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ACR Statement on Safe Resumption of Routine Radiology Care During the Coronavirus Disease 2019 (COVID-19) Pandemic

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Abstract

The ACR recognizes that radiology practices are grappling with when and how to safely resume routine radiology care during the coronavirus disease 2019 (COVID-19) pandemic. Although it is unclear how long the pandemic will last, it may persist for many months. Throughout this time, it will be important to perform safe, comprehensive, and effective care for patients with and patients without COVID-19, recognizing that asymptomatic transmission is common with this disease. Local idiosyncrasies prevent a single prescriptive strategy. However, general considerations can be applied to most practice environments. A comprehensive strategy will include consideration of local COVID-19 statistics; availability of personal protective equipment; local, state, and federal government mandates; institutional regulatory guidance; local safety measures; health care worker availability; patient and health care worker risk factors; factors specific to the indication(s) for radiology care; and examination or procedure acuity. An accurate risk-benefit analysis of postponing versus performing a given routine radiology examination or procedure often is not possible because of many unknown and complex factors. However, this is the overriding principle: If the risk of illness or death to a health care worker or patient from health care-acquired COVID-19 is greater than the risk of illness or death from delaying radiology care, the care should be delayed; however, if the opposite is true, the radiology care should proceed in a timely fashion.

Key Words: COVID-19, Practice management, Routine, Safety

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BACKGROUND

The ACR recognizes that radiology practices are grappling with when and how to safely resume necessary nonurgent radiology care during the coronavirus disease 2019 (COVID-19) pandemic. Although it is unclear how long the pandemic will last, it may persist for many months. Throughout this time, it will be important to perform safe, comprehensive, and effective care for patients with and without COVID-19, recognizing that asymptomatic transmission is common with this disease.

Local idiosyncrasies prevent a single prescriptive strategy. However, general considerations can be applied to most practice environments. A comprehensive strategy will include consideration of local COVID-19 statistics; availability of personal protective equipment (PPE); local, state, and federal government mandates; institutional regulatory guidance; local safety measures; health care worker availability; patient and health care worker risk factors; factors specific to the indication(s) for radiology care; and examination or procedure acuity.

OVERRIDING GUIDING PRINCIPLE

If the risk of illness or death to a health care worker or patient from health care–acquired COVID-19 is greater than the risk of illness or death from delaying radiology care, the care should be delayed; however, if the opposite is true, the radiology care should proceed in a timely fashion.

The risk from health care–acquired COVID-19 can be made very low for most diagnostic radiology examinations and interventional radiology procedures if appropriate safety measures are in place (eg, screening, testing, infection control processes, PPE).

However, an accurate risk-benefit analysis of postponing versus performing a given nonurgent radiology examination or procedure often is not possible because of many unknown and complex factors. These include the specific outcome-based risk of COVID-19 (which considers local prevalence and transmissibility in the setting of local preventive measures) and the outcome-based risk of postponing imaging (which considers unknowns related to non-COVID-19 disease aggressiveness, comorbid conditions, and treatability).

Therefore, decision making will be guided by imperfect attempts to estimate these risks. Practices should do their best to determine the risk to health care workers and patients of developing illness or death from health care–acquired COVID-19 in their local environment, as well as the patient-specific risk of illness or death from

postponing an examination or procedure, and then use that information to guide the re-engagement of nonurgent radiology care. In this determination, the probability of negative outcomes (from COVID-19 and non-COVID-19 disease) should take precedence. Patient-specific risk is best determined through collaboration between referring providers and radiologists.

The ACR recognizes that government and institutional mandates may interact with this decision making.

GENERAL GUIDANCE FOR THE SAFE RE-ENGAGEMENT OF NONURGENT CLINICAL WORK

There is no single ideal approach for the safe re-engagement of nonurgent radiology care. Practices are developing local solutions that work best for their needs. The ACR recommends that radiology leaders work closely with hospital systems, referring providers and patients to coordinate safe and effective care. The following recommendations apply to the safe re-engagement of nonurgent diagnostic and interventional radiology care during the COVID-19 pandemic. It is recognized that because of local factors it may not be possible for individual practices to adopt all of these recommendations.

