Canadian Society of Echocardiography Position Paper

RECOMMENDATIONS FOR RESUMPTION OF ECHOCARDIOGRAPHIC SERVICES DURING COVID-19

PREAMBLE

In response to the COVID pandemic, echocardiographic facilities across Canada have drastically reduced their activity in compliance with hospital and public health directives. This required deferral of large volumes of previously scheduled examinations. With the easing of restrictions, providers of echocardiographic services are now faced with the dual challenges of modifying service provision in a manner that ensures compliance with public health requirements, while engaging the accumulated backlog of deferred examinations. These deferred examinations themselves pose a patient safety risk in that the identification of significant pathology may be delayed, and must be engaged as new referrals continue to be received. This necessitates an expansion of activity relative to previous levels.

This document has been developed with the intention of providing recommendations to guide the resumption of activity within this environment, and rational engagement of deferred examinations. It is recognized that echocardiography is provided in a variety of settings, and that marked interprovincial and even regional differences exist which impact service delivery and will influence the manner in which these recommendations are implemented.

GUIDING PRINCIPLES

The recommendations of this and previous documents have been guided by the following principles:

1. Minimizing the impact of COVID-19 on the mortality and morbidity of patients with cardiac disease.
2. Ensuring the health and protection of front-line health care providers.
3. Aligning with province-specific infection prevention and control policies and protocols.
4. Promoting clinical activities aimed at preserving facility resources (i.e. health care human resources, personal protective equipment, procedure rooms).
5. Maintaining accepted performance standards for provision of echocardiography.

Guidelines for Performing a ComprehensiveTransthoracic Echocardiographic Examination in Adults: Recommendations from the American Society of Echocardiography. https://doi.org/10.1016/j.echo.2018.06.004

Standards for Provision of Echocardiography in Ontario.
https://www.bing.com/search?q=standards+for+provision+of+echocardiography&qs=HS&pq=standar&sc=6-7&cvid=16794E64E24546AB9D728FB08E9B7FE5&FORM=QBRE&sp=1

RECOMMENDATIONS GUIDING RESUMPTION OF ACTIVITY

1. Hospital based facilities, in planning their return to full activity, should be guided by their organizational governance which will, in turn, be following recommendations of their local and provincial governance. In some cases, this may continue to be restricted based on needs of institutions to maintain surge capacity for anticipated subsequent waves of the pandemic. The operational detail of how this is provided is institutionally specific and the operation of echocardiographic facilities and deployment of staff will be directed within that context. Their compliance with infection control standards will be determined and directed by their internal Infection Prevention and Control (IPAC) processes.

2. Community based facilities are unconstrained by requirements to ensure surge capacity, but must develop individual IPAC processes to ensure compliance with directives from the Medical Officer of Health.

3. All echocardiographic service providers in ensuring compliance with best practices, are also referred to the comprehensive document recently released by the American Society of Echocardiography and endorsed by the Canadian Society of Echocardiography (**ASE Statement on Protection of Patients and Echocardiography Service Providers During the 2019 Novel Coronavirus Outbreak**). In Ontario, facilities should also be guided by the requirements laid out by the directions laid out in **COVID-19 Operational Requirement: Health Sector Restart. Version 1. May 26, 2020** provided by the Ministry of Health. Another useful reference providing guidance relevant to a variety of cardiovascular services and diagnostics: **Safe Reintroduction of Cardiovascular Services During the COVID-19 Pandemic** (J Am Coll Cardiol 2020; 75: 3177-83)

RECOMMENDATIONS GUIDING EXPANSION OF ACTIVITY TO COMPLETE DEFERRED EXAMINATIONS

As noted previously, the large volume of deferred examinations represent a challenge and threat which echocardiographic service providers are now facing. Most will need to engage strategies to expand their usual scope of operations and engage innovative practices in order to address this challenge, while maintaining current infection control standards. Such changes must be carried out thoughtfully and must not, in themselves, pose additional patient safety concerns. The following recommendations are provided to help guide these efforts, recognizing that all strategies must be individualized to the circumstances and needs of individual service providers and ilities.

1. Triaging of deferred examinations is essential. In doing so, providers are directed to the principles outlined the previous CSE publication which provides four categories defined in Appendix A.

2. It is recommended that facilities designate an appropriately qualified member of medical staff to oversee triaging and scheduling of deferred examinations.

