Central Intake Program

Ottawa Valley and Eastern Ontario Guideline for the Use of MRI and CT in Adult Patients with Headache

November 2019

Dear Colleagues,

Clinical studies have has shown that for some types of headache in adults, MRI and CT are not useful because they rarely show why the headache occurs.

In an effort to maintain leading practice and to help optimize access to advanced imaging, the regional imaging departments will only perform MRI or CT on patients with headache where the clinical history demonstrates medical necessity.

The attached chart is intended to assist physicians and their patients to make evidence-informed decisions regarding the use of advanced imaging in the assessment and diagnosis of common issues related to headache in adults. A list of additional physician and patient resources regarding headache also is attached.

Please note that MRI and CT are not indicated for adult patients presenting with typical migraine, or tension type headaches with a normal neurological exam if there are no red flags suggestive of potential causes for a secondary headache disorder. Imaging is also not indicated for adult patients with headache caused by acute (<4 weeks) uncomplicated rhinosinusitis.

If the clinical history on an imaging referral for patients with headache does not sufficiently demonstrate medical necessity of the requested study, the referral may be returned to you with a request for more information to help the regional imaging departments triage your request appropriately.

If you are unsure of whether MRI or CT would be an appropriate study for your patient you may utilize the regional eConsult service under “Radiology” with sub-category “NeuroRadiology”, and specifically indicate the consult is for “imaging for headache”. If you do not already have access to the regional eConsult service or for more information, please contact: econsultsupport@lhinworks.on.ca

Thank you in advance for supporting this patient care initiative.

Dr. Jose Aquino, MD, FRCPC
Chair, MRI Access Clinical Advisory Committee

Quick Reference Guide: Use of MRI and CT in Adult Patients Presenting with Headache

The following chart is intended to help physicians and their patients make evidence-informed decisions regarding the use of MRI and CT in the assessment and diagnosis of common issues related to headache in adults.

Where an imaging modality "may be indicated", or is "not typically indicated", the referring physician may wish to request a consultation with a specialist or radiologist to determine if an MRI is indicated, and is likely to alter clinical management.

		MRI	CT
Chronic Headache	Classic migraine or tension-type primary headache. Normal neurologic examination, and no red flags.	Typically not indicated	Typically not indicated
	Chronic headache: No new features. No neurologic deficit.	Typically not indicated	Typically not indicated
	Chronic headache: Increasing frequency or new features including: • Fever and neck stiffness (meningismus) • Papilloedema • Unexplained focal neurological signs • Unusual headache attack precipitants • Headache onset after age 50	May be indicated	Indicated
New Headache	Sudden, severe headache or "worst headache of my life".	Typically not indicated	Indicated
	New or progressively worsening headache with one or more of the following "red flags": • Subacute head trauma • Related to activity or event (sexual activity, exertion, position) • Neurological deficit • Known or suspected cancer • Immunosuppressed or immunocompromised patient • Currently pregnant • 50 years of age or older	May be indicated	Indicated
	New primary headache of suspected trigeminal autonomic origin.	Indicated	Typically not indicated
	New headache with optic disc edema.	May be indicated	Indicated

Cervicogenic Headache	Cervicogenic headache and new or increasing non-traumatic cervical or neck pain. No neurological deficit. **Note:** MRI or CT C- spine may be indicated based on specialist assessment. CT C-spine may be indicated in cases of trauma, patient older than 60, or if MRI is contraindicated.	May be indicated	May be indicated
Rhinosinusitis	Headache caused by acute (<4 weeks) uncomplicated rhinosinusitis with no focal neurological symptoms.	 Typically not indicated	 Typically not indicated
	Rhinosinusitis or nasal congestion refractory to medical treatment with or without suspected orbital or intracranial complication.	May be indicated	 Indicated

Resources for physicians

Primary Care Management of Headache in Adults (2016): This practice guideline was developed in Alberta to assist with the assessment and management of patients with headache in primary care settings. The full guideline and a quick reference guide are available from Toward Optimized Practice at http://www.topalbertadoctors.org/cpgs/10065 .

DI-App: The Joint Department of Medical Imaging at the University Health Network partnered with family physicians, specialists, and radiologists from across Ontario to develop evidence-based imaging pathways for four common clinical scenarios: headache, low back pain, knee pain, and TIA/stroke. These pathways are available as a reference decision support tool for physicians through the Diagnostic Imaging Appropriateness Tool (DI-App) at http://pathways.coralimaging.ca/.

Guidelines for Diagnostic Imaging During Pregnancy and Lactation: This document, endorsed by the American College of Radiology and the American Institute of Ultrasound in Medicine, is an educational resource for clinicians and provides recommendations regarding diagnostic imaging procedures during pregnancy and lactation. It is available at https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Guidelines-for-Diagnostic-Imaging-During-Pregnancy-and-Lactation?IsMobileSet=false

Quality-Based Pathway Clinical Handbook for Non-Emergent Integrated Spine Care: This handbook developed by the Ministry of Health and Long Term Care provides considerations for neck assessments based on the CORE Back Tool. Specific imaging recommendations can be found in Appendix 5 on page 68. http://www.health.gov.on.ca/en/pro/programs/ecfa/docs/hb_spine.pdf

eConsult BASE: If you are unsure about whether imaging is indicated for one of your patients, please contact the regional eConsult service and reference “Imaging for headache” in the subject line. If you do not already have access to the regional eConsult service, or for more information, please contact: econsultsupport@lhinworks.on.ca

Resources for patients

Patient pamphlets:

Imaging Tests for Headache: When you need them and when you don't. This pamphlet is available on-line from Choosing Wisely Canada at https://choosingwiselycanada.org/imaging-tests-headaches/

What You Should Know About Your Headache. This pamphlet is part of the headache toolkit developed by Alberta's TOP – Toward Optimized Practice. It is available on line at www.topalbertadoctors.org

Disclaimer: The above list is a set of resources that may be useful for referring physicians and patients. It is not intended to be a comprehensive list of all resources that are available. Physicians are encouraged to use their own expertise and additional resources when advising patients.