crohn's colitis

Name of Clinical Care Pathway

Vaccination guide for patients with inflammatory bowel disease

Objective

Reduce risk of developing vaccine-preventable illnesses

Patient Population

Adult patients (>18 years) with a known diagnosis of IBD

Dr. Jennifer deBruyn MD, MSc, FRCPC (University of Calgary)
Dr. Karen Kroeker MD, MSc, FRCPC (University of Alberta)

PACE Inflammatory Bowel Disease Clinical Care Pathways

Highlight Box

Inactivated vaccines can be given to patients with IBD, but those on immunosuppressive therapy may have a reduced vaccine response.

Live vaccines should only be given to patients NOT on immunosuppressive therapy.

NOTE: Coverage for vaccines varies

Introduction

The use of long-term immunosuppressive therapies in patients with inflammatory bowel disease increases susceptibility to infections, some of which can be preventable with vaccinations. Patients can request vaccination records from local public health authorities, pharmacists, private travel clinics, doctor's office, or family members. Access to records may vary based on province. For patients who do not have records, in some cases, serum titers can be used to determine immunity.

Individuals are considered immunosuppressed if treated with the following immunosuppressive therapies:

- Corticosteroids: prednisone, budesonide (if treatment for >/= 14 days with prednisone equivalent of >/= 2 mg/kg/d)
- Biologics (infliximab, adalimumab, golimumab, vedolizumab, ustekinumab, risankizumab)
- Oral small molecules (tofacitinib, upadacitinib)
- Immunomodulators (azathioprine, methotrexate)

IBD provider/nurse

- Ensure <u>all</u> IBD patients undergo annual vaccination against influenza.
- It is important to review patient's vaccination and travel history at **<u>every appointment</u>** and especially when a patient is planning to start or already on immunosuppressive therapy.

Live vaccines

- Live vaccines (Table 1) are contraindicated in patients on immunosuppressive therapies) and significant protein-calorie malnutrition because of the risk of disease caused by the vaccine.
- Suggested time intervals to allow for optimal immune system function: (i)Live vaccines should be given at least 4 weeks before starting immunosuppressive therapy. (ii) Live vaccines should be given at least 3 months after stopping immunosuppressive therapy (1 month for high-dose corticosteroids).

- Patients who may require live vaccines due to work or travel (Table 2a and 2b) should be warned prior to starting immunosuppressive therapy to update their vaccinations.
- Blood products of human origin can interfere with the immune response to live vaccines

Inactivated vaccines

- Inactivated vaccines (Table 3) are safe in patients on immunosuppressive therapy, however, response to vaccination may be suboptimal.
- Suggested time intervals to allow for best response to vaccine: (i) Inactivated vaccine should be given at least 2 weeks, preferably 3-4 weeks, before initiation of immunosuppressive therapy. (ii) Inactivated vaccine should be given at least 3 months after discontinuing immunosuppressive therapy (this interval may vary with the type and intensity of treatment, underlying disease, or urgency of vaccination if vaccines are needed for post-exposure or outbreak management).
- If vaccines are administered during immunosuppression, attempt to give them when the next 2 weeks represent the least immunosuppressed

Table 1. Live vaccines and their indications

Live vaccines	Who is considered immune?	When can the vaccine be given before start of Immunosuppressive therapy?	Can the vaccine be given if already on immunosuppressive therapy?
Measles, mumps, rubella (MMR)	Considered immune if 2 documented doses of vaccine or positive serology	At least 4 weeks before the start of immunosuppressive therapy. Contraindicated if plan to start therapy in < 4 weeks. Contraindicated in pregnancy.	Contraindicated
Varicella	Considered immune if self-reported history or health care provider diagnosis of natural infection, or 2 doses of vaccine, or 50 years of age and older. Check serology prior to vaccination if >25 years of age, or only one dose of vaccine, or a child with history of chickenpox in the immediate family but not individual.	At least 4 weeks before the start of immunosuppressive therapy. Contraindicated if plan to start therapy in < 4 weeks. Contraindicated in pregnancy.	Contraindicated
Live Attenuated Influenza (Flu Mist intranasal form)	Not applicable	Contraindicated if plan to start therapy in < 4 weeks. Use inactivated vaccine.	Contraindicated Use inactivated vaccine
Rotavirus	Not applicable	Contraindicated if plan to start therapy in < 4 weeks.	Contraindicated

Version: April 1, 2024

Table 2a. Inactivated travel vaccines

Vaccine	Use
Typhoid (injectable)	Considered safe for patients on immunosuppressive therapies. Indicated for persons >/=2 years travelling to high-risk areas.
Japanese Encephalitis	Considered safe for patients on immunosuppressive therapies. Indicated for adults >/=18 years travelling to high-risk areas in Asia.
Rabies	Considered safe for patients on immunosuppressive therapies. Pre-exposure prophylaxis can be considered if travelling to high risk area. Given the possible suboptimal response to the vaccine if immunosuppressed, post-exposure prophylaxis with both vaccine and immunoglobulin should be considered in the event of exposure.
Hepatitis A and B	Considered safe for patients on immunosuppressive therapies.
Meningococcal vaccine	Considered safe for patients on immunosuppressive therapies, Indicated for travel to high-risk areas.