3. It is recommended that, wherever possible, referring clinicians be notified with respect to the current status of patients for whom examinations have been deferred and asked to consider if clinical circumstances have changed in a manner that would alter their triaging categorization. Such notifications should be repeated every six weeks for examinations not yet completed.

4. It is recommended that facilities develop methodologies to regularly review facility efficiency, including mechanisms to minimize turnover time between examinations and minimize "no shows" through notification and cancelling or re-scheduling of appointments as appropriate.

5. Performance of research examinations should be deferred or arranged so as not to impede patient care.

6. It is recommended that, going forward, facilities require referring clinicians to designate the triaging status as per the four categories defined in Appendix A. In addition, facilities should develop local practices to ensure that Category 1 patients are brought to attention.

7. It is recommended that facilities schedule examinations with the goal of providing examinations within the following time frames:
    a. For Category 1 patients – within 2 weeks
    b. For Category 2 patients - within 1 month
    c. For Category 3 patients – within 4 months (consideration of an alternative imaging modality should be considered where available)

8. For Category 4 patients *(surveillance of known structural abnormality in asymptomatic patients)* it is recommended that specific advice be sought from referring clinicians as to whether the examination can be further delayed or deferred until next usual scheduling interval.

9. Facilities will need to develop methods to simultaneously process deferred examinations while they resume the processing of new referrals. This will require all facilities to consider methods to expand activity beyond pre-shut down levels, including expanded hours of operation.

10. Where equipment availability is a limiting factor, facilities are encouraged to work with their sonographers and facility staff to develop more efficient means to process and prepare patients for examinations, minimizing machine "down time".

11. Community-based and hospital-based facilities are strongly encouraged to collaborate in order to manage their deferred examinations efficiently, including:
    a. Sharing and comparing of deferral lists to minimize duplication and need for repeat examinations, including transfer of examination sites in order to maximize efficiency.
    b. To prepare for future surges in COVID activity by developing processes for rapid transfer of examinations to non-hospital based facilities
    c. Developing technical interfaces to share examinations and reports
    d. Providing opportunities and public health guidance for sonographers to allow for expanded operations.
    e. Expanding capacity of medical staff to support interpretations at multiple sites.
    f. Minimize need for repeat examinations by facilitating more widespread use of contrast agents

12. For jurisdictions in which echocardiography is limited to hospital based facilities, consideration be given to working with hospital and health authorities to develop satellite laboratories in community settings to engage less urgent studies and reducing backlog while reducing patient congestion within hospitals and providing a sustaining buffer against future infectious disease outbreaks.

13. Reduction of service delivery through mechanisms such as shortened scanning times, truncated examinations or use of equipment incapable of providing complete examinations (except when specifically designated by referring clinicians to follow-up on previously defined pathology or provide very focused information) are not acceptable strategies as they do not provide accepted optimal patient service and can result in a need for repeat examinations to follow up on missing information.

Appendix A

Acknowledging that all patients present unique situations that must be individually assessed and evaluated by a qualified clinicians, the following categorization scheme is recommended to assist in establishing consistent triaging decisions.

CATEGORY 1 – CRITICAL INDICATIONS
The examination is expected to prevent an adverse outcome (death or major morbidity) or hospital admission within two weeks.

CATEGORY 2 – URGENT INDICATIONS
The examination is essential to establishing a management decision in a symptomatic patient which, if deferred, could affect patient prognosis, and no alternative imaging methodology is available.

CATEGORY 3 – ESTABLISHED BUT NON-URGENT INDICATION
As per Category 2 but in asymptomatic patients, or alternative imaging modality readily available, or uncertain impact on patient prognosis. Intended primarily to optimize/guide management in a stable/treated patient

CATEGORY 4 – SURVEILLANCE and PREVENTION
The examination is scheduled to monitor disease progression or to screen for high risk conditions in an otherwise asymptomatic patient. Intended primarily for risk stratification in an at-risk but asymptomatic patient.

It is important to recognize that these categorical descriptors are provided to allow for application to the multiple and diverse clinical indications in which echocardiography has a potential role. For example:

> A *"new heart murmur"* may be a Category 1 indication in an unstable patient post myocardial infarction, or Category 3 in a stable outpatient undergoing a screening examination.