

NASPGHAN-IBD Committee, COVID-19 General Information:

Elizabeth A Spencer MD, Travis Ayers MD, Cary Sauer MD, Naamah Zitomersky MD, Edwin de Zoeten MD, PhD

Information about COVID-19 is developing at an incredibly rapid pace. Data is coming from a multitude of sources including physicians, scientists, traditional media, social media and other sites. The following document was developed to help the general pediatric gastroenterologist implement a plan and recommendations for their pediatric patients with inflammatory bowel disease.

What is COVID-19?

A novel strain of coronavirus identified at the end of 2019 that is highly infectious with a range of severity from asymptomatic to deadly.

To get the most up-to-date information, please visit one of the following trusted websites:

The Centers for Disease Control(1): <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

The World Health Organization(2): <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

The Crohn's and Colitis Foundation(3): <https://www.crohnscolitisfoundation.org/coronavirus-update/pediatrics>

COVID-19 signs and symptoms:

COVID-19 infection can present with signs and symptoms that vary(4). In children, there may not be any significant symptoms(5-7). In general, the most common symptoms are:

- Fever
- Cough
- Muscle Aches
- Shortness of breath
- Other less common symptoms include fatigue, diarrhea, abdominal pain, rhinorrhea.

COVID-19 Digestive Symptoms:

The angiotensin-converting enzyme 2 (ACE2) receptor mediates entry of the virus(8), and the ACE2 receptor is present in some of the highest concentrations in the terminal ileum and colon(9). There is increasing evidence that patients with COVID-19 may also experience gastrointestinal symptoms, including diarrhea, nausea, vomiting and abdominal discomfort, potentially prior to the common respiratory symptoms (10, 11).

Key Findings:

- It is recommended patients be monitored if they present with initial GI distress, encouraging earlier detection, diagnosis, intervention and isolation
- Viral RNA is detectable in stool of those suspected to have coronavirus
- Viral gastrointestinal infection and potential fecal-oral transmission can last even after viral clearance from the respiratory tract
- Prevention of fecal-oral transmission should be taken into consideration to control the spread the virus

Groups at High-risk for Severe Illness with COVID-19:

High-risk groups (defined by the CDC) are being advised to take extra precautions. **Children are NOT considered a high-risk group** at this time. To learn more about all high-risk groups, visit the trusted websites above. Of note, high risk groups include: Those with conditions that can cause a person to be immunocompromised, including cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids. Potential risk factors that need further study include: IBD patients experiencing active malnutrition or on certain medications may have some degree of immunosuppression.

IBD-Specific Recommendations:

- IBD patients should **not stop their IBD medications** unless they are instructed to do so by their physician as it is highly likely that uncontrolled or active IBD places a person at higher risk for infection than IBD medications (except prednisone). *See further information below*
- Remind patients (and close contacts) of the importance of **strict adherence to the following:**
 - Avoid close contact with people who are sick.
 - Wash your hands with soap and water for at least 20 seconds.
 - If soap and water are not available, use a hand sanitizer that contains at least 60% alcohol.
 - Do not touch your nose, eyes, and mouth if you have not washed your hands.
 - Follow the specific guidance being issued by your local health department regarding social distancing, travel, wearing of cloth face coverings, handling of deliveries, and gathering in groups.
- Conduct medical visits through **telemedicine** if possible; HIPAA restrictions have been eased in the United States to facilitate this(15).
- Elective and semi-elective surgeries and endoscopies **should be delayed**. Please see recommendations from the NASPGHAN endoscopy committee or American Society for Gastroenterological Endoscopy.
- Patients receiving infusions **should continue to receive the infusion without delays at the location where they have received it to date** unless there are mitigating circumstances (e.g. transportation issues). *See further information below under Home infusion vs Hospital infusion.*
- Changing a well-controlled patient from an infusion therapy to a self-injectable **is not advised**.
- Advise patients **to contact their provider if feeling sick** so that their physician might guide decisions on when to seek in-person care and when, or if, to delay medications.
- Help contribute to our evolving knowledge by **reporting cases and outcomes to the SECURE-IBD Database**. *See further information below under SECURE-IBD.*

COVID-19 and IBD Medications: Adapted from Rubin DT et al. *Gastroenterology* 2020(17)

Statement	Pred (≥20mg/d)	BUD	5-ASA	AZA/6MP	MTX	Anti-TNF	VDZ*	UST*	TOFA*	Clinical Trial Med*
This therapy increases the risk of COVID-19 disease .	Red	Blue	Blue	Yellow	Yellow	Yellow	Blue	Blue	Yellow	Grey
Patients taking this therapy should discontinue or reduce the dose of therapy to prevent SARS-CoV-2 infection .	Red	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Patients taking this therapy should delay† therapy if they develop COVID-19 .	Red	Yellow	Blue	Red	Red	Red	Yellow	Red	Red	Red

