malignancy name] based on the [finding1], [finding2], and [finding3]. Each stage is assigned a [letter/number1] and a [letter/number2] that designate the [feature1] and [feature2].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>According to the Ann Arbor Staging System, there are 4 stages of Hodgkin's Lymphoma based on clinical features and findings on imaging. Each stage is assigned one letter and one number that designate the number of involved lymph node regions and the presence/absence of symptoms.</li> </ul>
<p><b>Pathophysiology</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b><u>Additional Sentences</u></b></p> <ul style="list-style-type: none"> <li>[Pathogen name] is usually transmitted via the [transmission route] route to the human host .</li> <li>Following transmission/ingestion, the [pathogen] uses the [entry site] to invade the [cell name] cell.</li> <li>On gross pathology, [feature1], [feature2], and [feature3] are characteristic findings of [disease name].</li> <li>On microscopic histopathological analysis, [feature1], [feature2], and feature3] are characteristic findings of [disease name].</li> </ul>

	<ul style="list-style-type: none"> <li>• [Disease] is transmitted in [mode of genetic transmission] pattern.</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Spores of <i>C. difficile</i> are transmitted via the fecal-oral route to the human host.</li> <li>• Following ingestion, the acid-resistant spores of <i>C. difficile</i> are able to survive the human gastric acidity.</li> <li>• Following ingestion, <i>Shigella spp.</i> uses the M cells of the GI tract to invade the epithelial cells of the large intestine.</li> <li>• Following transcytosis and macrophage apoptosis, <i>Shigella</i> avoids extracellular exposure and spreads intercellularly using actin polymerization processes (rocket propulsion).</li> <li>• On gross pathology, hyperemia with development of ulcers and edema are characteristic findings of shigellosis</li> <li>• On microscopic histopathological analysis, infiltration of PMN and inflammatory pseudomembrane formation are characteristic findings of shigellosis.</li> <li>• Duchenne muscular dystrophy is transmitted in an X-linked recessive pattern.</li> </ul>
<p><b>Causes</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• [Disease name] may be caused by either [cause1], [cause2], or [cause3].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• Life threatening causes of [symptom/manifestation] include [cause1], [cause2], and [cause3].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• Common causes of [disease] include [cause1], [cause2], and [cause3].</li> </ul>

### OR

- [Disease name] is caused by an infection with [pathogen name]

### OR

- [Pathogen name] infection is caused by [Pathogen name].

### *Examples*

- Legionellosis is caused by an infection with *Legionella spp.*
- *Clostridium difficile* infection is caused by *Clostridium difficile*.
- Orbital cellulitis may be caused by *Staphylococcus spp.*, *Streptococcus spp.*, *Moraxella spp.*, or anaerobes.
- Focal segmental glomerulosclerosis may be caused by either genetic diseases, viruses, malignancies, or drugs.
- Life threatening causes of chest pain include myocardial infarction, pulmonary embolism, tension pneumothorax, and aortic dissection.
- Common causes of neonatal meningitis include *E. coli*, *Group B Streptococcus*, and *Listeria monocytogenes*.

### **Additional Sentences**

- [Pathogen] belongs to the [pathogen family] family.
- [Pathogen] is a [feature1], [feature2], [feature3], gram-[positive/negative] [shape].

### *Examples*

- Influenza belongs to the *Orthomyxoviridae* family
- *C. difficile* is a spore-forming, toxin-producing, obligate anaerobic, gram-positive bacillus.

