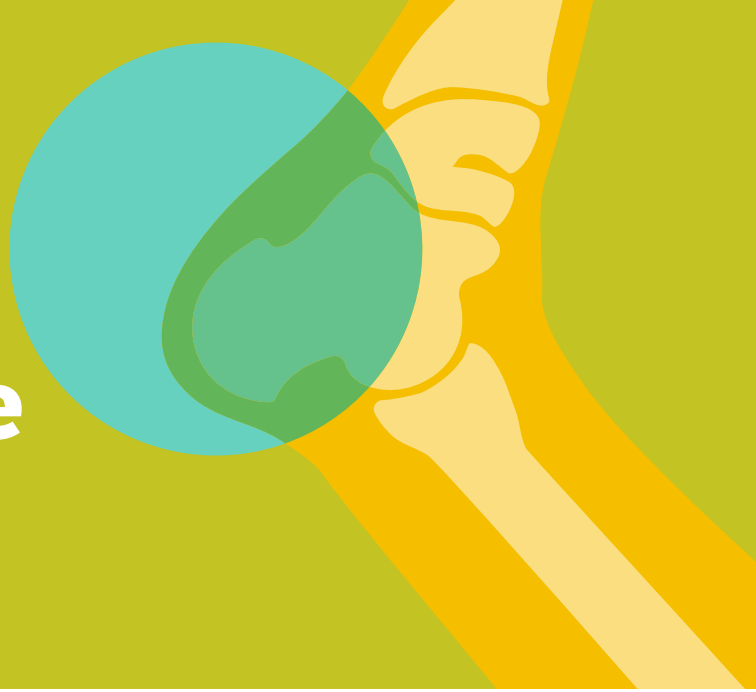
Essential Imaging
BC PATIENT SAFETY & QUALITY COUNCIL

Essential Imaging Initiative Driver Diagram



The provincial Guidelines and Protocols Advisory Committee (GPAC) has created guidelines for appropriate medical imaging. The purpose is to communicate best practice for imaging in five common situations:

- "Imaging is not recommended for uncomplicated headache unless red flags are present;
- CT head scans are not recommended in adults and children who have suffered minor head injuries unless positive for a head injury clinical decision rule;
- Chest CT for suspected pulmonary embolism is not recommended in low-risk patients with a normal D-dimer result;
- Imaging is not recommended for low back pain unless red flags are present; and
- MRIs of hip or knee joints are not recommended in patients with co-existent pain and moderate to severe osteoarthritis unless red flags are present".[1]

To support implementation of these guidelines and help ensure that patients have access to essential imaging when they need it most, the BC Patient Safety & Quality Council (the Council) is leading the Essential Imaging initiative.

[1]Guidelines and Protocols Advisory Committee. Appropriate Imaging for Common Situations in Primary and Emergency Care. BC Guidelines; 2019. Available from: **https://bit.ly/3jJzIAf**

IMPROVEMENT STRATEGIES AND IDEAS (DRIVER DIAGRAM)

The purpose of the Essential Imaging Initiative is to accelerate the spread and implementation of the BC Guidelines for Appropriate Medical Imaging and improve care provider's access to evidence-based tools and change ideas that inform appropriate imaging requisition practices. There are many evidence-based strategies and ideas you can adapt to support appropriate medical imaging. This driver diagram is a framework that can help us achieve our goal of increasing appropriate imaging. Strategies and ideas listed in this kit are not all-inclusive and you may discover others that would be ideal in your context. Stay open to innovative ideas to improve patient care and safety.

HOW DOES THIS DIAGRAM WORK?

A driver diagram is a visual framework that helps us to achieve our goal of reducing inappropriate medical imaging. It breaks down the overall aim into primary drivers, secondary drivers and tangible ideas that are ready for testing and implementation.

Primary driver: Improvement areas that need to be addressed to achieve the outcome.
Secondary driver: Specific interventions necessary to achieve the primary driver.
Key change ideas: Specific ideas that will support or achieve the secondary driver.

You can see how one level flows into the next. These are ideas that help us reach our goal by breaking down into manageable pieces.

Want to know a bit more about how driver diagrams work? Check out a helpful video from the Institute for Healthcare Improvement at **https://bit.ly/3gS7LVR.**

Driver Diagram

GOAL	PRIMARY DRIVERS	SECONDARY DRIVERS
Accelerate the spread and implementation of the BC Guidelines for Appropriate Medical Imaging and improve care provider's access to evidence-based tools and change ideas that inform appropriate imaging requisition practices via a campaign and Action Series by March 2021.	Ensure clinicians have access to appropriate just-in-time decision support	• Advance medical imaging point-of-care clinical decision tools that support existing workflow • Enable enhanced clinician decision-making on appropriate imaging by making information available • Support the clinician's ability to consult expertise for additional decision-making support
	Provide patients and families with choice and alternatives to medical imaging	• Decrease patient demand and influence preferences for appropriate testing • Increase referral to, and application of, alternative testing or treatment for patients
	Support provider education and training	• Ensure practitioners are knowledgeable and confident on appropriate medical imaging for five common situations • Support continuous learning on medical imaging appropriateness in the practice setting
	Increase awareness and accessibility of medical imaging data for continuous system improvement	• Institute learning feedback and accountability systems

