

LETTER TO THE EDITOR

Summary of COVID-19 clinical practice adjustments across select institutions

To the Editor:

Children with underlying oncologic diagnoses who are recipients of cytotoxic chemotherapy are known to have compromised innate and adaptive immune responses and are resultantly at higher risk of infection and related sequela. In response to COVID-19 and the acute risk of exposure to immunocompromised hosts, physicians from six academic pediatric hematology oncology programs collaborated to summarize emergency clinical practice modifications. Here, we share insights and recommendations generated from this multiinstitutional effort.

Results from the following questions addressing emergency clinical practice modifications implemented in response to COVID-19 were summarized, and consensus statements are shared in this report:

(1) In which patient cohorts are clinic visits being canceled or deferred?

Summary statement: Centers are delaying clinic visits not considered to be essential and converting visits, where possible, to telemedicine.

Centers have asked physicians to divide their upcoming patient visits into one of three categories: visits that can be postponed (patients under long-term follow up or surveillance), visits that should be maintained (patients receiving active chemotherapy), or visits that can be converted to telemedicine (including new patients, second opinions, patients with genetic predisposition syndromes, psychiatric, nutrition, physical and occupational therapy, and social work support). Several centers are working to decrease outpatient visits by 50%. One center is delaying all patients who are 1 year or more off therapy. In the event of emergent scans or blood work, review of results can be completed using telemedicine to avoid additional hospital trips and exposure.

One important cautionary point is concern about canceling appointments that eventually need to take place as the pandemic may continue to worsen prior to improving, and this time scale is undefined at this point. This population may include patients who are recently off therapy where early detection of relapse by imaging or laboratory work may impact outcome.

Overall, for patients with genetic predisposition syndromes, there seems to be consensus in canceling nonurgent appointments or deferring/converting to telemedicine where possible. Some specific practices vary across centers, with one center continuing to see patients requiring screening every 3 months, but deferring the lower risk, less frequent yearly visits, one center converting these appointments to telemedicine, and one center deferring aside from emergencies.

(2) Are providers being cohorted in outpatient clinics?

Summary statement: Centers are working to reduce and cohort outpatient practitioners.

Centers are capping number of outpatient providers. A representative example is reduction of daily oncology faculty with patient-facing responsibilities from three to two practitioners, hematology faculty from two to one practitioner, and clinical fellows reduced from two to one. One center is staffing one leukemia, solid tumor, neuro-oncology, and hematology representative on site with the remainder of practitioners providing care via telemedicine. Centers describe cohorting staff by rotating physicians and advanced practice providers so the same practitioners work for 5-day shifts with everyone else working from home. This exposes a limited cohort of practitioners at any given time and allows convalescence for the remaining staff and a pool of back-up practitioners in event that scheduled practitioners fall ill. Additionally, one center is seeing patients at regional outpatient clinics where volumes and exposure is less (an option only available to select centers).

(3) Have you had pediatric oncology patients with COVID-19 to date and what is the approach to continuing chemotherapy in context of COVID-19?

Summary statement: Four of six centers have seen patients with COVID-19 within their pediatric oncology patients to date. One center delays chemotherapy if an asymptomatic patient tests positive for COVID-19 and is in a deep remission.

Cases have been mild in most centers. The one exception to this is a patient with terminal acute lymphoblastic leukemia who developed Gram-negative sepsis and was found to be COVID-19 positive at the time of transfer to the intensive care unit. This patient later died, but it is unclear if COVID-19 contributed to the death.

(4) In what clinical scenarios are centers testing for COVID-19?

All centers surveyed are testing the following groups of patients:

- Immunocompromised patients with fevers and/or upper respiratory symptoms.
- Asymptomatic patients prior to receiving general anesthesia.
- Asymptomatic donors and recipients prior to stem cell transplantation.

Some centers are testing the following groups of patients:

- Asymptomatic oncology patients prior to outpatient chemotherapy.
- Asymptomatic oncology patients prior to each admission for chemotherapy.

- Asymptomatic patients with exposure to a person with COVID-19.
- All patients admitted to the hospital.

(5) Any anticipated chemotherapy shortages and are their preemptive measures to be taken to prepare?

Summary statement: Centers have not yet seen chemotherapy shortages beyond baseline, however there is concern about anticipated blood supply shortages.

Centers are limiting blood usage including implementation of tighter transfusion thresholds and single-unit transfusions in place of double units. Centers are also appealing to increase blood donations among hospital employees.

(6) Comments on additional considerations in response to COVID-19?

- Conservation of personal protective equipment (PPE): There is grave concern about available PPE and efforts to conserve and mandate best practice for PPE use. Guidelines are based on institutional policies and resources and are rapidly evolving. Centers are canceling elective surgeries and infection control is driving appropriate use of N95 masks or surgical masks. Many centers are now requiring surgical masking for all clinical facing staff; often using the same mask for an entire day or week.
- Protect “at risk” population: Recommendations that faculty over 65 years of age or with chronic medical problems or other high-risk criteria work from home and limit exposure to patients with known COVID-19. One center suggested deploying at-risk practitioners early when prevalence remains low, however, this is inconsistent with the common practice.
- Consider a dedicated COVID-19 inpatient unit: Some centers have designated inpatient units and sections of intensive care units for patients with confirmed COVID-19 and for patients under investigation (PUI). A designated COVID-19 unit avoids cross-contamination between confirmed cases and PUIs and immunocompromised patients. Additionally, having designated staff prevents staff cross-contamination and supports appropriate training on PPE and strict adherence to PPE practices and visitor policies.

The clinical experience and literature-base addressing COVID-19 is rapidly evolving. To date, several professional organizations have published general guidelines on patient management, including the International Society of Paediatric Oncology (SIOP), the American Society of Clinical Oncology (ASCO), and the American Society of Hematology (ASH). These are generally targeted toward adult patients and are

less focused on concrete recommendations for practice management. We sought to determine common clinical practice modifications during the COVID-19 pandemic. These modifications are specific to individual practice environments and might not be universally applicable, but may serve as a framework for institutions caring for immunocompromised patients. The information provided here serves as an acute response to practical queries on clinical practice adjustments to minimize exposure and optimize safety across staff and patients. As further literature becomes available and the extent of impact on pediatric oncology patients is better understood, the field will likely benefit from a formal collaborative effort to generate more comprehensive evidence-based practice guidelines. Multiple such efforts are already underway in the United States and internationally.

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