	<ul style="list-style-type: none"> <li>• <i>Salmonella spp.</i> Is a motile, lactose-fermenting, facultative intracellular gram-negative rod.</li> <li>• Influenza is an enveloped, pleomorphic, segmented virus with a negative-sense, single-stranded RNA genome.</li> </ul>
<p><b>Differential Diagnosis</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• [Disease name] must be differentiated from other diseases that cause [clinical feature 1], [clinical feature 2], and [clinical feature 3], such as [differential dx1], [differential dx2], and [differential dx3].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Hepatitis C must be differentiated from other diseases that cause hepatic injury and abnormal liver function tests, such as other viral hepatitises (Hepatitis A, Hepatitis B, and Hepatitis E), alcoholic liver disease, non-alcoholic steatohepatitis, drug-induced liver injury, autoimmune hepatitis, and hepatocellular carcinoma.</li> <li>• Colorectal cancer must be differentiated from other diseases that cause unexplained weight loss, unexplained loss of appetite, nausea, vomiting, diarrhea, anemia, jaundice, and fatigue, such as irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), hemorrhoids, anal fissures, and diverticular disease.</li> </ul>
<p><b>Epidemiology and Demographics</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• In [year], the incidence/prevalence of [disease name] was estimated to be [number range] cases per 100,000 individuals worldwide.</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>• In 2013, the incidence of shigellosis was estimated to be 3 to 5 cases per 100,000 individuals worldwide.</li> </ul> <p><b><u>Additional Sentences</u></b></p> <ul style="list-style-type: none"> <li>• The case-mortality rate of [disease name] is approximately [number range] worldwide.</li> </ul>

- The majority of [disease name] cases are reported in [geographical region].
- Patients of all age groups may develop [disease name]
- [Disease name] is a common/rare disease that tends to affect [patient population 1] and [patient population 2].
- [Gender 1] are more commonly affected with [disease name] than [gender 2]. The [gender 1] to [gender 2] ratio is approximately [number > 1] to 1.
- [Disease name] affects men and women equally.
- There is no racial predilection to the [disease name].
- [Disease name] usually affects individuals of the [race 1] race. [Race 2] individuals are less likely to develop [disease name].

### *Examples*

- The case-mortality rate of MERS-CoV infection is approximately 30% to 50% worldwide.
- The majority of Chagas disease cases are reported in Central and South America
- Patients of all age groups may develop hepatitis A infection.
- C. difficile infection is a common disease that tends to affect elderly patients > 65 years.
- Females are more commonly affected with Lupus than males. The female to male ratio is approximately 9 to 1.
- Brucellosis affects men and women equally.
- There is no racial predilection to leptospirosis.
- Melanoma usually affects individuals of the

	<p>Caucasian race. African American individuals are less likely to develop melanoma.</p>
<p><b>Risk Factors</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>The most potent risk factor in the development of [disease name] is [risk factor 1]. Other risk factors include [risk factor 2], [risk factor 3], and [risk factor 4].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>Common risk factors in the development of [disease name] are [risk factor 1], [risk factor 2], [risk factor 3], and [risk factor 4].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>The most potent risk factor in the development of <i>C. difficile</i> infection is recent antibiotic use within the past 3 months. Other risk factors include advanced age, immunodeficiency, and history of inflammatory bowel disease.</li> <li>Common risk factors in the development of coronary artery disease are hypertension, hyperlipidemia, diabetes mellitus, and active smoking.</li> </ul>
<p><b>Natural History, Complications, and Prognosis</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>If left untreated, [#]% of patients with [disease name] may progress to develop [manifestation 1], [manifestation 2], and [manifestation 3]. Common complications of [disease name] include [complication 1], [complication 2], and [complication 3]. Prognosis is generally excellent/good/poor, and the 1/5/10-year mortality of patients with [disease name] is approximately [#]%.</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>If left untreated, 20% to 30% of patients with IgA nephropathy may progress to develop ESRD. Common complications of IgA nephropathy include pro-thrombotic states, such as stroke and myocardial infarction. Prognosis is generally excellent, and the 10-year mortality of patients with IgA nephropathy is approximately 5%.</li> </ul>

