



Answers to your questions  
from our medical experts

## 1. What's the role of dalteparin in stroke?



### What is the role of dalteparin in stroke?

Submitted by:  
**Tim Brandys, MD, FRCPC**  
Ottawa, Ontario

Key questions are if antithrombotic agents reduce morbidity and mortality and if they vary in efficacy depending on the subtype. Issues of risk-benefit, morbidity and mortality must be considered. Low-molecular weight agents have anti-Xa activity and a decreased tendency to induced thrombocytopenia vs. unfractionated heparin.

For example, in the Heparin Acute Embolic Stroke Trial (HAEST), dalteparin, 100 U/kg, subcutaneous twice daily vs. acetylsalicylic acid, 160 mg/day, given within 30 hours of atrial fibrillation-associated stroke, did not demonstrate statistically significant mortality differences between treatment groups at three months.

Current evidence reflects the use of oral maintenance anticoagulation for primary and secondary stroke prevention in these patients.

#### Resources

1. Coull B, Williams LS, Goldstein LB, et al: Anticoagulants and Antiplatelet Agents in Acute Ischemic Stroke: Report of the Joint Stroke Guideline Development Committee of the American Academy of Neurology and the American Stroke Association (a division of the American Heart Association). *Stroke* 2002; 33(7):1934-42.
2. Berge E, Abdelnoor M, Nakstad PH, et al: Low molecular-weight heparin versus aspirin in patients with acute ischaemic stroke and atrial fibrillation: a double-blind randomised study. HAEST Study Group. *Heparin in Acute Embolic Stroke Trial. Lancet* 2000; 355(9211):1205-10.
3. Emedicine Stroke Anticoagulation and Prophylaxis (Neurology review 17/5/05) [www.emedicine.com](http://www.emedicine.com).

Answered by:  
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#### This month's topics:

1. What's the role of dalteparin in stroke?
2. Investigating low WBC
3. Belated hypertriglyceridemia management
4. Pneumococcal vaccination & diabetes
5. Lamotrigine vs. lithium
6. DVT & coagulopathy screening
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9. Removing ear wax in children
10. Omega-3 and psychology

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## 2. Investigating low WBC



### What investigation should be done on an asymptomatic patient with a low WBC count who is not taking any medications?

Submitted by:  
**Sandra Sass, MD, CCFP, FCFP**  
Kenora, Ontario

When a low white blood cell count (WBC) is encountered, it is important to ascertain which WBC type is affected: neutrophils, lymphocytes, monocytes, eosinophils or basophils. This information is easily obtained from the machine-derived, 5-part white cell differential. The results should be verified by a peripheral blood smear (PBS) examination. If confirmed, the low WBC should be interpreted within the context of the individual's baseline value, since 5% of the general population without disease will have lab values that fall outside the assigned "normal" reference range. A repeat WBC may be helpful to verify the results.

The WBC may also vary based on race (persons of African ancestry often have a lower WBC than Caucasians).

While the most common cause of isolated neutropenia is drug therapy, other causes include infections (both viral and severe bacterial), immune neutropenia (lupus, Felty's syndrome), large granular lymphocyte leukemia and, rarely, other hematologic malignancies.

Suggested investigations include:

- a review of the PBS,
- lymphocyte immunophenotyping by flow cytometry,
- antineutrophil antibody testing and
- T-cell receptor rearrangement studies.

Acquired lymphopenia may be associated with:

- viral infections (including HIV),
- sepsis,
- autoimmune or connective tissue disorders (CTD) and
- sarcoid or chronic renal failure.

Appropriate investigations include viral serology, screening for CTD and baseline biochemistry, and chest X-ray.

Answered by:  
**Donna L. Forrest, MD, FRCPC**  
Associate Professor of Medicine  
University of British Columbia  
Clinical Hematologist  
Leukemia/BMT Program of British Columbia  
Vancouver, British Columbia

### 3. Belated hypertriglyceridemia management



#### What is the best management of belated hypertriglyceridemia?

Submitted by:  
**Tim Brandys, MD, FRCSC**  
 Ottawa, Ontario

If "belated" hypertriglyceridemia refers to persistent or very high triglyceride levels, be sure to rule out secondary causes of hypertriglyceridemia. Particularly common are undiagnosed or uncontrolled diabetes, alcohol excess, hypothyroidism, nephrotic syndrome and some drugs (e.g., estrogen replacement, tamoxifen, steroids, cyclosporine, high-dose thiazides). Obesity and the metabolic syndrome are increasingly common causes. Also, check for a history of familial hypertriglyceridemia or other lipid disorders.

The most common "error" in the management of hypertriglyceridemia is the use of steadily increasing doses of statins. Most statins have only a modest effect on triglycerides and at higher doses may even start reducing HDL levels.

Weight loss, avoiding alcohol excess and exercise can help. A diet rich in omega-3 fatty acids (or supplements of 1 g, twice daily, or more) can help reduce triglycerides and increase HDL levels.

Nicotinic acid can be used, but may exacerbate glycemic levels in people with diabetes. The addition of insulin in patients with diabetes can also drop triglyceride levels nicely.