Legend: ● Appropriate/Likely ● Uncertain ● Inappropriate/Unlikely ● NA

Figure 1: Summary Table of IOIBD RAND Panel Statements(17) on IBD Medications and COVID-19; Abbreviations: Pred, Prednisone; BUD, Budesonide; 5-ASA, 5-aminosalicylic acid; AZA, Azathioprine; 6MP, 6-mercaptopurine; MTX, methotrexate; Anti-TNF, anti-tumor necrosis alpha therapy; VDZ, vedolizumab; UST, ustekinumab; TOFA, tofacitinib.

*medications not FDA approved in pediatrics

† panel voted on statements with “stop” terminology that we do not believe accurately reflects their intent

IBD COVID Considerations

SECURE-IBD:

Information on the effects of COVID-19 on patients with IBD is based on the experience of physicians and patients in China and Europe. NASPGHAN is a supporter of developing a database of IBD patients infected with COVID-19 and encourages all of our membership to be part of the critical data collection and help improve our understanding of the effects of COVID-19 infection on IBD patients, please follow weekly updates from the SECURE-IBD registry(16), and, if you have a patient with IBD that contracts COVID-19, regardless of the outcome, please register that patient at www.covidibd.org.

Home Infusion vs Hospital Infusion:

Currently, there is no data available on COVID-19 to specifically answer the question of where it is safest to receive an infusion. Yet, IOIBD(17) and multiple IBD centers across the country have suggested that **hospital infusions are safe and appropriate**. There is less regulation of use of PPE and appropriate hygiene with home infusion, and homecare companies are increasingly challenged to provide timely care due to staffing issues. See the prior NASPGHAN Clinical Report on Non-hospital-based Biologic Infusions in Pediatric IBD(18). In addition, a transition to homecare requires a significant amount of time and effort to move the authorization and to coordinate with the homecare company to provide the infusion, which could lead to inadvisable delays in receiving therapy. Finally, there is some recent adult data that suggests that the risk of complications and flare of disease is increased in patients that receive home infusions of biologics(19).

Due to these issues, we are making the following recommendations:

Above all encourage your patient **not to** stop the use of the biologic unless instructed to do so by a physician. **Do not** delay their appointment. We do not recommend moving infusions to homecare due to timing, access and safety concerns. All patients currently receiving infusions should continue to do this at the location where they have received it to date. If receiving hospital-based infusions, continue to do so; if already receiving home infusions, this should also be continued.

Psychological health:

Don't forget that this is an extremely stressful situation(20). This is true for patients, guardians and providers. The Crohn's and Colitis Foundation has some suggestions reviewed here and at [https://www.crohnscolitisfoundation.org/coronavirus/mental-health\(21\)](https://www.crohnscolitisfoundation.org/coronavirus/mental-health(21))

- **Parents should talk to their children about their thoughts and concerns**
- **Turn off media and news for some time each day.**
- Being stuck inside for prolonged times can be overwhelming and demotivating. If it helps, **set up a schedule** to follow for you and your family. Having times set aside for specific activities may help add structure and normalcy back into your day.
- **Begin a regular stress management practice** using relaxation, mindfulness or meditation. The following apps are helpful to create your routine: Smiling Mind, Mindfulness Coach, Buddhify, Headspace, Calm, etc.
- **Try some coping mechanisms** to help you de-stress. Whether it is cooking your favorite meal, taking a relaxing bath, or mindful breathing, there are many options you can try.
- **Connect with friends and family.** There are many ways to connect with others through technology. Take time to check in with your loved ones, with video conferencing, or phone calls.
- **Enjoy fresh air while following social distancing recommendations.** If you have a backyard, take advantage of some time outdoors. Even if you can't go outside, try to stay active. There are many online videos you can do at home to keep your body moving. Call your local gym and ask if they recommend or host any online workouts.

For Parents: How do I talk with my child or teen about COVID-19?(22)

- **NPR**
 - Just for Kids: A Comic Exploring the New Coronavirus
A resource for children about coronavirus, what it is and how to protect oneself.
- **National Association of School Psychologists**
 - Talking to Children About COVID-19 (Coronavirus): A Parent Resource
A resource for parents on how best to talk to children about the coronavirus.
- **Psychology Today**
 - How to Talk to Your Kids about COVID-19. 7 practical steps for helping your children feel safe, not scared. <https://www.psychologytoday.com/us/blog/hope-resilience/202003/how-talk-your-kids-about-covid-19>
- **New York Times**
 - Talking to Teens and Tweens about Coronavirus
This article details advice from experts on how parents can help teens be prepared and have the right information about the coronavirus.

