Latest Canadian Guidelines for Lipid Reduction

1. What are the latest Canadian guidelines for lipid reduction in reference to stroke prevention?

Question submitted by:
Dr. Paul Stephan
Scarborough, Ontario

Recommendations for CV risk reduction include thromboembolic stroke prevention. The Canadian guidelines for the diagnosis and treatment of dyslipidemia and prevention of CVD have been issued recently and can be found online.[1] These guidelines represent a simplified, yet more aggressive approach to risk stratification and dyslipidemia management. In particular, patients found to be at intermediate risk, based on the Framingham Heart Study (Framingham 10-year risk score between 10 to 20%), have been added to the high-risk category.[2]

It is recommended that intermediate-risk patients be considered for lipid-lowering treatment if their LDL cholesterol levels exceed 3.5 mmol/L, if total cholesterol/HDL ratio is over 5.0, or if they have a positive family history of premature CVD (age < 60 years). The primary LDL cholesterol targets for patients with established CVD or diabetes mellitus, as well as for patients with a Framingham 10-year risk score of 10% or above, are an LDL cholesterol level below 2.0 mmol/L or a relative reduction in LDL cholesterol of at least 50%.

In patients felt to be low-risk (those with a Framingham 10-year risk score below 10%), lipid lowering treatment is recommended if their LDL cholesterol level exceeds 5.0 mmol/L; the treatment target is a relative reduction in LDL cholesterol of at least 50%.

References

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2. D'Agostino RB, Ramachandran SV, Pencina MJ, *et al*: General Cardiovascular Risk Profile for Use in Primary Care. The Framingham Heart Study. Circ 2008; 117(6):743–753.

Answered by:
Dr. Theodore K. Fenske

How Should the SMART Trial be Interpreted?

2.

How should the Symbicort Maintenance and Reliever Therapy (SMART) trial be interpreted? Do we still have to give our patients short acting bronchodilators?

Question submitted by:
Dr. Steve Coyle
Winnipeg, Manitoba

The SMART strategy for treating asthma depends upon the patient using budesonide/formoterol as maintenance therapy, (*e.g.,* for example two doses twice each day), and as required to relieve symptoms (single doses of budesonide/formoterol as required to relieve symptoms). To be effective, it requires careful adherence to the maintenance dose and the exclusive use of budesonide/formoterol as a reliever. Although there has been a tendency to continue the use of short-acting β2-agonists before exercise, the current belief is that pre-exercise bronchodilators should not be needed in those with well-controlled asthma. Budesonide/formoterol would, thus, be a more appropriate pre-exercise medication in those using SMART. In short, we should not still have to give our patients on SMART a short-acting β2-agonist.

Answered by:
Dr. Robert Cowie

Diet and Exercise for Type 2 Diabetics

3.

Is there any benefit to diet and exercise in type 2 diabetics who are thin?

Question submitted by:
Dr. Simon Ng
Vancouver, British Columbia

Therapeutic lifestyle changes, including adopting a healthy diet and increasing physical activity, are important adjuncts in the management of patients with diabetes. Consuming a healthy diet will help improve glycemic control in both obese and nonobese individuals. A decrease in the amount of calories obtained from fat and foods with a high glycemic index and increasing the consumption of fibre will be beneficial to all patients, irrespective of their weight. Physical activity also plays a very important role. In addition to improving insulin sensitivity, which in turn will help improve glycemic control, physical activity also has positive effects on general well-being, blood pressure, lipids, and the musculoskeletal system. Although, I would not necessarily advocate a weight loss promoting diet or excessive physical activity in lean patients with diabetes, I would encourage them to incorporate healthy lifestyle changes.

Answered by:
Dr. Hasnain Khandwala

Congenital Dislocation of the Hips

4.

At what age (months) is testing for congenital dislocation of the hips still valuable/useful?

Question submitted by:
Dr. J.V. Patidar
Edmonton, Alberta

Testing for congenital dislocation of the hips should be part of the routine examination of every newborn at hospital discharge. The most reliable technique is Ortolani's sign, which demonstrates hip instability by the palpable sensation of the femoral head as it glides in and out of the acetabulum. This test should also be done during the first several months of life, as it has been clearly shown that the earlier that hip dislocation is detected, the better the long-term outcome is. In the case of an unclear test, this should be repeated in two weeks. Testing for congenital dislocation of the hip becomes less useful after three months of age, after which time the presentation becomes dominated by pelvic asymmetry and, later in life, with difficulty in walking — at which time invasive therapeutic approaches become necessary.

Answered by:
Dr. Michael Rieder

Breast-conserving Surgery vs. Mastectomy

5.

Why are most surgeons recommending breast-conserving surgery as opposed to mastectomy when recurrence rates are higher with breast-conserving therapy?

