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Model IBD Care—a Guideline for Consistent Reliable Care: Diagnostic and therapeutic interventions that are appropriate and recommended for a very large percentage of children and adolescents with Crohn's disease and ulcerative colitis.[1]

Complete diagnostic and initial evaluation:

- CBC, ESR, CRP and serum albumin
- Esophagogastroduodenoscopy with biopsy and colonoscopy with biopsy
- Imaging of the small intestine (upper GI and small bowel series; or CT scan with oral and IV contrast; or MR enterography or capsule endoscopy). Minimizing or avoiding exposure to ionizing radiation is recommended.
- Consider fecal calprotectin to establish a baseline level
- Other studies as indicated, including stool samples to rule out enteric infection

Extent of disease: Documentation of disease location (esophagus, stomach, duodenum, jejunum, ileum, right colon, transverse colon, left colon, rectum, perineum)

Crohn's disease phenotype: Based on the Paris classification (age at diagnosis; disease above the distal ileum; non-stenosing, non-penetrating; penetrating; or stenosing)

Severity: Physician Global Assessment (Quiescent, Mild, Moderate, Severe); short Pediatric Crohn's Disease Activity Index (sPCDAI); Pediatric Ulcerative Colitis Activity Index (PUCAI)

Visit frequency: It is recommended that each patient be examined and evaluated at least once every 6 months (≤ 200 days)

Monitoring with fecal calprotectin: Consider monitoring fecal calprotectin periodically, at the time of and after a treatment change

Treatment with 5-ASA:
When using the following medications, use the recommended doses:

1. Mesalamine 80 (60-100) mg/kg/day up to 4.8 g/day for active colitis.
2. Mesalamine at least 30 (30-100) mg/kg/day up to 4.8 g/day for maintenance of quiescent or inactive colonic disease.
3. Sulfasalazine 70 (50-80) mg/kg/day up to 4 g/day for active colitis.
4. Sulfasalazine at least 25 (25-80) mg/kg/day up to 4 g/day for maintenance of quiescent or inactive colonic disease.

[1] The guidance in this document does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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Treatment with prednisone:

1. Prednisone may be used for induction of remission, although minimizing steroid exposure is a priority. Long-term treatment with prednisone can induce significant adverse effects and has not been shown to be effective for maintenance of remission.
2. To induce remission the dose of prednisone is 1 mg/kg/d, rounding up to the nearest 5 mg, up to 40 to 60 mg per day, PO for 1 to 4 weeks (induction phase).
3. Taper prednisone and discontinue it within 16 weeks after treatment was begun.
    a. Prednisone resistance is defined as an inadequate improvement after 2 to 4 weeks of treatment with prednisone.
    b. Prednisone dependence is present when a patient, who initially improves in response to prednisone treatment, develops a recurrence when the dose is being tapered or within 6 months after prednisone is discontinued.

Treatment with thiopurines:

1. Prior to initiation of a thiopurine, determine thiopurine methyltransferase (TPMT), preferably by phenotype.
2. Choose a starting dose of azathioprine or 6-mercaptopurine (6MP) based on TPMT. If there is:
    a. Absent or very low TPMT activity, do not use a thiopurine.
    b. Intermediate TPMT activity, start azathioprine at 1.0 to 1.5 mg/kg/day or 6MP 0.5 to 0.75mg/kg/day.
    c. Normal to high TPMT activity, start azathioprine at 2.0 to 3.0 mg/kg/day or 6MP 1.0 to 1.5 mg/kg/day.
3. For the maintenance dose of thiopurine use either at least the starting dose as defined above or base the dose on blood concentrations of thiopurine metabolites or evidence of toxicity.
4. Monitor CBC and ALT for evidence of toxicity.
5. For patients treated with a thiopurine, when disease is moderately or severely active it is recommended that the 6-TGN level be measured (if not done in the previous 90 days).

Treatment with methotrexate:

1. For induction of remission, the recommended dose of methotrexate is 15 mg/m^2, up to 25 mg, IM, subcutaneous or oral once a week.
2. For maintenance of remission, the recommended dose of methotrexate is 10 to 15 mg/m^2, up to 15 to 25 mg, IM, subcutaneous or oral once a week.
3. Folic acid supplementation is recommended in a dose of 800 to 1200 micrograms daily.
4. Monitor CBC and ALT for evidence of toxicity.

