



# Low Back Pain: A Guide for Essential Imaging

## Recommendation:

**“Imaging is not recommended for low back pain unless red flags are present.”<sup>1</sup>**

The BC Patient Safety & Quality Council has put together these Essential Imaging Conversation Guides for Care Providers to support and guide conversations with patients based on the *BC Guidelines for Appropriate Imaging*.<sup>1</sup>

Unless there are considerable concerns, people with low back pain who receive imaging fair no better than those who don't, and results do not affect management or the rate of recovery. However, patients who are not aware of these recommendations may request imaging. Here are some messages to inform and guide your conversations with patients requesting low back pain imaging.<sup>1</sup>



## Provide Information<sup>2</sup>

If imaging is not indicated, inform patients that:

- Acute low back pain usually resolves within six weeks.
- CT, MRI and X-rays for uncomplicated low back pain do not help patients get better faster and may expose them to unnecessary risks.
- Low back pain is very common and is often caused by back strain. It usually resolves within weeks without medical treatment.
- Patients should visit their health care provider if the pain is getting worse or if they have new symptoms.
- Low back pain can be treated with heat, acetaminophen, NSAIDs and the gradual return to usual activities.
- Exercise may decrease low back pain symptoms and reduce recurrence.

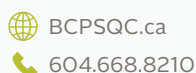


## Provide Advice<sup>2</sup>

- Address any fear of activity and return to work and normal activities.
- If exercise is persistently making the pain worse, recommend physiotherapy to the patient.
- Provide expected timelines for recovery and clear communication, which can improve patient satisfaction and support recovery.
- Suggest that the patient read the *Conversation Guide for Patients – Low Back Pain*.

## Start the Conversation!

Learn more and find additional clinical resources at [BCPSQC.ca/imaging](https://bcpsqc.ca/imaging).



<sup>1</sup>BC Guidelines. Appropriate Imaging for Common Situations in Primary and Emergency Care. 2020. Diagnostic Imaging. Available from: <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/diagnostics-imaging>

<sup>2</sup>Choosing Wisely Canada. Imaging tests for lower back pain. When you need them and when you don't. [Internet pamphlet]. Toronto Canada; 2017. [cited 2020 March 10]. Available from: <https://choosingwiselycanada.org/wp-content/uploads/2017/05/Low-Back-Pain-EN.pdf>



# Minor Head Injury: A Guide for Essential Imaging

**Recommendation: “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”<sup>1</sup>**

The BC Patient Safety & Quality Council has put together these Essential Imaging Conversation Guides for Care Providers to support and guide conversations with patients, based on the *BC Guidelines for Appropriate Imaging*.<sup>1</sup>

CT of the head exposes patients to radiation and have associated cancer risks. The Canadian CT Head Rule and PECARN Rule (for children) can help balance the potential benefits of identifying a treatable brain injury with the risks associated with radiation exposure.<sup>2</sup> Here are some messages to inform and guide your conversations with patients requesting CT scans for minor head injuries.<sup>1</sup>

## Provide Information

If imaging is not indicated, inform patients that:

- While an injury to the head can be scary—a concussion affects how your brain works and results in an altered mental state—most people recover within a few weeks.<sup>1</sup>
- Canadian Radiology guidelines recommend certain rules to follow to help us decide when medical imaging is appropriate. In order to decide whether to complete a head CT or not, clinicians apply rules to guide decision making:
  - Adults age 16 years and older: Canadian CT Head Rule (age 16+).<sup>1</sup>
  - Children: PECARN Rule.
- Suggest that the patient read the *Conversation Guide for Patients – Minor Head Injury*.
- A CT scan of a patient’s head may be needed if a health care provider notes:<sup>1</sup>
- GCS score is worse two hours after injury
- Suspected open or depressed skull fracture
- Any sign of basal skull fracture
- Vomiting ≥2 episodes
- Age ≥65 years
- Medium risk (for brain injury on CT)
- Amnesia > 30 minutes preceding impact
- Dangerous mechanism of injury (e.g., pedestrian struck by motor vehicle, occupant ejected from motor vehicle, fall from height > three feet or five stairs)



The Canadian CT Head Rule can be applied to patients with a “minor” head injury. In this context, “minor” means a head injury with GCS 13-15 AND with one of:

- A witnessed loss of consciousness (LOC), or
- Amnesia from the head injury event, or
- Witnessed disorientation.

