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# 2023 Chinese national clinical practice guideline on diagnosis and management of ulcerative colitis

**Inflammatory Bowel Disease Group, Chinese Society of Gastroenterology, Chinese Medical Association; Inflammatory Bowel Disease Quality Control Center of China**

The role of Chinese expert consensus in standardization and improvement of the clinical diagnosis and treatment of inflammatory bowel disease (IBD) is self-evident. As clinical and basic research in China becomes standardized under a better understanding of IBD, more data on Chinese patients have become available to develop a consensus and guideline. This guideline, collaboratively developed by the IBD Group, Chinese Society of Gastroenterology, incorporates the latest international consensus statements,[1–7] domestic research findings, and practical considerations, as an update based on the 2018 Chinese consensus on IBD management.[8] The IBD guideline consists of two parts: ulcerative colitis (UC) and Crohn's disease, and this manuscript presented the UC part. The evidence used in this guideline was collected and analyzed by the standard of guideline, and the contents were organized as problem statements, for clarity. The formulation of this guideline aimed to reflect the latest progress in IBD, providing comprehensive and valuable guidance for the clinical management of IBD.

## Methodology

The 2011 Oxford Center for Evidence-based Medicine (OCEBM) Levels of Evidence has been adopted for evidence quality evaluation and rating of the research included. The quality of recommendations was evaluated in accordance with the Grading of Recommendations, Assessment, Development, and Evaluation system. Additionally, the content that the expert group considered important but inappropriate to recommend based on the evidence level and recommendation strength is described with a Best Practice Statement (BPS) designation, with no separate classification. The guideline is offered to the target users, who are clinical physicians and nurses engaged in IBD diagnostics and treatment, and the guideline applies to Chinese UC patient populations. The full text of this guideline appears in Supplementary File 1, http://links.lww.com/CM9/C84.

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## Recommendations on diagnosis and differential diagnosis of UC

**Recommendation 1:** Owing to the absence of a gold standard, the diagnosis of UC should be established by integrating clinical presentations and laboratory test, endoscopic and histopathological findings, while ensuring exclusion of other forms of colitis. (BPS)

**Recommendation 2:** The diagnosis of UC requires a detailed medical history and thorough physical examination. Generally, a medical history includes inquiry into the details from the onset of initial symptoms, and previous treatments and diagnoses. The most prevalent symptom of UC is mucopurulent bloody stool that persists for 4–6 weeks, in most patients. It is necessary to consider extraintestinal manifestations and complications during both medical history-taking and physical examination. (Level 3 evidence, Strong recommendation)

**Recommendation 3:** Routine laboratory tests and fecal microbiological testing should be performed. Serological antibody testing is not suggested for a UC diagnosis. (Level 1 evidence, Weak recommendation)

**Recommendation 4:** Colonoscopy should be routinely performed for diagnosis, efficacy evaluation, and monitoring of UC. It is recommended to insert the colonoscope into the end of the ileum and collect samples from multiple segments and multiple points in both affected and unaffected areas for mucosal biopsy (hereafter, referred to as biopsy). (Level 3 evidence, Strong recommendation)

**Recommendation 5:** For difficult cases (rectal sparing, backwash ileitis, and atypical symptoms), it is recommended to

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perform small intestine and upper gastrointestinal examinations in addition to colonoscopy. (BPS)

**Recommendation 6:** An endoscopic mucosal staining technique and magnifying technique can be used during colonoscopy. Confocal endomicroscopy is suggested if available. (Level 2 evidence, Weak recommendation)

**Recommendation 7:** For patients with UC and intestinal stenosis, a detailed diagnostic examination of the stenotic area is recommended to exclude malignant tumor. (BPS)

**Recommendation 8:** Routine non-contrast-enhanced abdominal X-ray or abdominal computed tomography can be performed in severe and active UC patients for colon evaluation. Limited colonoscopy and biopsy of the rectum and sigmoid colon without routine bowel preparation can be performed for diagnosis and differential diagnosis. Manipulate lightly with less gas infusion during the examination. (BPS)

**Recommendation 9:** A diagnosis of UC can be made after excluding intestinal inflammation or injuries from other causes, including infective enteritis, intestinal amebiasis, intestinal schistosomiasis, drug-induced intestinal diseases, Crohn's disease, and other conditions. (Level 3 evidence, Strong recommendation)

