
Neurology

Seven Things Clinicians and Patients Should Question

by
Canadian Neurological Society
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1 **Don't routinely perform brain imaging after acute seizure in patients with established epilepsy.**

Typically, epilepsy patients have brain imaging at the time of diagnosis to investigate for a structural cause for seizures. Seizures in these patients are unlikely a result of new structural changes. Neuroimaging can be considered in patients with longstanding epilepsy without prior imaging studies, or in patients who are candidates for neurosurgery with seizures refractory to medical management.

2 **Don't treat women of childbearing potential with Valproic acid if other effective treatments are available.**

Valproic acid is teratogenic for a developing fetus and should be avoided. Valproic acid increases the risk of diminished IQ as well as major congenital malformations including neural tube defects and cardiovascular abnormalities for a developing fetus. If valproic acid treatment is deemed necessary, patients should be counselled regarding contraception and the risks of conception. In this case, the lowest effective dose should be used.

3 **Don't choose opioids or cannabinoids as the first choice of treatment for neuropathic pain.**

Opioids and cannabinoids have weak or inconclusive evidence in effective treatment of neuropathic pain. The well documented risks of opioid and cannabinoids include nausea, sleepiness, impairment, dependence, and development of substance use disorders. With impairment comes further risks to oneself and others in altered judgement in the workplace or while operating a vehicle. Opioids come with an additional risk of decreased respiratory drive and fatality with overdose. Neuropathic pain can be treated effectively using agents with demonstrated efficacy and significantly less risks compared to opioids and cannabinoids.

4 **Don't order neuroimaging or EEG in asymptomatic patients in the emergency department with syncope and a normal neurological evaluation.**

Syncope, and pre-syncope with observed convulsions are very common and frequently investigated in the emergency department. Typical syncope with a normal examination requires minimal investigation. Neuroimaging and EEG will not help in determining the etiology or management of patients with typical syncope in the absence of focal neurologic symptoms or findings on examination.

5 **Don't order CT head scans in adults and children who have suffered minor head injuries (unless positive for a validated head injury clinical decision rule).**

Head injuries in children and adults are common presentations to the emergency department. Minor head injury is characterized by: Glasgow Coma Scale (GCS) 13-15, associated with either witnessed loss of consciousness, definite amnesia, or witnessed disorientation. Most adults and children with minor head injuries do not suffer from serious brain injuries that require hospitalization or surgery. CT head scans performed on patients without signs of significant injuries can expose patients to unnecessary ionizing radiation that has the potential to increase patients' lifetime risk of cancer. They also increase length of stay and misdiagnosis. There is strong evidence that physicians should not order CT head scans for patients with minor head injury unless validated clinical decision rules suggest otherwise (i.e., Canadian CT head rule for adults, and CATCH or PECARN rules for children). Despite their validity, these rules are never 100% sensitive and are meant to assist and not replace, clinical judgement.

6**Don't use opioids for treatment of migraines.**

Opioids are not adequate for pain control for patients with migraines. The risk for harm, including impairment, dependence, tolerance, medication overuse headaches, and opioid use disorder with opioids is greater than the documented benefit. Additionally, opioids may worsen nausea and vomiting associated with the migraine. Prescription opioids for migraines would have minimal to no benefit with the excess of risk, and contribute to the opioid crisis.

7**Don't use butalbital, butorphanol, or ergotamine as treatment for migraines except as a last resort.**

Butalbital, butorphanol, and ergotamine are not adequate abortive or preventative treatments for patients who suffer with migraines. Butalbital and butorphanol are barbiturate containing medications which carry the risks of sedation, intoxication, dependence, abuse potential, severe withdrawal, and substance use disorders. The risk of medication overuse headache with these medications is also significant. These medications are only helpful in refractory cases of migraines as a last resort. There are more effective and less harmful first line agents available for prophylactic and abortive treatment of migraine headaches.

How the list was created

The Canadian Neurological Society (CNS) formed a Choosing Wisely task force in August 2018. The American Board of Internal Medicine Choosing Wisely Neuroscience recommendations were reviewed for their relevance to Canadian neurology as well as recommendations from the American Epilepsy Society, American Association of Neuromuscular and Electrodiagnostic Medicine, American Academy of Nursing, American College of Emergency Physicians, American Geriatrics Society, American Academy of Neurology, and American Academy of Pediatrics. Ten potential recommendations were initially selected and were sent to CNS members in a ranking survey from which a top five list was chosen. These recommendations were presented at the Canadian Neurosciences Federation National Congress in June 2019 which were well received. The list was then sent to Choosing Wisely Canada for review and finalization.

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About the Canadian Neurological Society

The Canadian Neurological Society was established in 1948 and represented both neurologists and neurosurgeons. In 1965, the original CNS was dissolved and two new societies were created to represent the two distinct groups.

Today, the Canadian Neurological Society has approximately 540 members and represents neurologists and neurology residents in Canada. The CNS Board of Directors manages the business, initiatives and finances of the CNS. The board also appoints CNS member representatives to sit on various CNSF committees, including the Professional Development Committee and the Scientific Program Committee. The CNS President and Vice-President also serve on the Board of Directors of the Canadian Neurological Sciences Federation (CNSF).



About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.