Recommendations for the Safe Re-Engagement of Nonurgent Radiology Care During the COVID-19 Pandemic

1. Enact safety measures.
 - Screen all patients for symptoms of COVID-19 during scheduling.
 - Screen all patients, workers, and visitors for symptoms of COVID-19 on building entry.
 - Create system awareness and flags identifying patients with recent COVID-19.
 - Develop a plan for how to manage individuals who screen positive on building entry.
 - Ensure sufficient PPE for workers and patients, balancing current and future needs.
 - Coordinate PPE use with health system efforts, emphasizing highest-risk care.
 - Train staff and providers on safe PPE use and hand hygiene.
 - Implement universal masking of health care workers.
 - Implement universal masking of patients and visitors.
 - Ensure PPE for aerosolizing care (N95, powered air-purifying respirator).
 - Concentrate activity at specific sites if insufficient PPE for enterprise-wide activation.
 - Enable social distancing within waiting rooms, hallways, and work areas.

- Streamline patient flow to minimize unneeded contacts (eg, one-way corridors).
 - Implement methods to minimize time in waiting rooms (eg, waiting in cars).
 - Optimize the efficiency of every patient encounter.
 - Provide care in designated areas to patients with known or suspected COVID-19.
 - Clean and decontaminate patient care areas according to Centers for Disease Control and Prevention guidelines.
 - Restrict the number of visitors accompanying the patient.
 - Prevent symptomatic visitors from accompanying patients.
 - Create a policy for the safe ambulatory imaging of patients with recent COVID-19.
 - Enable remote work (eg, home workstations).
 - Enable telehealth when feasible (eg, pre- and post-procedure visits).
 - Develop an effective communication strategy for safe best practices.
2. Respect local pandemic statistics.
 - Defer time-insensitive care until at least 2 weeks after the local peak of the pandemic.
 - Ensure PPE needed for low-risk care will not consume PPE needed for high-risk care.
 - Follow institutional and governmental regulations.
 - Monitor local data to predict secondary and tertiary peaks of COVID-19.
 - Prepare for repeat de-engagement of nonurgent care if local data predict another peak.
 3. Engage in risk-benefit decision making.
 - Consider benefits of radiology care against risks from health care–acquired COVID-19.
 - Consider clinical acuity, risk factors, the underlying disease and risk from COVID-19.
 - Engage referring providers and other stakeholders to safely triage nonurgent care.
 - Determine whether lower-risk diagnostic strategies can be pursued.
 - Coordinate re-engagement strategies with institutional plans for ambulatory care.
 4. Develop a tiered plan for re-engagement of nonurgent radiology care (see following example).
 - Tier 1: Urgent and emergent care
 - Tier 2: Nonurgent time-sensitive care
 - Tier 3: Elective care and screening
 - Tier 4: Research subjects for imaging trials
 5. Manage accreditation and regulatory deferrals to avoid unintended lapses.
 6. Address the backlog of previously deferred and delayed care.
 - Consider extending hours of operation to improve access and preserve social distancing.
 - Determine if previously ordered care is no longer needed and can be canceled.
 7. Manage fear.
 - Implement strategies to safely shorten imaging examinations and procedures.
 - Consider modifying scheduling grids to promote social distancing.
 - Enable clear communication of examination acuity by referring providers.
 - Consider cooperation with regional “competitors” to smooth access challenges.
 7. Manage fear.
 - Provide frequent, calm, fact-based information to patients and staff to alleviate fear.
 - Message that for most radiology care, COVID-19 risk is low with appropriate safeguards.
 - Message that COVID-19 risk is highest for aerosolizing procedures or prolonged contact.
 - Advertise institutional infection control processes.
 - Acknowledge that stress and anxiety are normal during a pandemic.
 - Disseminate local and national wellness information.