**Recommendation 10:** Comprehensive evaluation of UC should include clinical classification, disease activity, and involved areas. (BPS)

## Recommendations on UC evaluation and prognosis

### *Disease evaluation*

**Recommendation 11:** It is recommended to use the Montreal classification[9] for evaluation of the extent of UC, to contribute to the development of treatment strategies, selection of the treatment protocol, and disease evaluation. (BPS)

**Recommendation 12:** It is recommended to evaluate the severity of UC with a clinical score and an endoscopic score. The modified Truelove and Witts disease severity classification and modified Mayo score are recommended as clinical scores. (BPS)

**Recommendation 13:** It is recommended to use the Mayo endoscopic score to evaluate the endoscopic manifestations of UC, clinically, and use the ulcerative colitis endoscopic index of severity (UCEIS) to evaluate the endoscopic manifestations of UC in clinical studies. There is a clear correlation between the endoscopic score and disease activity, and the endoscopic score can be used to monitor efficacy and predict the mid- to long-term prognosis. (Level 2 evidence, Strong recommendation)

**Recommendation 14:** It is recommended to use fecal calprotectin and imaging examinations as supplementary evaluation methods when endoscopy is not feasible or mucosal healing cannot be evaluated. (Level 2 evidence, Strong recommendation)

### *Treatment efficacy evaluation*

**Recommendation 15:** It is recommended to evaluate treatment efficacy comprehensively based on clinical symptoms, and laboratory test and endoscopy findings. (BPS)

### *Prognosis*

**Recommendation 16:** UC is an inflammatory disease. The prognosis is good if the disease can be well controlled. However, the prognosis of acute severe UC (ASUC), UC with infections, refractory UC, chronic disease, and cancerization is poor, with a high mortality risk. (BPS)

## Recommendations on treatment goals of UC

**Recommendation 17:** The treatment goals of UC are to induce clinical remission, normalize serum/fecal inflammatory markers, and attempt to achieve endoscopic mucosal healing. It is recommended to prescribe maintenance treatment during the remission stage to achieve long-term steroid-free clinical remission, normal inflammatory marker levels, and mucosal healing and to prevent complications. This approach improves long-term outcomes, avoids disability, and maintains health-related quality of life. (BPS)

**Recommendation 18:** A treat-to-target strategy is recommended as an optimized management method. (Level 2 evidence, Strong recommendation)

**Recommendation 19:** UC patients who achieve mucosal healing have a better prognosis. It is recommended to define mucosal healing as a Mayo endoscopic score of 0. (Level 1 evidence, Strong recommendation)

**Recommendation 20:** Histological healing is not a recommended treatment goal for the moment. However, histological healing can be used as a secondary indicator for mucosal healing in UC, as an indication of an improved deep response in mucosal healing. (Level 2 evidence, Strong recommendation)

## Recommendations on treatment of mild-to-moderate UC

**Recommendation 21:** For mild (previously untreated) active UC, oral 5-aminosalicylic acid (5-ASA) (2–4 g/d) is recommended for remission induction. The efficacy of 5-ASA is proportional to its dose, and its efficacy at a once daily dose is identical to that in divided doses. (Level 1 evidence, Strong recommendation)

**Recommendation 22:** For the rectal type of mild active UC, it is recommended to administer 5-ASA rectally for remission induction. (Level 1 evidence, Strong recommendation)

**Recommendation 23:** For the left-sided colon type of mild-to-moderate active UC, combination treatment with oral 5-ASA and enemas is recommended. 5-ASA, topical glucocorticoids, and traditional Chinese medicines can be used as enemas. (Level 1 evidence, Strong recommendation)

**Recommendation 24:** For patients with mild-to-moderate active UC or moderate active UC who do not respond to 5-ASA with an adequate dose, oral systemic glucocorticoids or a step-up to biological agents is recommended for remission induction. (Level 1 evidence, Strong recommendation)

**Recommendation 25:** For patients with mild-to-moderate active UC who do not respond to or who are unable to tolerate 5-ASA, especially those with concurrent opportunistic infections, selective leukocyte adsorption therapy or traditional Chinese medicines can be considered. (Level 2 evidence, Strong recommendation)

**Recommendation 26:** Fecal microbiota transplantation is not recommended in routine induction treatment for patients with mild-to-moderate UC. (Level 2 evidence, Strong recommendation)