Question submitted by:
Dr. Nirvashni Rughubir
Mississauga, Ontario

Essentially, the bottom line is that there are no survival differences between breast conserving surgery (BCS; lumpectomy) plus whole breast radiotherapy compared with mastectomy in patients with early stage breast cancer.[1-2] Certainly, BCS is more pleasing from a cosmetic and psychological standpoint, and it is often a patient preference. Nonetheless, there are a number of factors that need to be taken into account when deciding on BCS versus mastectomy, including tumour size and location, ability to achieve negative surgical margins, other needs or contraindications for radiotherapy, and the presence of extensive ductal carcinoma *in situ*.

References
1. Fisher B, Anderson S, Redmond CK, *et al:* Reanalysis and Results after 12 Years of Follow-up in a Randomized Clinical Trial Comparing Total Mastectomy with Lumpectomy with or without Irradiation in the Treatment of Breast Cancer. N Engl J Med. 1995; 333(22):1456–1461.
2. Fisher B, Anderson S, Bryant J, *et al:* Twenty-year Follow-up of a Randomized Trial Comparing Total Mastectomy, Lumpectomy, and Lumpectomy Plus Irradiation for the Treatment of Invasive Breast Cancer. N Engl J Med 2002; 347(16):1233–1241.

Answered by:
Dr. Roger Y. Tsang

Vertigo after Blunt Trauma

6.

How common is vertigo after a motor vehicle accident (MVA) with nonsignificant head injury and no loss of consciousness?

Question submitted by:
Dr. J. Mitchell
Clinton, Ontario

Vertigo after blunt trauma to the head, which can occur in an MVA, is quite common. It must be distinguished, however, from vertigo associated with a concussion or migraine. The question posed here is regarding nonsignificant head injury. Patients with cervical whiplash injuries also present with vertigo; the exact frequency is not known, but it is reported in 25 to 50% of published studies.[1]

Reference
1. Wenngren BI, Pettersson K, Lowenhielm G, *et al*: Eye Motility and Auditory Brainstem Response Dysfunction after Whiplash Injury. Acta Otolaryngol 2002; 122(3):276–283.

Answered by:
Dr. Sarah A. Morrow

Anything New in Schizophrenia Treatment?

7.

Is there anything new on the horizon for the treatment of schizophrenia?

Question submitted by:
Dr. I. D'Souza
Toronto, Ontario

The field of neuroscience is evolving and depends on an understanding of the root cause of the disease state itself as well as an examination of the clinical presentation of schizophrenia. Schizophrenia exists as a debilitating compilation of positive and negative symptoms. Nonetheless, the future of schizophrenia treatment is positive. There has been a broad evolution in treatment methods since chlorpromazine was developed in 1954.

First, let's look to agents that have been in marketing and efficacy studies that have been with us for a while. Lamotrigine, a mood stabilizer, is being considered as an adjunct therapy in schizophrenia. Galantamine and memantine, acetylcholine, and N-Methyl-D-aspartic acid (NMDA) have also been considered.

There are a couple of new medications that have recently been approved in Canada for the treatment of schizophrenia. The first is the multimodal, novel structure antipsychotic asenapine. The other is lurasidone, which is a new atypical antipsychotic.

As we look towards emerging therapies, one may consider schizophrenia as a multimodal disease that impacts far more than dopamine and serotonin. Emerging therapies address the multiple receptors and interleukins that are being implicated in disease pathophysiology. Ampakines, partial NMDA agonists, neurokinin-3 receptor antagonists, secretin and catechol-O-methyltransferase gene inhibitors are all at varying states of development.

Answered by:
Joel Lamoure

Post-Lyme Syndrome with Motor Sensory Neuropathy

8.

What are the treatment options for post-Lyme syndrome with motor sensory neuropathy?

Question submitted by:
Dr. H. Zacharias
Morden, Manitoba

After several weeks or months without treatment, about 15% of patients with the North American form of Lyme disease may develop a neurological syndrome with signs of meningitis, encephalitis, cranial neuritis (especially Bell's palsy), motor and sensory radiculitis, mononeuritis multiplex, ataxia, or myelitis, in various combinations. Meningitis is associated with cerebrospinal fluid (CSF) pleocytosis, and peripheral symptoms are related to axonal nerve damage, which can be observed on electromyography (EMG) and histology. Symptoms may resolve after weeks to months, recur, or become chronic. Chronic axonal polyneuropathy presents primarily with spinal radicular pain or distal paresthesias, with the EMG often showing a more diffuse process than suggested by the symptoms. Standard recommended treatment is ceftriaxone, 2 g IV q.d. for 14 to 28 days or penicillin G 20 million units IV in four divided doses daily for 14 to 28 days. Oral doxycycline has also been used, although some feel it is less effective. Acute neurological signs and symptoms usually respond over weeks, but chronic symptoms may take months to resolve. Objective evidence of relapse after a four-week course of therapy is rare.