PRIMARY DRIVER ONE

Ensure Clinicians Have Access to Appropriate Just-in-Time Decision Support

SECONDARY DRIVER	CHANGE IDEAS
Advance medical imaging point-of-care clinical decision tools that support existing workflow	• Find where your medical imaging screening tool, requisition and decision support guidelines are stored and amalgamate into a bundle • Develop a process to prompt practitioners to consider previous interventions and imaging results[1] • Ensure a point-of-care checklist of accepted red flags is built into manual or electronic order entry for a chosen key area • Adapt the Lower Mainland MRI Appropriateness Checklist (**https://bit.ly/3f98i30**) for medical imaging modalities
Enable enhanced clinician decision-making on appropriate imaging by making information available	• Identify alternative treatment options that are available at your site/within your community. Create an alternative list to share with practitioners • Link supportive websites or applications that inform order entry to your workstations[1] • Download the free UBC Radiology Teaching App (**https://bit.ly/2ulbmBM**) to help increase confidence in ordering the most appropriate imaging test. Share your experience on how the app influenced your practice at local rounds or education sessions[2]
Support the clinician's ability to consult expertise for additional decision-making support	• Consult radiology clinicians for feedback when certain imaging – such as ultrasound or CT scan – resources are not available at your site, or when questioning appropriateness of ordering an imaging test • Consult the RACE (**https://bit.ly/2Gv53Eq**) line if site that does not have radiology staff in-house • Identify and develop practitioner appropriateness champions – in particular, non-radiology department heads – who advocate for medical imaging appropriateness with staff and colleagues

[2]Vanderby S, Badea A, Sanchez JNP et al. A day in the life of MRI: The Variety and Appropriateness of Exams Being Performed in Canada. Canadian Association of Radiologists Journal 2018; 69: 151-161.

PRIMARY DRIVER TWO

Provide Patients and Families with Choice and Alternatives to Medical Imaging

SECONDARY DRIVER	CHANGE IDEAS

Decrease patient demand and influence preferences for appropriate testing	• Distribute medical imaging appropriateness material found at **bcpsqc.ca/imaging** and adapt to:
	  • Include patient partners when designing/adopting brochures for local context; ensure content is written so it is easily understood by the public
	  • Include brochures in other languages pertinent to your geography
	  • Include alternatives to testing information in the patient brochures; and
	  • Include follow-up exam timing, when necessary
	• Encourage using the medical imaging conversation guide resource (**bcpsqc.ca/imaging**) when addressing medical imaging demand with patients
	• Increase and promote a public and/or clinician web presence for information on medical imaging appropriateness, including links to HealthLink BC (**https://bit.ly/31aPtHt**) for patients and clinicians

Increase referral to, and application of, alternative testing or treatment for patients	• Provide patients with information on the risks of radiation exposure. Ensure resources include information on the balance between benefit of testing and radiation exposure when referral is appropriate
	• Implement ways to decrease patient dose exposure for both individual imaging examinations as well as on a cumulative basis. Possibilities include:
	  • Reduce the administered activity to the lowest amount possible that does not affect imaging quality (ALARA or 'as low as reasonably achievable' **https://bit.ly/2RYcwkF**)
	  • Apply appropriateness criteria and practice guidelines that help practitioners choose the right imaging test to answer the clinical question
	• Imbed alternative practitioner referral processes and alternative treatment options into the assessment/review process, e.g., Encourage patients to follow-up with a Registered Massage Therapist (RMT) or Registered Physiotherapist (PT)
	• Ensure patients and families are aware they can use 8-1-1 for additional support from practitioners such as RMT or PT

PRIMARY DRIVER THREE

Support Provider Education and Training

SECONDARY DRIVER	CHANGE IDEAS
Ensure practitioners are knowledgeable and confident on appropriate medical imaging for five key areas	• Develop appropriateness training curriculum to include in your local orientation processes2 • Include education on physical exam assessments that have potential to result in increased inappropriate medical imaging ordering (e.g., brain, spine, and musculoskeletal) and common reasons during rounds, staff in-service or education sessions[1] • For physicians: complete the 'Confronting Unnecessary Care' online CME module to gain CME credits • Include education on ordering medical imaging during orientation for new clinicians[1]
Support continuous learning on medical imaging appropriateness in the practice setting	• Join a network that supports medical imaging appropriateness, such as the BC Emergency Medicine Network , for up to date clinical guidelines and practice resources • Stay up to date on Choosing Wisely Canada events and other happenings by joining their mailing list (**https://bit.ly/31dV53J**) • Introduce monthly 'appropriateness rounds' in which cases that may have slipped through the cracks are discussed

PRIMARY DRIVER FOUR

Increase Awareness and Accessibility of Medical Imaging Data for Continuous System Improvement

SECONDARY DRIVER	CHANGE IDEAS

Institute learning feedback and accountability systems	• Email/mail targeted reminders promoting evidence-based imaging practices attached to reports sent to practitioners
	• Implement a 'lessons learned' case study into your department or clinic's team meetings on a regular basis
	• Create a medical imaging appropriateness quality improvement dashboard; review data with people on your direct team who help improve care (e.g., leaders, administration and staff members)
	• Ensure timely follow-up with staff members and closing the loop of medical imaging-related patient safety incidents
	• Introduce ordering practitioner peer review processes as a quality improvement initiative to learn from each other. Anonymized data can be obtained from measuring the rate of indicated CT/MRI excluding red flags[2]
	• Build capacity for clinical radiology departments to complete frequent audits. Ideas for audit and feedback include:
	  • Provide data to department heads on events associated with significant risk;
	  • Track tests daily to provide monthly practitioner and ordering team feedback in a standardized report; and
	  • Implement real-time feedback for referring practitioners with results