### Recommendations on treatment of moderate-to-severe UC

**Recommendation 27:** Oral or intravenous glucocorticoids are recommended to induce remission for patients with severe active UC. (Level 1 evidence, Strong recommendation)

**Recommendation 28:** The addition of thiopurine drugs can help in steroid withdrawal for patients with moderate-to-severe UC who are steroid-dependent. Changing medications to infliximab or vedolizumab is also an option. (Level 2 evidence, Strong recommendation)

**Recommendation 29:** Infliximab or vedolizumab is recommended for remission induction for patients with moderate-to-severe UC who do not respond to or who are unable to tolerate conventional treatment (i.e., aminosalicylates, glucocorticoids, and immunosuppressants). (Level 2 evidence, Strong recommendation)

**Recommendation 30:** Infliximab and vedolizumab could be considered first-line treatments for patients with moderate-to-severe UC. (Level 2 evidence, Weak recommendation)

**Recommendation 31:** For patients with moderate-to-severe UC who do not respond to biological agents, Janus kinase inhibitors are considered for remission induction. (Level 2 evidence, Strong recommendation)

**Recommendation 32:** Infliximab is recommended for remission induction for patients with moderate-to-severe UC. Additionally, it is recommended to combine infliximab with azathioprine if there is no contraindication. (Level 2 evidence, Strong recommendation)

**Recommendation 33:** Early active treatment is recommended for moderate-to-severe UC patients with two or more risk factors, namely age at diagnosis <40 years old, extensive colitis, severe endoscopic activity (i.e., Mayo score = 3, UCEIS ≥7), elevated C-reactive protein levels, and hypoalbuminemia. (Level 2 evidence, Strong recommendation)

**Recommendation 34:** The indications for biosimilars are the same as those of the original drugs. (Level 2 evidence, Strong recommendation)

### Recommendations on diagnosis, treatment, and management of ASUC

**Recommendation 35:** ASUC is severe and rapidly progressing, and can be life-threatening if not managed appropriately. It is recommended that ASUC be recognized at an early stage and patients be admitted to hospital quickly and treated aggressively. (Level 2 evidence, Strong recommendation)

**Recommendation 36:** For suspected ASUC patients, it is suggested to perform colonoscopy/limited colonoscopy of the rectum and sigmoid colon within 24–48 hours, if the patient's vital signs are stable, for diagnosis and evaluation, and also for exclusion of coinfections. (Level 4 evidence, Weak recommendation)

**Recommendation 37:** Fluid infusion, maintaining water-electrolyte and acid-base balance, and correcting anemia and hypoproteinemia are recommended for ASUC patients, as well as tests and treatment of opportunistic infections, including *Clostridium difficile* (*C. difficile*) and cytomegalovirus (CMV). Patients with serious conditions should undergo a temporary fast and receive parenteral nutrition. (BPS)

**Recommendation 38:** For patients diagnosed with ASUC, initiation of glucocorticoids or biological agents could not be delayed while awaiting confirmation of laboratory results for suspected coinfections. However, these medications could be used with anti-infection treatment under close clinical monitoring. (Level 3 evidence, Weak recommendation)

**Recommendation 39:** ASUC patients are contraindicated to receive antidiarrheals, anticholinergics, opioids, and non-steroidal anti-inflammatory drugs to avoid colonic dilation. (BPS)

**Recommendation 40:** Broad-spectrum antibiotics are not recommended as a conventional treatment for ASUC. However, intravenous administration of broad-spectrum antibiotics should be considered for patients with obvious sepsis symptoms or local peritonitis. (Level 2 evidence, Strong recommendation)

**Recommendation 41:** ASUC patients have an increased risk of thrombosis during the active stage. Coagulation function monitoring is recommended. Low molecular weight heparin should be considered to prevent thrombosis if there is no contraindication. (BPS)

**Recommendation 42:** Glucocorticoids are preferred for new-onset ASUC patients if they have no obvious contraindications. Therapeutic options are methylprednisolone 40–60 mg/d or hydrocortisone 300–400 mg/d. Higher doses do not increase efficacy; however, inadequate doses decrease efficacy. If patients have a history of repeated steroid treatment, or are steroid-dependent or

steroid-resistant, biological agents are preferred. (Level 3 evidence, Weak recommendation)

