



*Answers to your questions
from our medical experts*

1. Hypothyroidism and Non-Alcoholic Fatty Liver Disease



How does hypothyroidism affect non-alcoholic fatty liver disease?

Submitted by: **Jean-Guy Gagnon, MD**, Sudbury, Ontario

There seems to be an association between non-alcoholic steatohepatitis (NASH) and hypothyroidism. Likely all individuals with NASH should be screened for hypothyroidism by measuring sensitive thyroid stimulating hormone (sTSH) levels. If the sTSH is elevated outside the normal range then treatment with thyroxine is indicated to normalize the sTSH.

It is unclear if NASH will be significantly improved and may depend on the degree of hypothyroidism, length of time the individual has hypothyroidism, degree of severity of NASH and the other risk factors the patient has for ongoing liver damage.

Answered by: **Dr. Vincent Woo**

2. HPV Vaccination



Please discuss the usefulness of HPV vaccination in those who have been sexually active with several partners and those who have a history of HPV.

Submitted by: **Lori Kiefer, MD**, Toronto, Ontario

There is no contraindication to HPV vaccines in the presence of HPV infection even with proven cervical intraepithelial neoplasia (CIN).¹ HPV vaccines are indicated for women between 9-to-26 years old regardless of their sexual exposure. Though efficacy is improved if the vaccine is given prior to sexual debut or in those unexposed to HPV. HPV usually clears within 18 months and normally has no clinical consequence. The peak prevalence of HPV positivity is in the late teens or early 20's. Thereafter, the prevalence declines but high-risk type persistence increases leading to severe dysplasia in the late 20's and cervical cancer more than 10 years later. In Canada, the strategy for high-risk HPV testing pertains solely for the triage of patients with Ascus (to determine the need for colposcopy). A recent publication looked at women who received

the quadrivalent HPV vaccine after evidence of past infection with one or more vaccine HPV types. No subject who received the quadrivalent vaccine developed a disease (over a 40 month period of observation) to an HPV type vaccine to which they were positive to on enrolment. The results suggest that the vaccine elicits an immune response that prevents the reinfection or reactivation of disease with vaccine HPV types.²

References

1. Shier M, Bryson P. Vaccines: Canadian Consensus Guidelines on Human Papillomavirus. *JOGC* 2007;8:51-54
2. Olsson S, et al. Evaluation of quadrivalent HPV 6/11/16/18 vaccine efficacy against cervical and anoorectal disease in subjects with serological evidence of prior vaccine type HPV infection. *Landes Bioscience* 2009;5:696-704

Answered by: **Dr. Victoria Davis**

3. Medications for Fibromyalgia

? What medications may be of benefit for fibromyalgia?

Submitted by: **John Doucet, MD**, St. John's, Newfoundland

The medications most studied for fibromyalgia are tricyclic antidepressants (TCAs). Among the TCAs, there is evidence of efficacy for Amitriptyline and, to a lesser extent, Desipramine. Cyclobenzaprine, which is structurally similar to the TCAs, also has been shown to have some efficacy. There is also some evidence for efficacy of selective serotonin reuptake inhibitors (SSRIs). More recently, the dual serotonin/norepinephrine reuptake inhibitors (SNRIs) Duloxetine and Milnacipran, as well as the anti-seizure medication Pregabalin, all gained FDA approval for fibromyalgia treatment, as these three medications showed efficacy in placebo-controlled, randomized trials. A typical approach is to start with Amitriptyline at

escalating doses (10 mg to 50 mg h.s.), but if there is not the desired response or use is limited by side-effects, one can switch to another medication. There is no convincing evidence for using anti-inflammatories or corticosteroids. Lastly, one should remember that the ideal treatment for fibromyalgia is not just with pharmacotherapy, and best results are usually achieved when patients are able to modify sleep, exercise, and stress. This often requires a multi-disciplinary approach involving physiotherapy and sometimes a psychologist/psychiatrist.

Answered by: **Dr. Emil Nashi**
and **Dr. Michael Starr**

4. Observation After Vaccination

? For how long should observation occur after any vaccination?

Submitted by: **Constance Boulet, MD**, Radisson, Quebec

There are no specific rules or control studies surrounding the duration of time that someone should remain in a waiting room or in a nearby area after receiving an immunization or injection. It has been suggested that a minimum observation period of 15 minutes is prudent. Additional information about the after care of persons who have received vaccination

and appropriate vaccination techniques/practices can be found in the Canadian Immunization Guide at the following link: <http://www.phac-aspc.gc.ca/publicat/cig-gci/p01-07-eng.php>.

Answered by: **Dr. John Embil**

5. Restless Legs Syndrome

Is there a good treatment for restless leg syndrome (RLS) that does not have a lot of side-effects?