<p><b>Screening</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>According to the [guideline name], screening for [disease name] is not recommended.</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>According to the [guideline name], screening for [disease name] by [test 1] is recommended every [duration] among patients with [condition 1], [condition 2], and [condition 3].</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>According to the American Urological Association, screening for renal cell carcinoma is not recommended.</li> <li>According to the American Cancer Society, screening for colon cancer by colonoscopy is recommended every 10 years among patients aged &gt; 50 years.</li> </ul> <p><b><u>Additional Sentence</u></b></p> <ul style="list-style-type: none"> <li>Patients with [condition] should be screened earlier.</li> </ul> <p><i>Example:</i></p> <ul style="list-style-type: none"> <li>Patients who have a first degree relative with colon cancer should be screened earlier.</li> </ul>
<p><b>History and Symptoms</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>The hallmark of [disease name] is [finding]. A positive history of [finding 1] and [finding 2] are suggestive of [disease name]. The most common symptoms of [disease name] include [symptom 1], [symptom 2], and [symptom 3].</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>The hallmark of Ebola virus infection is hemorrhagic fever. A positive history of high-grade fever and recent travel to West Africa are suggestive of Ebola virus infection. The most common symptoms of Ebola virus include fever, sore throat, and bloody diarrhea.</li> </ul>
<p><b>Physical Examination</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>Patients with [disease name] usually appear [general appearance]. Physical examination of patients with [disease name] is usually remarkable for [finding 1],</li> </ul>



	<p>[finding 2], and [finding 3].</p> <p>OR</p> <ul style="list-style-type: none"> <li>Common physical examination findings of [disease name] include [finding 1], [finding 2], and [finding 3].</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>The presence of [finding(s)] on physical examination is diagnostic of [disease name].</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>The presence of [finding(s)] on physical examination is highly suggestive of [disease name].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>Patients with shigellosis usually appear lethargic. Physical examination of patients with shigellosis is usually remarkable for high-grade fever and signs of dehydration, such as tachycardia, tachypnea, hypotension, and dry mucus membranes.</li> <li>Common physical examination findings of cholecystitis include right upper abdominal tenderness and a positive Murphy sign.</li> <li>The presence of both upper motor neuron and lower motor neuron involvement on physical examination is diagnostic of amyotrophic lateral sclerosis.</li> <li>The presence of facial tenderness and fever on physical examination are highly suggestive of acute sinusitis.</li> </ul>
<p><b>Laboratory Findings</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>An elevated/reduced concentration of serum/blood/urinary/CSF/other [lab test] is diagnostic of [disease name].</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Laboratory findings consistent with the diagnosis of</li> </ul>

	<p>[disease name] include [abnormal test 1], [abnormal test 2], and [abnormal test 3].</p> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Laboratory findings consistent with the diagnosis of hepatitis C infection include elevated liver function tests and positive HCV RNA.</li> <li>• Elevated urinary 5-HIAA concentration is diagnostic of carcinoid syndrome.</li> </ul> <p><b><u>Additional Sentences</u></b></p> <ul style="list-style-type: none"> <li>• [Test] is usually normal among patients with [disease name].</li> <li>• Some patients with [disease name] may have elevated/reduced concentration of [test], which is usually suggestive of [progression/complication].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Urinalysis is usually normal among patients with hepatitis C infection.</li> <li>• Some patients with shigellosis may have elevated serum creatinine, which is usually suggestive of severe dehydration and pre-renal acute kidney injury.</li> </ul>
<p><b>Electrocardiogram / Xray / CT / MRI / Biopsy</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• There are no ECG findings associated with [disease name].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• On ECG, [disease name] is characterized by [ECG finding 1], [ECG finding 2], [ECG finding 3].</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• There are no ECG findings associated with osteoarthritis.</li> <li>• On ECG, pericarditis is characterized by diffuse ST-segment elevations and depressed PR interval.</li> </ul>