Answered by:
Dr. Michael Libman

Discontinuing Isotretinoin before and after Orthopaedic Surgery

9.

How long prior to orthopaedic surgery must a patient discontinue isotretinoin? How soon after surgery may the patient resume taking it?

Question submitted by:
Dr. David Eisen
Toronto, Ontario

There is no established recommendation with regard to taking isotretinoin before and after surgery. There is a theoretical risk for atypical scar formation with isotretinoin (half life: 10 to 20 hours) use. Therefore, for elective procedures, it seems reasonable to stop isotretinoin treatment a month prior to the procedure. However, there is no firm data to suggest that there is a need to forestall orthopaedic intervention for emergent procedures in isotretinoin patients and little evidence that there is a significant risk of adverse outcomes.

Answered by:
Dr. Scott Murray

What to Do after Eradicating *Helicobacter pylori*

10.

After eradicating *Helicobacter pylori* in a patient with heartburn, what would the next step be, given that he continues to have symptoms and his urea breath test is negative? Should the patient be continued on PPIs?

Question submitted by:
Dr. Lili Naghdi
Maple, Ontario

The association between colonization with *Helicobacter pylori* and GERD has been a topic of much interest, speculation, and investigation within gastroenterology. Previous data have suggested a lower prevalence of *H. pylori* amongst patients with GERD, although there has been no consistently elevated incidence of GERD developing in patients following treatment for eradication of *H. pylori*.[1] Subgroup analysis of eradication data from a recent intention-to-treat meta-analysis of 10 random controlled trials comparing *H. pylori* treatment with no treatment on symptomatic adults with GERD demonstrated a statistically significant lower incidence of GERD symptoms in the eradicated group (13.8%) compared with the noneradicated group (24.9%) (odds ratio 0.55; 95% CI: 0.35 to 0.87, p = 0.01).[2] Mechanisms for the association of *H. pylori* and GERD have been extensively hypothesized, but they are far from conclusive.

In the patient presenting with refractory heartburn, despite treatment of *H. pylori*, it would be reasonable to take a detailed history for exclusion of alternate upper GI symptoms (particularly dyspepsia) that can present with symptomatic overlap and to take note of concerning alarm symptoms necessitating expedient endoscopic evaluation. Also, confirmation that the urea breath test was truly negative (*i.e.,* tested with appropriate preceding cessation of PPI and antimicrobial therapies) is important. An empiric trial of PPI therapy at standard and/or high dosage would then be reasonable for at least 8 to 12 weeks, with subsequent referral for gastroenterologist evaluation for those patients with persistent symptoms despite such treatment.

References
1. Shmuely H, Katicic M, Filipec Kanizaj T, *et al: Helicobacter Pylori* and Nonmalignant Diseases. Helicobacter 2012; 17(Suppl 1):22–25.
2. Saad AM, Choudhary A, Bechtold ML: Effect of *Helicobacter Pylori* Treatment on Gastroesophageal Reflux Disease (GERD): Meta-analysis of Randomized Controlled Trials. Scand J Gastroenterol 2012; 47(2):129–135.

Answered by:
Dr. Theodore Xendemetropoulos

MP3 Players and Hearing Loss

11.

What evidence do we have for hearing loss due to the use of MP3 players, for example?

Question submitted by:
Dr. Sandy J. Murray
Red Deer, Alberta

Listening to music with an MP3 device is the most common form of recreational exposure to noise. Hearing loss in these cases depends on many factors, including:

- Type of device that delivers the sound
- Intensity (loudness) of the sound
- Duration of the exposure
- Susceptibility of the person
- Type of earpiece

Any sound exposure of over 85 dB for eight hours is not considered safe. Most adolescents listen to their music at much higher levels. Furthermore, they may find themselves in noisy places and be tempted to augment the volume even higher. The common belief that the manufacturer produces listening devices that can not harm the ear is wrong. Most of these listening devices can easily reach 105 dB. Also, the use of small earpieces that fit in the external ear canal tend to intensify the sound. While some experts recommend listening at 60% of the maximum volume for a period of 120 minutes, others advise 60% for only 60 minutes. Listening to higher intensities or for longer durations may lead to hearing damage.

We do not have, as of yet, any programs related to hearing loss that results from listening to music too loudly. Awareness campaigns should be developed to educate the population about the potential risks. These could be similar to the screening programs that are adapted for industrial noise exposure.

Answered by:
Dr. Ted Tewfik

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