**Vaccine Preventable Illnesses**

**Varicella (Chicken Pox – Live Vaccine)**
Check Varicella Zoster Virus IgG. If negative consider vaccination. Can be considered in patients on "low dose" immunosuppression (prednisone ≤20mg/day, MTX, 6-MP, azathioprine), but not on biologics. Can administer > 4 weeks prior to starting biologics.

**Herpes Zoster (Shingles – Non-Live Recombinant Vaccine (RZV))**
Recommended for patients taking low-dose immunosuppressive therapy and persons anticipating immunosuppression. Recommendations regarding the use of RZV in patients already on higher does immunosuppression have not yet been made by the CDC.

**MMR (Live Vaccine)**
Contraindicated in immunosuppressed patients and those planning to start immunosuppressants within 4 weeks.

**Diphtheria and Pertussis (Non-Live Vaccine)**
Vaccinate with Tdap if not given within last ten years, or if Td ≥ 2 years.

**Influenza (Non-Live Vaccine)**
One dose annually to all patients during flu season. Avoid intranasal live vaccine in immunosuppressed patients.

**HPV (Non-Live Vaccine)**
Related to cervical and anal cancer. Three doses approved for females and males ages 9-26 (regardless of immunosuppression).

**Hepatitis A (Non-Live Vaccine)**
Safe to administer to at-risk patients regardless of immunosuppression.

**Hepatitis B (Non-Live Vaccine)**
Check hepatitis B surface antigen, hepatitis B surface antibody, hepatitis B core antibody before initiating anti-TNF therapy. If non-immune consider vaccination series with non-live hepatitis B vaccine, 3 doses. If active viral infection or core Ab positive, check PCR and withhold anti-TNF therapy until active infection is excluded or treated appropriately.

**Meningococcal Meningitis (Non-Live Vaccine)**
Vaccinate at-risk patients (college students, military recruits) if not previously vaccinated regardless of immunosuppression.

**Pneumococcal Pneumonia (Non-Live Vaccine)**
If not immunosuppressed: Consider vaccination with PSV23 (Pneumovax®). If immunosuppressed: Vaccinate with PCV13 (Prevnar®) followed by PSV23 (Pneumovax®) ≥ 8 weeks later followed by PSV23 booster after 5 years.

**Bone Health**

**Vitamin D 25-OH Level**
Serial monitoring of vitamin D levels, supplement if deficient.

**Bone Density Assessment**
Assess bone density if the following conditions are present: 1. Steroid use > 3 months; 2. Inactive disease but past chronic steroid use of at least 1 year within the past 2 years; 3. Inactive disease but maternal history of osteoporosis; 4. Inactive disease but malnourished or very thin; 5. Inactive disease but amenorrhea; 6. Past menopausal women; regardless of disease status.

**Prescription of Calcium & Vitamin D**
Co-prescription of calcium and vitamin D tablets for all patients with each course of oral corticosteroids and if vitamin D deficient or insufficient.

**Therapy Related Testing**

**Mesalamines**
Annual renal function monitoring.

**Corticosteroids – See Bone Health**
Document plan and use of corticosteroid-sparing therapy. Consider ophthalmology exam.

**Thiopurines**
TPMT, CBC, and liver function prior to initiating therapy. Routine CBC and liver function monitoring while on therapy.

**Methotrexate**
CBC, liver, and renal function prior to initiating therapy. Routine CBC, liver, and renal function prior to initiating therapy and periodic monitoring while on therapy.

**Anti-TNFs/Anti-IL-12/23**
Tuberculosis (TB) screening prior to initiating therapy with PPD skin testing and/or Quantiferon-TB Gold assay. Chest X-Ray if high-risk and/or indeterminate PPD or Quantiferon-TB Gold. Perform annual TB risk assessment and consider re-testing if high risk (including travel to endemic region). See Hepatitis B vaccine. CBC, liver, and renal function prior to initiating therapy and periodic monitoring while on therapy.

**Natalizumab**
Enrollment in TOUCH program. Check JCV antibody and treat if negative. Retest JCV antibody q 4-6 months prior to initiating therapy. Routine CBC and liver function monitoring while on therapy. Fasting lipid profile 4-8 weeks after initiating therapy. Screen for risks of thrombosis at https://www.mdcalc.com/capriniscore-venous-thromboembolism-2005. Consider alternative therapies if high risk. History of prior varicella (chicken pox) infection, varicella vaccination or seropositive for varicella; vaccination against HZV should be strongly considered when treating with tocilizumab.

**Tofacitinib**
CBC, liver, fasting lipid profile, and tuberculosis (TB) screening with PPD skin testing and/or Quantiferon-TB Gold assay prior to initiating therapy. Chest X-Ray if high-risk and/or indeterminate PPD or Quantiferon-TB Gold. Perform annual TB risk assessment and consider re-testing if high risk (including travel to endemic region). Routine CBC and liver function monitoring while on therapy. Fasting lipid profile 4-8 weeks after initiating therapy. Screen for risks of thrombosis at https://www.mdcalc.com/capriniscore-venous-thromboembolism-2005. Consider alternative therapies if high risk. History of prior varicella (chicken pox) infection, varicella vaccination or seropositive for varicella; vaccination against HZV should be strongly considered when treating with tocilizumab.

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**Cancer Prevention**

**Colon Cancer**
If ulcerative colitis beyond the rectum or Crohn’s is present in at least 1/3 of the colon, perform annual or biannual surveillance colonoscopies for neoplasia detection after 8 years of disease. High definition scopes preferred; augmented imaging (NBI or dye-spray) and targeted biopsies recommended.

**Cervical Cancer**
Annual PAP smears if immunocompromised.

**Skin Cancer**
Annual visual exam of skin by dermatologist if immunocompromised and recommend sun exposure precautions.

**Miscellaneous**

**Assessment of anatomic location and activity**

**Smoking Cessation**
Discuss at every visit.

**Nutritional Assessment**
B12 if ileal disease or resection, iron panel. Assess for risk of malnutrition.

**Behavioral Health**
Screen and address mental health co-morbidities.