<p><b>Medical Therapy</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• [Disease name] is a medical emergency.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• The mainstay of therapy for [disease name] is [therapy]</li> </ul> <p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Acute bacterial meningitis is a medical emergency.</li> <li>• The mainstay of therapy for EBV mononucleosis is supportive care.</li> </ul> <p><b><u>Additional Sentences</u></b></p> <ul style="list-style-type: none"> <li>• [Therapy] is recommended among all patients who develop [disease name].</li> <li>• Pharmacologic medical therapy is recommended among patients with [disease subclass 1], [disease subclass 2], and [disease subclass 3].</li> <li>• Pharmacologic medical therapies for [disease name] include (either) [therapy 1], [therapy 2], and/or [therapy 3].</li> <li>• Empiric therapy for [disease name] depends on [disease factor 1] and [disease factor 2].</li> <li>• Patients with [disease subclass 1] are treated with [therapy 1], whereas patients with [disease subclass 2] are treated with [therapy 2].</li> <li>• [Therapy] is the drug of choice to treat [disease name].</li> <li>• [Therapy] is the preferred drug for the treatment of [disease name].</li> <li>• Supportive therapy for [disease name] includes [therapy 1], [therapy 2], and [therapy 3].</li> </ul>
-------------------------------	--

	<p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• Antimicrobial therapy is recommended among all patients who develop bacterial pneumonia.</li> <li>• Antimicrobial therapy is recommended among all patients who develop septic arthritis.</li> <li>• Antimicrobial therapy is recommended among patients with moderate and severe furuncles.</li> <li>• Empiric antimicrobial therapies for furuncle include either TMP-SMX or Doxycycline for moderate furuncles, and either Vancomycin, Daptomycin, Linezolid, or Ceftaroline for severe furuncles.</li> <li>• Antimicrobial therapy for endocarditis depends on the nature of the valve (native vs. prosthetic) and the onset following valve implantation (less than 1 year vs. more than 1 year).</li> <li>• Patients with gonococcal urethritis are treated with Azithromycin and either Ceftriaxone or Cefixime. Patients with non-gonococcal urethritis are treated with either Azithromycin or Doxycycline.</li> <li>• Penicillin is the drug of choice to treat rheumatic fever.</li> <li>• Penicillin G is the preferred drug for the treatment of all stages of syphilis.</li> <li>• Supportive therapy for adenovirus upper respiratory infection includes bed rest, fluids, and anti-inflammatory drugs.</li> </ul>
<p><b>Surgery</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>• Surgical intervention is not recommended for the management of [disease name].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• Surgery is not the first-line treatment option for patients with [disease name]. [Name of intervention] is usually reserved for patients with either [indication</li> </ul>

	<p>1], [indication 2], and [indication 3]</p> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>Urgent/rapid/elective [Name of intervention] is recommended for all patients who develop [disease name].</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>Surgical intervention is not recommended for the management of metastatic small cell lung carcinoma.</li> <li>Surgery is not the first-line treatment option for patients with Crohn’s disease. Colectomy is usually reserved for patients who cannot tolerate pharmacologic therapy and for patients who have recurrent flare-ups despite optimal pharmacologic therapy.</li> <li>Urgent radical peritoneal debridement is recommended for all patients who develop peritonitis.</li> <li>Herniorrhaphy may be performed as an ambulatory procedure and is recommended for all patients who develop hernia.</li> </ul>
<p><b>Primary Prevention</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>[Vaccine name] vaccine is recommended for [patient population] to prevent [disease name]. Other primary prevention strategies include [strategy 1], [strategy 2], and [strategy 3].</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>There are no available vaccines against [disease name]. Primary prevention strategies include [strategy 1], [strategy 2], and [strategy 3].</li> </ul> <p><i>Example</i></p> <ul style="list-style-type: none"> <li>Seasonal flu vaccine is recommended for all patients aged &gt; 6 months to prevent influenza virus. Other primary prevention strategies include hand washing and avoiding exposure to infected individuals.</li> </ul>
<p><b>Secondary Prevention</b></p>	<p><b><u>First Sentence</u></b></p> <ul style="list-style-type: none"> <li>Secondary prevention strategies following [disease</li> </ul>

	<p>name] include [strategy 1], [strategy 2], and [strategy 3].</p> <p><i>Example</i></p> <ul style="list-style-type: none"><li>• Secondary prevention strategies following myocardial infarction include long-term administration of dual antiplatelet therapy, high-dose statins, ACE-inhibitors, and beta-blockers.</li></ul>
--	---