FINANCIAL CONSIDERATIONS RELEVANT TO THE RE-ENGAGEMENT OF NONURGENT RADIOLOGY CARE

The COVID-19 pandemic has had a devastating effect on the economy and the US workforce. Health care systems are reporting massive losses due to the discontinuation of nonurgent care and the general reluctance of patients to enter the health care environment. This is relevant for health care workers, who, despite heroic work to treat this disease, are experiencing furloughs, layoffs, and pay cuts. Resuming nonurgent clinical care activities is anticipated to address some of these challenges and may affect the ability of a health care organization to provide care to future patients.

There are financial considerations directly relevant to patients. For example, some patients may be unable to get needed health care because of loss of employment and loss of health insurance. This is particularly problematic for patients who had insured care postponed to a future state in which they are no longer insured. Health care institutions should anticipate these needs, take steps to mitigate them, and remotely communicate solutions to patients before arrival.

SPECIFIC CONSIDERATIONS FOR ACADEMIC PRACTICES

The safe integration of trainees (ie, fellows, residents, medical students, technologist students) into patient care is beyond

the scope of this statement. In some environments, trainees are directly involved in patient care because of redeployment needs. In other environments, radiology trainees have been socially distanced into their home environment and are learning remotely. The ACR recommends that ACGME guidance [1] be followed for the safe involvement of trainees in patient care during the COVID-19 pandemic.

The safe resumption of research is beyond the scope of this statement. In general, research subjects for imaging trials should be considered the most vulnerable of our patients because their personal benefit may be low or nonexistent. Therefore, these subjects should be considered our most protected patients. However, patients requiring imaging while enrolled in investigational therapeutic trials may need to be prioritized based on clinical need similar to a patient not on a research protocol.

TAKE-HOME POINTS

- A comprehensive strategy for the safe resumption of routine radiology care during the COVID-19 pandemic will include consideration of local COVID-19 statistics; availability of PPE; local, state, and federal government mandates; institutional regulatory guidance; local safety measures; health care worker availability; patient and health care worker risk factors; factors specific to the indication(s) for radiology care; and examination or procedure acuity.
- Overriding guiding principle: If the risk of illness or death to a health care worker or patient from health care–acquired COVID-19 is greater than the risk of illness or death from delaying radiology care, the care should be delayed; however, if the opposite is true, the radiology care should proceed in a timely fashion.
- The risk from health care–acquired COVID-19 can be made very low for most diagnostic radiology examinations and interventional radiology procedures if appropriate safety measures are in place (eg, screening, testing, infection control processes, PPE).
- An accurate risk-benefit analysis of postponing versus performing a given routine radiology examination or procedure often is not possible because of many unknown and complex factors. Therefore, decision making will be guided by imperfect attempts to estimate these risks.
- Practices should do their best to determine the risk to health care workers and patients of developing illness or death from health care–acquired COVID-19 in their local environment, as well as the patient-specific risk of illness or death from postponing an

examination or procedure, and then use that information to guide the re-engagement of routine radiology care.

APPENDIX A: SUPPLEMENTARY CHECKLIST OF QUESTIONS

As practices consider when and how to re-engage routine clinical care, answers to the following questions can help guide local decision-making regarding competing risks. Answers to these questions will vary by site because of local and site-specific information. As COVID-19 testing becomes more widely available, the relevance of some questions may change. The questions are organized into two major categories: how to estimate the risk from COVID-19 and how to estimate the risk from postponement. In this determination, the probability of illness or death (from COVID-19 and non-COVID-19 disease) should take precedence.

FACTORS TO CONSIDER WHEN WEIGHING THE RISK FROM COVID-19 WITH THE RISK FROM POSTPONEMENT

Estimating the risk from health care acquired COVID-19:

- Local pandemic statistics
 - What do local statistics indicate regarding COVID-19 incidence and trends?
 - Do data indicate the disease incidence is increasing?
 - Do data indicate the disease is now in plateau or in decline?
 - Is there evidence of a secondary or tertiary peak in COVID-19 prevalence?
 - What proportion develop severe illness from COVID-19, stratified by age?
- Availability of PPE
 - Is there sufficient PPE to accommodate the re-engagement of routine radiology care?
 - Will institutional PPE reserves be sustained if routine radiology care is re-engaged?
 - Do those PPE estimations include consideration for universal masking strategies?
 - Will use of PPE for low-risk routine care compromise needed PPE for high-risk care?
 - Are there sufficient N95 masks or powered air-purifying respirators for aerosolizing procedures?
- Local safety practices
 - Is there effective screening of patients and visitors at door entry?
 - Is there a universal masking policy for health care workers?
 - Is there a universal masking policy for patients and visitors?