References:

- 1 Centers for Disease Control and Prevention (CDC). Coronavirus (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/index.html>.
- 2 World Health Organization. Coronavirus disease (COVID-19) advice for the public. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>.
- 3 Crohn's and Colitis Foundation. Guidance for Pediatric Caregivers and Patients: Updates on COVID-19 and IBD. <https://www.crohnscolitisfoundation.org/coronavirus-update/pediatrics>.
- 4 Guan W-j, Ni Z-y, Hu Y, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. *New England Journal of Medicine* 2020.
- 5 Dong Y, Mo X, Hu Y, et al. Epidemiological Characteristics of 2143 Pediatric Patients With 2019 Coronavirus Disease in China. *Pediatrics* 2020:e20200702.
- 6 Lu X, Zhang L, Du H, et al. SARS-CoV-2 Infection in Children. *New England Journal of Medicine* 2020.
- 7 Qiu H, Wu J, Hong L, et al. Clinical and epidemiological features of 36 children with coronavirus disease 2019 (COVID-19) in Zhejiang, China: an observational cohort study. *The Lancet Infectious Diseases*.
- 8 Hoffmann M, Kleine-Weber H, Schroeder S, et al. SARS-CoV-2 Cell Entry Depends on ACE2 and TMPRSS2 and Is Blocked by a Clinically Proven Protease Inhibitor. *Cell*.
- 9 Harmer D, Gilbert M, Borman R, et al. Quantitative mRNA expression profiling of ACE 2, a novel homologue of angiotensin converting enzyme. *FEBS Lett* 2002;532(1-2):107-10.
- 10 Gu J, Han B, Wang J COVID-19: Gastrointestinal Manifestations and Potential Fecal–Oral Transmission. *Gastroenterology*.
- 11 L Pan MM, HG Ren, P Yang, YSun, R Wang, J Yan, P Li, B Hu, Chaohu, Y Jin, X Niu, R Ping, Y Du, T Li, C Liu, G Xu, Q Hu, L Tu Clinical Characteristics of COVID-19 Patients With Digestive Symptoms in Hubei, China: A Descriptive, Cross-Sectional, Multicenter Study. *Am. J. Gastroenterol* Epub Ahead of Print.
- 12 Mao R, Liang J, Shen J, et al. Implications of COVID-19 for patients with pre-existing digestive diseases. *The Lancet Gastroenterology & Hepatology*.
- 13 Turner D, Huang Y, Martín-de-Carpi J, et al. COVID-19 and Paediatric Inflammatory Bowel Diseases: Global Experience and Provisional Guidance (March 2020) from the Paediatric IBD Porto group of ESPGHAN. *Journal of Pediatric Gastroenterology and Nutrition* 9000;Publish Ahead of Print(
- 14 Murray KF, Gold BD, Shamir R, et al. COVID-19 and the Pediatric Gastroenterologist. *Journal of Pediatric Gastroenterology and Nutrition* 9000;Publish Ahead of Print(
- 15 Department of Health and Human Services. Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency. <https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html>.
- 16 Kappelman MD. SECURE-IBD: Coronavirus and IBD Reporting Database. <https://covidibd.org/current-data/>. Accessed 04/04/2020, 2020.
- 17 International Organization for the Study of Inflammatory Bowel Diseases. IOIBD Update on COVID19 for Patients with Crohn's Disease and Ulcerative Colitis. <https://www.ioibd.org/ioibd-update-on-covid19-for-patients-with-crohns-disease-and-ulcerative-colitis/>.
- 18 Barfield E, Sockolow R, Hoffenberg E, et al. Assuring Quality for Non-hospital-based Biologic Infusions in Pediatric Inflammatory Bowel Disease: A Clinical Report From the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. *J Pediatr Gastroenterol Nutr* 2018;66(4):680-86.
- 19 Fenster M, Ungaro RC, Hirten R, et al. Home vs Hospital Infusion of Biologic Agents for Patients With Inflammatory Bowel Diseases. *Clin Gastroenterol Hepatol* 2020;18(1):257-58.
- 20 Dalton L, Rapa E, Stein A Protecting the psychological health of children through effective communication about COVID-19. *The Lancet Child & Adolescent Health*.
- 21 The Crohn's and Colitis Foundation. COVID-19 & Mental Health. <https://www.crohnscolitisfoundation.org/coronavirus/mental-health>.
- 22 Cleveland Clinic Children's Center for Pediatric Behavioral Health. Resources related to COVID-19. 2020.