Table 2b. Live travel vaccines

Vaccine	Use
Yellow Fever	Contraindicated if immunosuppressed. If travelling to a high-risk area, consult an Infectious Disease specialist.
Typhoid (oral)	Contraindicated if immunosuppressed. Consider injectable inactivated form if indicated.
Bacillus Calmette-Guerin (BCG)	Contraindicated if immunosuppressed.

Table 3. Inactivated vaccines

Vaccine	Check titer before vaccination?	Recommendations
Tetanus diphtheria (Td) Tetanus diphtheria acellular pertussis (Tdap) Tetanus diphtheria acellular pertussis and inactivated polio (DTap/DTaP-IPV-Hib)	No	Give according to routine schedule. Td booster every 10 years; with Tdap used at 14-16 years of age. Pregnant women should be offered Tdap vaccine (to be given at 27-32 weeks gestation) during every pregnancy, irrespective of previous immunization history.
Hemophilus influenza type B (Hib)	No	Give according to routine schedule.
Human papillomavirus (HPV)	No	Give according to routine schedule for school-age children. Recommended for males and females, ages 9-26 years old Two doses (0 and 6 months) or 3 doses (0, 2 and 6 months). Highly recommended for men who have sex with men.
Influenza (inactivated/injectable form)	No	Annual vaccine Timing of administration should balance nadir of immunosuppression for those on biologics and the need to deliver vaccine prior to the onset of influenza season (starts over the fall and peaks in the winter).
COVID19 (inactivated)	No	Give according to recommended local public health authorities.
Pneumococcal (conjugate) [PNEU-C-13]	No	Give according to routine schedule. In adults, if there is no prior pneumococcal vaccine, give one dose of Prevnar (PNEU-C-13), wait 8 weeks minimum, then give one dose of Pneumovax (PNEU-P-23).

Pneumococcal (polysaccharide) [PNEU-P-23]	No	As above, with a one-time booster after 5 years (if the first vaccine was given at > 10 years of age) and immunosuppressed. Repeat at age 65 years.
Meningococcal (conjugate) (Strain C) [Men-C-C]	No	Give according to routine schedule.
Meningococcal (conjugate) [Men-C-ACYW]	No	Give according to routine schedule (12 to 24 years of age). Vaccinate adults at risk of meningitis if none previously.
Hepatitis A Vaccination (HAV)	Yes	2 doses required: Give at 0, 6-36 months (depending on the product). If immunosuppressed, consider HA immunoglobulin in addition to the vaccine for post-exposure management. Recommended for at-risk groups (e.g. chronic liver disease, such as primary sclerosing cholangitis, men who have sex with men)
Hepatitis B Vaccination (HBV)	Yes	Give according to routine schedule. Dosing schedule depends on particular product; check post-vaccine titers at 1 month after last dose. Refer to the Canadian immunization guide for non-responders.
Twinrix (Combination Hepatitis A/B)	Yes	May be given instead of HAV and HBV individually. Give according to routine schedule.
Shingrix (Recombinant zoster vaccine, inactivated)	No, but wait 1 year after an episode of shingles or Live zoster vaccine	Recommended for adults >/= 50 years of age. Two doses, given 2-6 months apart. Recommendations may change as further information becomes available.

Version: April 1, 2024

Other Resources

CANIBD Vaccination guide: https://canibdvaccination.ca/

RED BOOK: 2015 Report of the Committee on Infectious Diseases
https://redbook.solutions.aap.org/DocumentLibrary/Red% 20Book%202015%201.pdf

Canadian immunization schedule https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian- immunization-guide-part-1-key-immunization-information/page-13-recommended-immunization-schedules.html

Immunization Record for Children https://immunize.ca/immunization-record-children

Immunization Record for Adults https://immunize.ca/immunization-record-adults

Travel vaccinations https://travel.gc.ca/travelling/health-safety/vaccines

References

Mir, F. et al. Health maintenance in inflammatory bowel disease. Curr Gastroenterol Reports 2018; 20(23): 22-28. https://doi.org/10.1007/s11894-018-0621-1

Farraye, F.A. et al. ACG Clinical Guideline: Preventive care in inflammatory bowel disease. Am J of Gastroenterol 2017; 112:241-258. https://doi.org/10.1038/ajg.2016.537

Lopez, A., et al. Vaccination recommendations for the adult immunosuppressed patient: A systematic review and comprehensive field synopsis. J of Autoimmunity 2017; 80:10-27. https://doi.org/10.1016/j.jaut.2017.03.011

Long, M. et al. Immunizations in pediatric and adult patients with inflammatory bowel disease: A practical case-based approach. Inflammatory Bowel Disease 2015; 21:1993-2003. https://doi.org/10.1097/mib.0000000000000395

Canadian Immunization Guide: https://www.canada.ca/en/public-health/services/canadian-immunization-guide.html