- Are there safe restrictions on visitors into the health system?
 - Is there appropriate signage indicating safe social distances?
 - Are there social distancing policies for health care workers, patients, and visitors?
 - Are patient visits temporally spaced to accommodate social distancing?
 - Is there a COVID-19 testing strategy for symptomatic patients?
 - Is there a COVID-19 testing strategy for asymptomatic patients?
 - Is there a COVID-19 testing strategy for aerosolizing procedures?
 - Is there routine flagging of patients who previously tested positive for COVID-19?
 - Is there a policy for ambulatory imaging of discharged or diagnosed COVID-19 patients?
 - Is there a policy for imaging symptomatic patients with suspected COVID-19?
 - Is there a process to monitor and account for sick or quarantined radiology workers?
 - Is there a backup plan to compensate for shortages in the radiology workforce?
 - Local regulatory guidance
 - Has your local institution created rules or regulations that will affect your practice?
 - Has your government created rules or regulations that will affect your practice?
 - Patient factors
 - What is the patient's risk of serious harm should they develop COVID-19?
 - How will anxiety and fear be managed?
 - Radiology workforce considerations
 - How will radiology workers be protected from known and unknown COVID-19?
 - How will worker social distancing be maintained as patient volumes increase?
 - Is there a process for covering gaps in care because of unexpected worker shortages?
 - How will unneeded contact with patients and other workers be minimized?
 - Is there capability for remote work or protected work areas?
 - How will anxiety and fear be managed?
 - Has an effective communication strategy been developed?
- Estimating the risk from imaging delay:*
- Examination or procedure acuity (arranged from most risk to least risk from a delay)
 - Urgent or emergent imaging and procedures (e.g., severe abdominal pain)
 - Routine but time sensitive imaging and procedures (e.g., cancer staging CT)
 - Elective imaging and procedures (e.g., MR arthrography)
 - Screening (e.g., lung cancer screening)
 - Research outside clinical care
 - Patient factors
 - Does the patient have risk factors that predict a better or worse outcome from delay?
 - Is there clinical data (e.g., prior imaging, labs) that can inform time-sensitivity of care?
 - How will anxiety and fear be managed?
 - Disease considerations
 - What is the aggressiveness of the suspected disease or symptom being imaged?
 - Are there interventions that will be more efficacious if the disease is diagnosed earlier?
 - What does the referring provider consider the risk of postponement to be?

APPENDIX B: STATEMENT WRITING GROUP

Writing group

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Process

Dr. Jacqueline Bello, Chair of the ACR Commission on Quality and Safety, was charged with assembling a representative group to author a statement on the safe re-engagement of routine radiology care during the COVID-19 pandemic. Potential writing group members were identified by specialty from Appropriateness Criteria panels and Medical Physics committees. Additional members were selected for diversity in practice setting and geographic location within the United States, with an emphasis on locations most affected by COVID-19. The recruitment effort

targeted members involved in leadership roles (e.g., chairs, vice chairs), and those having participated in compiling statements or webinars on similar or related topics. The writing group was intentionally targeted to 13 members to enable efficient operation while maintaining diverse perspectives by age, gender, practice location, practice type, and specialty.

An initial draft of the statement—including background information, a guiding principle, and questions for consideration—was created by the writing group chair. The draft was circulated to the writing group in advance of a teleconference. Ten of thirteen members of

the writing group participated in the teleconference. Ideas were shared and discussed, and notes were taken. A revised version of the draft incorporating comments from the teleconference was created and edited by two members of the writing group, and circulated to all members. Iterative edits by all members followed. Nine sequential drafts were created. All writing group members approved the final statement.

REFERENCE

1. ACGME. ACGME response to pandemic crisis. Available at: [acgme.org/covid-19](https://www.acgme.org/covid-19). Accessed May 15, 2020..