When in doubt, consult with radiology in your local community or through the RACE Line: [raceconnect.ca](https://www.raceconnect.ca)

## Start the Conversation!

Learn more and find additional clinical resources at [BCPSQC.ca/imaging](https://www.bcpsqc.ca/imaging).

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<sup>1</sup>BC Guidelines. Appropriate Imaging for Common Situations in Primary and Emergency Care. 2020. Diagnostic Imaging. Available from: <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/diagnostics-imaging>

<sup>2</sup>Choosing Wisely Canada. CT scans for adults with head injuries. When you need one and when you don't. [Internet pamphlet]. Toronto Canada; 2017. [cited 2020 March 10]. Available from: <https://choosingwiselycanada.org/wp-content/uploads/2017/06/CTs-for-adults-with-head-injuries-EN.pdf>



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# CT Scans for Uncomplicated Headache in Adults: A Guide for Essential Imaging

**Recommendation: “Imaging is not recommended for uncomplicated headache unless red flags are present.”<sup>1</sup>**

The BC Patient Safety & Quality Council has put together these Essential Imaging Conversation Guides for Care Providers to support and guide conversations with patients, based on the *BC Guidelines for Appropriate Imaging*.<sup>1</sup>

The need for imaging must be balanced against the risk of radiation. Unless red flags are present, patients with uncomplicated headache who have imaging fair no better than those who don't, and results do not affect management or the rate of recovery.<sup>1</sup> However, patients who are not aware of the risks and recommendations may request imaging. Here are some messages to inform and guide your conversations with patients requesting imaging for uncomplicated headaches.<sup>1</sup>



### Provide Information

If imaging is not indicated, inform patients that:

- While an uncomplicated headache can be difficult, patients likely do not need a CT scan of their head.
- Medical imaging tests don't help patients get better faster and they don't tell care teams why a patient may be having a headache.<sup>2</sup>
- A headache usually goes away on its own and patients tend to recover after a few weeks.
- Patients can help avoid complications and encourage recovery by following a few simple tips.



### Provide Advice



Talk to your patient about what they can do to encourage recovery, including:<sup>3</sup>

- Finding out what may be causing the headache in order to find the best treatment to reduce pain
- Avoiding or reducing smoking
- Managing and controlling stress
- Getting enough sleep (6-8 hours each night)
- Using non-prescription pain relievers or muscle relaxers such as acetaminophen, ibuprofen or naproxen
- Reading the *Conversation Guide for Patients – Uncomplicated Headache*

When in doubt, consult with radiology in your local community or through the RACE Line: [raceconnect.ca](https://www.raceconnect.ca)

### Start the Conversation!

Learn more and find additional clinical resources at [BCPSC.ca/imaging](https://www.bcpsc.ca/imaging).

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<sup>1</sup>BC Guidelines. Appropriate Imaging for Common Situations in Primary and Emergency Care. 2020. Diagnostic Imaging. Available from: <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/diagnostics-imaging>

<sup>2</sup>Choosing Wisely Canada. Imaging tests for headaches. When you need one and when you don't. [Internet pamphlet]. Toronto Canada; 2017. [cited 2020 March 10]. Available from: <https://bit.ly/3bevz4M>



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# MRI for Hip and Knee Pain: A Guide for Essential Imaging

**Recommendation: “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.”<sup>1</sup>**

The BC Patient Safety & Quality Council has put together these Essential Imaging Conversation Guides for Care Providers to support and guide conversations with patients, based on the *BC Guidelines for Appropriate Imaging*.<sup>1</sup>

The diagnosis of knee osteoarthritis (OA) can be made based on the patient’s history, physical examination, plain radiography consisting of weight-bearing posterior-anterior and lateral and skyline views.

