Race:

- Increased incidence of ulcerative colitis (four to five times normal) has been observed in Ashkenazi Jews.
- Blacks and Asians have a relatively low incidence of occurrence for ulcerative colitis.
ETIOLOGY

1. Infectious agents
   - Viruses (e.g., measles)
   - L-Forms of bacteria
   - Mycobacteria
   - Chlamydia

2. Genetics
   - Metabolic defects
   - Connective tissue disorders
ETIOLOGY

3. Environmental factors
   - Diet
   - Smoking (Crohn’s disease)

4. Immune defects
   - Altered host susceptibility
   - Immune-mediated mucosal damage
ETIOLOGY

5. Psychological factors

- Stress
- Emotional or physical trauma
- Occupation
PSYCHOLOGICAL FACTORS

- Mental health changes appear to correlate with remissions and exacerbations, especially of ulcerative colitis, but psychological factors overall are not thought to be an etiologic factor.

- There is a weak association between the number of stressful events experienced and the time to relapse of ulcerative colitis.
Clinical Presentations
Clinical Presentation of Ulcerative Colitis

Physical examination

- Hemorrhoids, anal fissures, or perirectal abscesses may be present
- Iritis, uveitis, episcleritis, and conjunctivitis with ocular involvement
- Dermatologic findings with erythema nodosum, pyoderma gangrenosum
Complications
The most commonly reported symptoms with iritis and uveitis include:
- Blurred vision,
- Eye pain, and
- Photophobia.
Dermatologic and Mucosal Complications

- Skin and mucosal lesions associated with IBD include:
  - Erythema nodosum,
  - Pyoderma gangrenosum, and
  - Aphthous ulceration.

- Five to 10% of IBD patients experience dermatologic or mucosal complications.
Oral lesions are found in 6% to 20% of patients with Crohn’s disease. 8% of patients with ulcerative colitis.

The most common lesion is aphthous stomatitis, seen with Crohn’s disease.

The severity of these lesions tends to parallel GI disease.
Crohn’s disease is best characterized as a transmural inflammatory process.

The terminal ileum is the most common site of the disorder, but it may occur in any part of the GI tract from mouth to anus.
Comparison of the Clinical and Pathologic Features of Crohn’s Disease and Ulcerative Colitis

<table>
<thead>
<tr>
<th>Feature</th>
<th>Crohn’s Disease</th>
<th>Ulcerative Colitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaise, fever</td>
<td>Common</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Rectal bleeding</td>
<td>Common</td>
<td>Common</td>
</tr>
<tr>
<td>Abdominal tenderness</td>
<td>Common</td>
<td>May be present</td>
</tr>
<tr>
<td>Abdominal mass</td>
<td>Common</td>
<td>Absent</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>Common</td>
<td>Unusual</td>
</tr>
<tr>
<td>Abdominal wall and internal fistulas</td>
<td>Common</td>
<td>Absent</td>
</tr>
<tr>
<td>Distribution</td>
<td>Discontinuous</td>
<td>Continuous</td>
</tr>
<tr>
<td>Aphthous or linear ulcers</td>
<td>Common</td>
<td>Rare</td>
</tr>
</tbody>
</table>
## Distinguishing Features of CD and UC

<table>
<thead>
<tr>
<th>MICROSCOPIC FEATURES</th>
<th>Crohn’s Disease</th>
<th>Ulcerative Colitis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depth of inflammation</strong></td>
<td>Typically transmural</td>
<td>Mucosal and submucosal</td>
</tr>
<tr>
<td><strong>Type of inflammation</strong></td>
<td>Non-caseating granulomas and infiltrate of mononuclear cells (lymphocytes, plasma cells and macrophages)</td>
<td>Crypt abscess and non-specific acute and chronic inflammatory cells (lymphocytes, plasma cells, neutrophils, eosinophils, mast cells)</td>
</tr>
<tr>
<td><strong>Mucosa</strong></td>
<td>Patchy ulceration</td>
<td>Haemorrhagic mucosa with ulceration</td>
</tr>
<tr>
<td><strong>Submucosa</strong></td>
<td>Widened due to oedema and lymphoid aggregates</td>
<td>Normal or reduced in width</td>
</tr>
<tr>
<td><strong>Muscularis</strong></td>
<td>Infiltrated by inflammatory cells</td>
<td>Usually spared except in cases of toxic Megacolon</td>
</tr>
<tr>
<td><strong>Fibrosis</strong></td>
<td>Present</td>
<td>Usually absent</td>
</tr>
</tbody>
</table>
TREATMENT
Maldigestion with accompanying diarrhea can occur if there is a bile salt deficiency in the gut.

With each individual it is helpful to eliminate specific foods that exacerbate symptoms.
Probiotics involves the reestablishment of normal bacterial flora within the gut by oral administration of live bacteria such as nonpathogenic *E. coli*, bifidobacteria, lactobacilli, or *Streptococcus thermophilus*.

Probiotic formulations have been effective in maintaining remission in ulcerative colitis.
For ulcerative colitis, colectomy may be necessary when the patient has disease uncontrolled by maximum medical therapy or when there are complications of the disease such as colonic perforation, toxic dilation (megacolon), uncontrolled colonic hemorrhage, or colonic strictures.
Mesalamine can be used topically as an enema or suppository for the treatment of proctitis, or given orally in slow-release formulations that deliver mesalamine to the small intestine and colon.
Budesonide is a corticosteroid that is administered orally in a controlled-release formulation designed to release in the terminal ileum.
They are usually used in conjunction with mesalamine derivatives and/or steroids, and must be used for long periods of time (from a few weeks up to 6 months) before benefits may be observed.
Lower-dose continuous infusions (2 mg/kg vs. 4 mg/kg daily), or oral daily doses of 5 to 6 mg/kg may in conjunction with steroids may be an effective option for those with fulminant disease.

The agent poses a risk of nephrotoxicity and neurotoxicity.
- Ciprofloxacin has also been used for treatment of IBD.

- Rifaximin, a new nonabsorbable antibiotic, has also shown some efficacy in treatment of both ulcerative colitis and Crohn’s disease.
Oral mesalamine products are used for patients with extensive disease, while topical agents, such as enemas and suppositories, are used for distal disease.
Infliximab is another viable option for patients with moderate to severe active ulcerative colitis who are unresponsive to steroids or other immunosuppressive agents.
Starting doses are typically 50 mg/day and increased at 2-week intervals; CBC with differential should be monitored every 2 weeks while doses are being titrated.

Minimum of 3 to 4 months is often required to see clinical benefits.
Cyclosporine is not recommended for treatment of Crohn’s disease.

**Exception:** Acute management of patients with severe fistulizing disease.
Azathioprine, mercaptopurine, and methotrexate are useful in some patients to maintain remission.

Methotrexate, dosing at 15 mg IM once weekly.
SYSTEMIC MANIFESTATIONS

- Arthritis,
- Anemia,
- Skin manifestations such as erythema nodosum and pyoderma gangrenosum,
- Uveitis, and
- Liver disease.