Fibrates are the most potent class of drugs for hypertriglyceridemia. Combination therapy is often required, but recall that there is an increased risk of rhabdomyolysis with the statin/fibrate combination. Either use pravastatin or choose a lower dose of the statin when using the combination.

Answered by:  
**Steve Wong, MD, FRCPC**  
 Program Director, Technologies in Medicine  
 University of British Columbia Division of CME  
 Vancouver, British Columbia  
 General Internist  
 Richmond Hospital  
 Richmond, British Columbia

*Weight loss, avoiding alcohol excess and exercise can help. A diet rich in omega-3 fatty acids (or supplements of 1 g, twice daily, or more) can help reduce triglycerides and increase HDL levels.*

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## 4. Pneumococcal vaccination & diabetes



### Is there a role for the pneumococcal vaccine in otherwise well patients with diabetes?

Submitted by:  
**Diane Zatelny, MD**  
Barrie, Ontario

The Canadian Diabetes Association's Clinical Practice Guidelines for the Prevention and Management of Diabetes has reviewed the research evidence regarding pneumococcal immunization in people with diabetes.<sup>1</sup> Although there are a number of studies demonstrating the usefulness of immunization in the general population, there are few studies evaluating immunization in people with diabetes. People with diabetes have a chronic disease and, for this reason, are generally considered to be vulnerable to pneumococcal infection.

The American Diabetes Association's 2005 Clinical Practice Recommendations report that people with diabetes may be at increased risk of the bacteremic form of pneumococcal infection.<sup>2</sup> As well, a high risk of nosocomial bacteremia has been reported in this group. Therefore, there is reason to encourage immunization in the general diabetic population. Recommendations suggest that at least one lifetime pneumococcal vaccine be given to adults with diabetes. Children with diabetes are also encouraged to receive the pneumococcal vaccination.

After the original vaccination, one-time revaccination is recommended for persons older than 64 years of age if the original vaccination was given when they were younger than 65 years of age and given more than five years earlier. Revaccination should be considered when the person may be considered definitely immunocompromised, such as after organ transplant.

#### References

1. Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2003 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. *Can J Diabetes* 2003; 27(suppl 2): S53-54.
2. American Diabetes Association: Clinical Practice Recommendations 2005. American Diabetes Association. *Diabetes Care* 2005; Volume 28, Supplement 1.

Answered by:  
**Dr. Sora M. Ludwig,**  
Associate Professor of Medicine  
University of Manitoba  
Active Staff, Section of Endocrinology and Metabolism  
St. Boniface General Hospital  
Winnipeg, Manitoba

## 5. Lamotrigine vs. lithium

### ? Is lamotrigine better than lithium to treat mood disorders?

Submitted by:  
**R. Raouf, MD**  
 Montreal, Quebec

Evidence from randomized placebo-controlled studies suggests that lamotrigine's efficacy in acute and prophylactic management of bipolar depression, but it has no proven therapeutic effect in mania. It is beneficial in the treatment of bipolar spectrum disorder, rapid cycling with depressive relapses and in some patients with treatment-resistant unipolar depression. Lithium is recommended as the first-line treatment for both mania and depression, but lamotrigine has been recommended only for bipolar depression. Both are effective in treating bipolar depression, and there is no empirical- or clinician-based evidence indicating lamotrigine's superiority over lithium in bipolar depression.

However, lamotrigine is preferred over lithium in the treatment of bipolar depression in the following clinical situations:

- If lithium can not be tolerated due to severe side effects
- If there is a relative contraindication for lithium (e.g., renal failure)
- If the patient does not respond to lithium

Lamotrigine can be used in combination with lithium if monotherapy fails in the treatment and prevention of bipolar depression. Lamotrigine is usually well-tolerated with careful titration. The recommended dose is 50 mg to 200 mg/day. The common side effects are skin rashes, headache, insomnia and drowsiness.

Answered by:  
**Rajamannar Ramasubbu, MD, FRCPC**  
 Assistant Professor  
 Psychiatry and Clinical  
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## 6. DVT & coagulopathy screening

**Should patients who develop DVT without obvious risk factors be screened for coagulopathies?**

Submitted by:  
**Balbhadar Sood, MD, FRCPC**  
Brampton, Ontario

It is reasonable to test for a prothrombotic state in patients who develop idiopathic deep vein thrombosis (DVT), although there may be disagreement among some thrombosis experts. The utility of this testing relies on ascertaining the risk factors that contribute to the formation of the thrombosis and the planning of long-term anticoagulation therapy. The prothrombotic assessment should include both a thorough family history and biochemical testing. This approach can be used for both adults and children.