Treatment with infliximab:

1. It is recommended that tuberculosis testing (skin test (PPD) and/or Interferon-gamma release assays (IGRAs) and/or a chest radiograph) be obtained before initiation of infliximab therapy.
2. For induction of remission, it is recommended that infliximab 5 mg/kg IV (or rounding up to the nearest 100mg if consistent with the desired treatment range) be used as an initial dose, with repeat doses of 5 mg/kg IV 2 and 6 weeks later (0, 2, 6 weeks). Higher doses and/or shorter intervals between infusions may also be considered with greater disease severity.
3. For initial maintenance of remission, it is recommended that infliximab 5 mg/kg IV (or rounding up to the nearest 100 mg if consistent with the desired treatment range) be given every 8 weeks.

Higher doses and/or shorter intervals between infusions may also be considered with greater disease severity.

4. It is recommended that the infliximab trough level be measured just prior to the first maintenance dose (typically at week 14).
5. For patients treated with and poorly responsive to infliximab, it is recommended to measure infliximab trough and antibody to infliximab (ATI) levels if not done in the previous 112 days. In patients responding well to infliximab but who lose response prior to the next infusion, can consider dose adjustment followed by measurement of infliximab trough and antibody to infliximab (ATI).
6. The target trough level is generally between 3 to 5 µg/mL at the lower limit and 7 to 10 µg/mL at the upper limit.
7. If the measured trough is *below* the desired therapeutic range, consider increasing the dose or decreasing the interval between infusions. If the measured trough is *above* the desired therapeutic range, consider decreasing the dose or increasing the interval between infusions if clinically appropriate.

<u>Treatment with adalimumab</u>:

1. It is recommended that tuberculosis testing (skin test (PPD) and/or IGRA and/or a chest radiograph) be obtained before initiation of adalimumab therapy
2. For induction of remission: For patients weighing ≥ 40 kg it is recommended that adalimumab 160 mg SQ be given once, then 80 mg SQ two weeks later. For patients weighing < 40 kg, it is recommended that adalimumab 80 mg SQ be given once, then 40 mg SQ two weeks later.
3. For initial maintenance: For patients weighing ≥ 40 kg it is recommended that adalimumab 40 mg SQ be given every other week. For patients weighing < 40 kg, it is recommended that adalimumab 20 mg SQ be given every other week.
4. For patients treated with adalimumab, when disease is active it is recommended that the adalimumab trough level and antibody to adalimumab be measured (if not done in the previous 112 days).
5. The target trough level is generally greater than 6 to 8 µg/mL (to date, an upper limit has not been established).
6. If the measured trough is below the desired therapeutic range, consider increasing the dose or decreasing the interval between injections.

<u>Post-resection monitoring and treatment</u>:

1. It is recommended that post-operative medical therapy be started or continued in Crohn's disease patients, particularly those with high risk factors for disease recurrence, including prior resection, presence of colonic and/or extensive disease at the time of resection, penetrating or perforating disease or tobacco usage.
2. Consider monitoring patients with Crohn's disease who have undergone resection for post-operative assessment of disease activity with ileocolonoscopy beginning at 3-6 months following resection. Other methods of post-resection monitoring may include MR Enterography and fecal calprotectin.

Nutritional and Growth Assessment

Status	Definition
Nutritional status at risk	Weight percentile changed lower by one isobar *or* Weight stable (no gain) or 1% to 9% loss (involuntary) Body mass index <10th percentile for age (Adjust for prednisone treatment)
Nutritional failure	Weight percentile changed lower by two isobars *or* Weight loss ≥ 10% Body mass index <3rd percentile for age (Adjust for prednisone treatment)
Nutritional status satisfactory	Not at risk or failure
Growth status at risk	Height percentile changed lower by one isobar *or* Height percentile <10th percentile for age *or* Height velocity <10th percentile for age
Growth failure	Height percentile changed lower by two isobars *or* Height percentile <3rd percentile for age *or* Height velocity <3rd percentile for age
Growth satisfactory	Not at risk or failure

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