**Recommendation 43:** For ASUC patients with no response to glucocorticoid treatment, concurrent opportunistic infections should be considered. Effective medications should be adopted for patients with *C. difficile* infection and CMV colitis. Medications for *C. difficile* infection include metronidazole and vancomycin, and medications for CMV colitis include ganciclovir and foscarnet. (BPS)

**Recommendation 44:** For patients with no response to adequate intravenous glucocorticoids after 3 days of treatment, which can be appropriately extended to 5–7 days, salvage treatment could be considered. (Level 3 evidence, Weak recommendation)

**Recommendation 45:** Changing treatment medications is recommended if glucocorticoids are ineffective for ASUC. Drugs for salvage treatment include infliximab and cyclosporine. (Level 2 evidence, Strong recommendation)

**Recommendation 46:** It is suggested to have close surgeon-patient communication throughout treatment for ASUC patients to weigh the advantages and disadvantages of salvage treatment with medications and determine the need for immediate surgical treatment. Early surgical treatment is suggested for patients with toxic megacolon. (Level 2 evidence, Weak recommendation)

## Recommendations on maintenance treatment and cancer surveillance

**Recommendation 47:** UC is a chronic disease that tends to recur. For most patients who achieve clinical symptom remission, normalization of inflammatory indicators, and endoscopic mucosal healing, long-term maintenance treatment is recommended. (Level 1 evidence, Strong recommendation)

### *Medications for maintenance treatment*

**Recommendation 48:** It is recommended to select mesalazine suppositories ≥0.5–1.0 g/day or oral mesalazine ≥2.0 g/day (no more than 4.0 g/d) after remission induction under 5-ASA for patients with the rectal type of mild UC. (Level 1 evidence, Strong recommendation)

**Recommendation 49:** It is recommended to select mesalazine enemas/suppositories ≥1–2 g/day and/or oral mesalazine ≥2 g/day (no more than 4 g/d) after remission induction under 5-ASA for patients with the left-sided colon type of mild UC. (Level 1 evidence, Strong recommendation)

**Recommendation 50:** It is recommended to use oral mesalazine ≥2 g/d for maintenance treatment after remission induction with 5-ASA in patients with mild UC involving the entire colon. High-dose maintenance treatment is more effective than low-dose maintenance treatment. (Level 1 evidence, Strong recommendation)

**Recommendation 51:** It is recommended to use immunosuppressants, biological agents, or small molecule drugs for remission maintenance in mild-to-moderate UC patients with steroid resistance or steroid dependency. (Level 1 evidence, Strong recommendation)

**Recommendation 52:** It is not recommended to use glucocorticoids for maintenance treatment for patients with moderate-to-severe UC or ASUC. (Level 1 evidence, Strong recommendation)

**Recommendation 53:** For patients with moderate-to-severe UC or ASUC who have achieved remission induction by biological agents or small molecule drugs, it is recommended to continue the same biological agent or small molecule drug for maintenance treatment. (Level 1 evidence, Strong recommendation)

### *Cancer surveillance*

**Recommendation 54:** It is recommended that all UC patients undergo colonoscopy 8–10 years after the onset of disease to determine the extent of disease. For patients with Montreal type E3, colonoscopy should be performed every other year after diagnosis and annually from 20 years after the onset of disease. For patients with Montreal type E2, colonoscopy should be performed every other year from 15 years after the onset of disease, and for patients with Montreal type E1, no colonoscopy is required for surveillance. Patients with primary sclerosing cholangitis should undergo colonoscopy annually after the diagnosis. (Level 3 evidence, Strong recommendation)

**Recommendation 55:** It is recommended to perform total colectomy in patients with cancerization and high-grade dysplasia on flat mucosa. Diagnosis of low-grade dysplasia on flat mucosa should be determined by two experienced pathologists. Patients with low-grade dysplasia on flat mucosa may undergo endoscopic mucosal resection or total colectomy by experienced experts after diagnosis, or undergo total colectomy if there is no change after 3–6 months of follow-up. Additionally, for patients with dysplasia only on the protruded mass but not on the adjacent flat mucosa, endoscopic mass removal can be performed followed by close follow-up. Total colectomy can be performed if endoscopic mass removal is not feasible. (Level 1 evidence, Strong recommendation)

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### Conflicts of Interest

None.

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