



COVID-19

Imaging recommendations during the COVID-19 pandemic

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There has been a great deal of confusion regarding diagnostic imaging availability and restrictions during this difficult time. The following are recommendations from the radiology department, with associated guiding principles and examples for illustration.

There are compelling realities which impact our ability to provide diagnostic imaging - primarily limited supplies and the need for infection control. However, we maintain a responsibility for the care of all children - COVID-19 certainly does not prevent children from suffering other medically important conditions. There are parallels between limiting elective therapeutic procedures (elective surgery, dental procedures, etc.) and diagnostic testing, but there are also fundamental differences. With planned elective therapeutic procedures, the diagnosis is already established and there is a stronger sense of how long the procedure can wait, whereas with diagnostic testing there is the possibility of a significant but not-yet-diagnosed condition. For elective surgical procedures, those which can safely be delayed 90 days are being deferred. Diagnostic imaging can help determine which patients do and do not meet that requirement.

During this period of increased use of phone and virtual visits, for which physical exam is not possible, diagnostic imaging can be extremely useful to provide important diagnosis of conditions which would require time-sensitive treatment as well as to provide much-needed reassurance that such a condition is not present. We seek to offer as much diagnostic imaging as we reasonably can, while preserving our limited supplies, in order to help families through this difficult time.

With regard to infection control, patients and families should be screened for respiratory symptoms and exams should be postponed until those symptoms have resolved (a significantly shorter period than waiting for the pandemic to clear).

With regard to preservation of limited supplies, we are actively encouraging substitution of diagnostic imaging that does not require significant use of supplies such as PPE, IV tubing, contrast, etc. The following are some examples of imaging exams that require more or less use of supplies:

Exams which utilize more supplies:

- Any sedated exam
- Exams requiring intravenous contrast
- Nuclear medicine exams
- Fluoroscopic exams, especially NJ placement (which is categorized as an aerosol generating procedure)

Exams requiring minimal use of supplies:

- Radiography
- Ultrasound
- Non-contrast CT
- Non-contrast MRI (including "quick brain" MRI)

The following are some specific clinical examples:

Infant with large head circumference and accelerated growth:

- Head ultrasound can be performed. If there is obstructive hydrocephalus, further workup is indicated. If exam is normal or shows findings of "benign macrocrania", referring clinician and family can be reassured that urgent intervention is not necessary.

Infant with hip click:

- Hip ultrasound can be performed. This is best done at 4-6 weeks of age. If the patient has developmental dysplasia of the hip(s), simple outpatient harness treatment is curative in most cases. If this condition goes undiagnosed, the patient is at risk for life-long gait abnormalities and early hip replacement. If we were to wait 90 days to perform this exam, the patient would be beyond the age at which conservative treatment is effective, and the ultrasound becomes more difficult to perform and less reliable.

5-year-old with progressive headache:

- During usual circumstances, we would perform a sedated brain MRI. However, the presence or absence of brain tumor and/or hydrocephalus can be reasonably screened with quick brain MRI or non-contrast CT. If there is no evidence of mass or ventricular enlargement, all can rest assured that intervention is not required and more detailed imaging can wait. If either is present, it provides compelling evidence that a full workup is indicated, including more thorough imaging under sedation for further characterization.

2-year-old with palpable abdominal mass:

- Abdominal ultrasound is an excellent screening tool for intra-abdominal tumor, and also allows determination of organ-of-origin, which is an important tool in establishing specific tumor diagnosis. As with other examples, a normal exam is reassuring.

Patient of any age with shunted hydrocephalus, having phone/virtual visit with neurosurgery clinic:

- Quick-brain MRI can be performed when there are concerning symptoms to determine whether the shunt is functioning appropriately.

2-month-old infant who had cystic abdominal lesion at birth, having phone/virtual visit with surgery clinic:

- Follow-up ultrasound can be performed. If the lesion is stable or smaller, no intervention required. If the lesion is larger, further workup is indicated to determine if the lesion represents pathologic tumor such as cystic teratoma.

There are some clinical scenarios for which we continue to offer the full range of diagnostic imaging, including sedated exams when necessary:

- New tumor diagnosis
- Follow-up tumor imaging for patients on treatment protocols which require timed imaging
- Patients with new or progressive hydrocephalus
- Trauma evaluation
- Known or suspected child abuse
- Patients requiring surgical intervention for which additional diagnostic information is necessary
- Any patient for which there is significant clinical concern for a treatable condition requiring imaging diagnosis (generally after consultation between referring clinician and radiologist)

There are also some clinical scenarios for which we are generally recommending postponement of imaging:

- Genetic workups to look for related anomalies in clinically stable patients
- Further detailed imaging when above-described screening imaging shows reassuring findings
- Routine follow-up for conditions expected to be static in clinically stable patients

The list of examples above is designed to illustrate guiding principles and is by no means exhaustive. We encourage consultation with a radiologist for guidance when there are questions about diagnostic imaging, preferably prior to ordering. We would be happy to discuss the details of the patient's clinical state and help determine which of the available imaging options would be best.

For Minneapolis, call 612-813-8200

For St. Paul, call 651-220-6147

These numbers are answered 24/7/365 by HUC's and/or radiology technologists, who can connect you to the appropriate radiologist.

Reviewers: Mize

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