Submitted by: [Martha MacDonnell, MD](#), Cochrane, Alberta

There are multiple agents which can be used for treatment of restless legs syndrome. Non ergot dopamine agonists such as pramipexole and ropinirole are currently considered agents of the first choice for restless legs syndrome. These are used q.d. about 45 minutes before bedtime and are usually very safe. The dosage of pramipexole may be started from 0.25 mg q.d. and slowly increased. Most patients get a significant relief of their symptoms at a dose of 0.75 mg q.d. Ropinirole may be started at a dose of 0.25 mg and slowly titrated. Most patients respond well at 1.5 to 2 mg q.d. Side effects may include drowsiness, visual hallucinations, leg edema, impulse

control disorders such as compulsive eating, shopping, punning, gambling, hypersexuality and sudden sleep attacks. The patients need to be continuously monitored for these side-effects. Levodopa may also be used to treat restless legs syndrome. There may be a risk of rebound symptoms of restless legs in day time with levodopa.

Other pharmacological agents such as gabapentin, pregabalin, and oxycodone are also helpful in restless legs syndrome. Iron replacement if found deficient is very helpful in improving the symptoms for RLS.

Answered by: [Dr. Abdul Qayyum Rana](#)

6. Blood Count Differences of Various Nationalities

In a healthy patient of African heritage, who does not have sickle cell disease (or any other hemoglobinopathy) or the sickle cell trait, how does the complete blood count (CBC) differ from that of a healthy person of European heritage? When do differences require investigation?



Submitted by: [Kate Marshall, MD](#), Toronto, Ontario

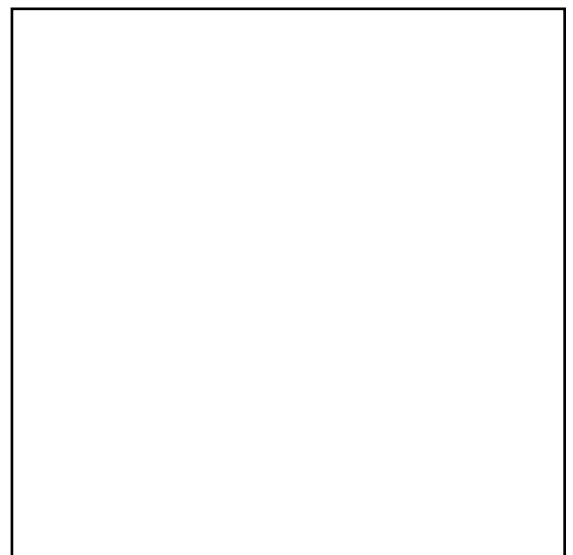
It is known that individuals of different racial backgrounds do have slightly different normal reference ranges for values in the CBC and white blood cell (WBC) differential. A recent publication by Lim EM *et al* sought to establish race-specific reference intervals for at least the WBC and absolute neutrophil counts. They demonstrated that non-Hispanic black Americans had significantly lower reference ranges than non-Hispanic white and Mexican Americans.

Despite these minute differences, it is essential to correlate the laboratory findings with the clinical presentation. If the individual is asymptomatic then a watch and wait approach is reasonable. However, if the individual has recurrent severe bacterial infections then further assessment and investigations are warranted.

Reference

1. Lim EM *et al*. International Journal of Laboratory Hematology. 2010; in press.

Answered by: [Dr. Cyrus Hsia](#) and [Dr. Leonard Minuk](#)



7. Blood Tests When Prescribing Antidepressants



What blood tests should I routinely order when I prescribe antidepressants or antipsychotics?

Submitted by: [Leo Murphy, MD](#), Toronto, Ontario

When prescribing antidepressant medications for healthy patients, a standard laboratory evaluation is performed, which will include a complete blood count (CBC), serum electrolytes, glucose, and liver, renal, and thyroid functions. One also may consider a pregnancy test in women, if indicated.

Since one of the most serious adverse events associated with atypical antipsychotic therapy is the development of glucose intolerance, diabetes, and/or hypertriglyceridemia, fasting blood glucose, and metabolic screen

including cholesterol and triglycerides are ordered in addition to the laboratory investigations mentioned above, when prescribing antipsychotic medication. Antipsychotic treatment can usually begin before the results of laboratory tests are known. An exception is clozapine treatment, which should only begin after the patient is known to have a normal CBC.

Answered by: [Dr. Hany Bissada](#)

8. Alpha-1-Antitrypsin Testing



When should one consider alpha-1-antitrypsin testing? Is this test covered?