Answered by:  
**Anthony Chan, MBBS, FRCPC**  
Professor of Pediatrics  
McMaster University  
McMaster Children's Hospital  
Hamilton, Ontario

*It is reasonable to test for a prothrombotic state in patients who develop idiopathic DVT.*

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## 7. True yield for DVT ultrasound

### ? What is the true yield for DVT ultrasound for non-specific calf pain?

Submitted by:  
**Brian Hadley, MD**  
Belleville, Ontario

In one large series, only 17% of patients screened with compression ultrasonography had deep vein thrombosis (DVT). In another study, 412 of 1,790 patients screened (24.6%) had DVT on initial screen, and only 0.6% with negative studies subsequently developed thromboembolic complications within six months. This suggests high sensitivity, which is confirmed by a study where compression ultrasonography was compared with ascending contrast venography. The sensitivity and specificity of compression ultrasonography were found to be 100% and 99%, respectively.

#### Resources

1. Birdwell BG, Raskob GE, Whitsett TL et al: The clinical validity of normal compression ultrasonography for suspected deep-vein thrombosis in outpatients. *N Engl J Med* 1986; 314:823.
2. Cogo A, Lensing AWA, Koopman MMW, et al: Compression ultrasonography for diagnostic management of patients with clinically suspected deep venous thrombosis: Prospective cohort study. *BMJ* 1998; 316:17.
3. Lensing AW, Prandoni P, Brandjes D, et al: Detection of deep-vein thrombosis by real-time B-mode ultrasonography. *N Engl J Med* 1989; 320(6):342-5.

#### Answered by:

**David H. Keast, MSc, MD, FCFP**  
Clinical Adjunct Professor of Family Medicine  
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Site Chief of Family Medicine and  
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*High sensitivity is confirmed by a study where compression ultrasonography was compared with ascending contrast venography.*



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## 8. Screening family for renal masses

**?** Are there any recommended screening tests for family members of someone who has renal carcinoma?

Submitted by:  
**M. Lai, MD**  
Toronto, Ontario

At the present time, there are no definite recommendations for the screening of asymptomatic family members of patients who have renal cell carcinoma. However, specific genetic tests should be performed in families with multiple cases of kidney cancer. In those families that have proven hereditary syndromes, known to be associated with renal cell carcinoma (Von Hippel-Lindau disease, tuberous sclerosis, hereditary papillary renal cell carcinoma, Birt-Hogg-Dube syndrome, hereditary leiomyomatosis and renal cell carcinoma syndrome), a screening abdominal ultrasound is advised to rule out the presence of suspicious renal masses.

Answered by:  
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Division of Urology  
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**Alessandro Volpe, MD**  
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Toronto, Ontario

*There are no definite recommendations for the screening of asymptomatic family members of patients who have renal cell carcinoma.*



## 9. Removing ear wax in children


### ? What is the best way to remove wax from a child's ears?

Submitted by:  
**K. Singh, MD**  
 Regina, Saskatchewan

There are several methods to remove cerumen or ear wax from children's ears. Using a headlight, otoscope, microscope or any other light source, wax can be debrided using a curette or suctioning. Care must be taken to avoid injuring the skin of the external auditory canal, otherwise bleeding may occur. Removal of cerumen from the ear using irrigation is possible if the child is cooperative. However, the physician must be sure, before using this method, that the tympanic membrane is intact. Perforation of the eardrum remains a potential problem. Topical allergic reactions may occur using different commercial preparations that "soften" the wax. Their use in children is generally not recommended.

Answered by:  
**Ted Tewfik, MD**  
 Professor of Otolaryngology  
 McGill University  
 Montreal, Quebec

*Using a headlight, otoscope, microscope or any other light source, wax can be debrided using a curette or suctioning.*



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## 10. Omega-3 and psychology

**What dosage and brand of omega-3 do you recommend for ADHD, bipolar depression, schizophrenia and OCD?**

Submitted by:  
**M. Cheng, MD**  
 Ottawa, Ontario

A number of studies suggest a benefit of omega-3 fatty acids (FAs) in mood disorders, but it should be noted that this was generally in conjunction with existing treatments and high doses can cause a worsening of symptoms in some patients.

Omega-3 FAs are polyunsaturated FAs found in cold-water oily fish and in the seeds of chia, perilla, flax, purslane, hemp and canola (though fish-derived sources are better). While the U.S. National Institute of Health recommends 650 mg of eicosapentaenoic (EPA) and docosahexaenoic (DHA) acids/day, 2.22 g/day of  $\alpha$ -linolenic acid, and 4.44 g/day of linoleic acid (an omega-6 FA). Unclear are the optimal dosing and ratios of EPA:DHA and omega-6 FA:omega-3 FA. 

Answered by:  
**Pierre Chue, FRCPsych, FRCPC, ABPN**  
 Associate Professor of Psychiatry  
 University of Alberta  
 Edmonton, Alberta

*The U.S. National Institute of Health recommends 650 mg of EPA and DHA acids/day, 2.22 g/day of  $\alpha$ -linolenic acid, and 4.44 g/day of linoleic acid.*

**Erratum:**

The answer to January's question, **What screening technique can be used successfully for asymptomatic patients concerned about ovarian cancer?** provided by Dr. David Popkin, contained an error. We printed "breast cancer screening 1 and 2 gene positive" instead of the correct "BRCA 1 and 2 gene positive." We apologize for any confusion this may have caused.