The diagnosis of hip OA can be made based on the patient’s history, physical examination and plain radiography.<sup>2</sup>

Unless red flags are present, patients with knee and hip pain from moderate to severe OA who have imaging fair no better than those who don’t, and results do not affect management or the rate of recovery.<sup>2</sup> However, patients who are not aware of the risks and recommendations may request imaging. Here are some messages to inform and guide your conversations with patients requesting imaging for hip and knee pain.<sup>1</sup>



## Provide Information<sup>2</sup>

If imaging is not indicated, inform patients that:

- The research shows that if patients have significant osteoarthritis, there is no benefit to having an MRI.
- Most knee and hip pain problems can be diagnosed by better understanding the symptoms, the location of the pain and what makes the pain better or worse, without an MRI.
- Having an x-ray can inform the appropriate investigation pathway.
- Some orthopaedic surgeons do not require an MRI prior to consultation. If an MRI is required, the surgeon can request it.
- There are options for treatment and pain management.
- Patients can learn more about essential imaging tests through the *Conversation Guide for Patients – Hip and Knee Pain*.



## Know the Red Flags of Joint Pain Indications for Knee or Hip MRI:<sup>1</sup>

- Age < 40 years with knee or hip OA in subject joint
- Query tumour/neoplasm
- Query infection
- Fixed locked knee (not intermittent)
- Previous knee or hip surgery
- Osteonecrosis
- MRI was recommended on a previous imaging report

## Start the Conversation!

Learn more and find additional clinical resources at [BCPSQC.ca/imaging](https://bcpsqc.ca/imaging).

<sup>1</sup>BC Guidelines. Appropriate Imaging for Common Situations in Primary and Emergency Care. 2020. Diagnostic Imaging. Available from: <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/diagnostics-imaging>

<sup>2</sup>Choosing Wisely Canada. Orthopedics. Ten things physicians and patients should question. [Internet pamphlet]. Toronto Canada; 2017. [cited 2020 March 10]. Available from: <https://bit.ly/2RNwDT0>





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# CT Scans to Find a Blood Clot in The Lungs: A Guide for Essential Imaging

**Recommendation: “Chest CT for suspected pulmonary embolism is not recommended in low-risk patients with a normal D-dimer result.”<sup>1</sup>**

The BC Patient Safety & Quality Council has put together these Essential Imaging Conversation Guides for Care Providers to support and guide conversation with patients, based on the *BC Guidelines for Appropriate Imaging*.<sup>1</sup>

“Practitioners are reminded to consider risk factors that might alter the pre-test probability. This strategy applies to most people and does not account for unique risk factors (e.g., anabolic steroids, athletes, elderly, paraplegics, etc.). If patients have persistent symptoms beyond 24–48 hours, they should return to the emergency department for further assessment.”<sup>1</sup>

Patients who are not aware of the risks and recommendations may request imaging. Here are some messages to inform and guide your conversations with patients requesting imaging for suspected pulmonary embolism.<sup>1</sup>



## Provide Information<sup>2</sup>

If imaging is not indicated, inform patients that:

- CT scans come with some risk.<sup>2</sup>
- A CT scan is a machine that uses large doses of radiation to take pictures of bone, organs or soft tissues. CT scans looking for a PE also use dye that can cause damage to kidneys or cause an allergic reaction.
- If chances of having a PE is low, a CT scan will not help patients feel better more quickly.
- Patients can learn more about essential imaging by reading the *Conversation Guide for Patients - CT for Suspected PE*.



## Provide Advice

Talk to your patient about what they can do to encourage recovery, including:<sup>2</sup>

- Continuing usual activities without over-exerting
- Using medications as instructed by health care providers
- If symptoms persist or change then patients should visit a health care provider

## Did You Know?



“For low risk adult patients: Do not order imaging (CT pulmonary angiogram) or ventilation-perfusion lung scan for pulmonary embolism in those with a normal D-dimer result.

For high risk adult patients: Start empiric treatment with anticoagulant therapy if confirmatory imaging is not immediately available.”<sup>1</sup>

When in doubt, consult with radiology in your local community or through the RACE Line: [raceconnect.ca](https://www.raceconnect.ca)

## Start the Conversation!

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