Submitted by: [Loredana Di Santo, MD](#), Vaughan, Ontario

Alpha-1-antitrypsin (AAT) is a glycoprotein synthesized in the liver and secreted into plasma. The normal AAT phenotype is determined by two protease inhibitor alleles indicated by the letters MM. AAT deficiency is a relatively common genetic disorder in which individuals can have one (heterozygote state) or two (homozygote) abnormal alleles resulting in reduced levels of active AAT. Smokers with severe AAT are at high risk for developing emphysema at a young age. AAT deficiency can also lead to liver disease and necrotizing panniculitis.

Testing of AAT levels should be considered in individuals with severe emphysema at a young age (e.g. less than 40 years) or with minimal smoking history (e.g. less than 20 packs per year); children and adults with unexplained liver disease; adults with necrotizing panniculitis; and siblings of individuals with known AAT deficiency. Coverage for testing of AAT levels and genetic phenotyping varies by province and territory.

Answered by: [Dr. Paul Hernandez](#)

9. Electrolytes in Patients on Diuretics



How frequently do you follow electrolytes in patients on diuretics?

Submitted by: **Mark Krieger, MD**, Toronto, Ontario

Diuretics are widely used for treatment of hypertension and fluid retention from a variety of causes (i.e. heart failure, renal failure, cirrhosis, venous insufficiency). Common side effects of diuretics include potassium abnormalities, hyponatremia, metabolic alkalosis (bicarbonate reabsorption instead of chloride reabsorption in the renal tubules) and gout. Diuretics can be sub-divided into potassium-losing (thiazide and loop diuretics) and potassium-sparing (spironolactone, tramterene, amiloride). The potassium-sparing diuretics are particularly useful in heart failure (spironolactone) and for treatment of hypertension secondary to hyperaldosteronism and cirrhosis. They can cause dangerous hyperkalemia¹ particularly in diabetics and patients with renal dysfunction who are also on ACE inhibitors or ARBs and beta-blockers.

The lowest dose of diuretic to achieve the

therapeutic effect should be prescribed to mitigate electrolyte problems. Serum electrolytes should be monitored within 2 weeks to 3 weeks of initiation or dose escalation of a diuretic and during any intercurrent illness which could cause salt and water depletion.

If patients are on spironolactone and have renal dysfunction, electrolytes should be assessed at least every 3 months to 6 months.

Reference

1. Juurlink DN, Mamdani MM, Lee DS, Kopp A, Austin PC, Laupacis A, Redelmeier DA. Rates of hyperkalemia after publication of the Randomized Aldactone Evaluation Study NEJM 2004;351:543-551.

Answered by:
Dr. Bibiana Cujec

10. Causes of Alopecia



What factors play a role in the causation of alopecia? Stress? Malnutrition? Lack of vitamin? Lack of certain minerals?

Submitted by: **I. D'Souza, MD**, Willowdale, Ontario

Hair loss is a comprehensive topic to which many textbooks are devoted. The major fork in the road is scarring versus non-scarring and this distinction helps narrow the approach. In non-scarring alopecia, hair follicles are visible whereas in scarring alopecia, one sees only scarred scalp with the absence of follicles. Scarring alopecia is the result of permanent injury to the stem cell region of the hair follicle. Hair growth is permanently impaired.

For non-scarring alopecia, consider the following entities: alopecia areata, trichotillomania, telogen effluvium, androgenic alopecia, tinea capitis, traction alopecia, chemically-induced alopecia (*i.e.*, hair relaxers).

Investigations for non-scarring alopecia include:

- No routine investigation usually necessary
- Consider association with other autoimmune diseases
- Complete Blood Count
- Serum ferritin
- Thyroid Stimulating Hormone
- Thyroid autoantibodies
- Serum B12

Treatment is based on the underlying condition for most cases (*e.g.*, immunosuppressive therapy for alopecia areata). It is helpful to rule out obvious exacerbating factors such as low iron, B12, hypothyroidism, and correct those where possible.

Answered by: **Dr. John Kraft** and **Dr. Charles Lynde**

11. Prognosis of Melanoma



Does a melanoma have a better prognosis depending on age (besides histological prognosis)?

Submitted by: **Radu Puscas, MD**, Laval, Quebec

The major independent predictor for survival for patients with melanoma is tumour thickness which is reported as the Breslow index and less commonly the Clark's level.

However, age has also been shown to be an independent predictor for survival in several studies. Disease specific survival of melanoma patients > 65-years-of-age was

significantly shorter compared with younger age in a recent report. 

Resources

1. Lasithiotakis, K, Leiter U, Meier F et al. Age and gender are significant independent predictors of survival in primary cutaneous melanoma. *Cancer* 2008;112:1795-804.

Answered by: **Dr. Richard Haber**