



*Answers to your questions
from our medical experts*

1. Interpreting hormone levels



How should hormone levels be interpreted in perimenopausal women?

Submitted by:
Walter A. C. MacDonald, MD
Petrolia, Ontario

Perimenopause refers to the time near menopause. In early menopause, women begin to experience some menstrual irregularities. During this stage, follicle stimulating hormone (FSH) serum levels begin to rise, with relatively normal to high-normal estradiol levels, but with low luteal phase progesterone concentrations.

In the later menopausal transition, menstrual irregularities increase. In addition, fluctuations in serum concentrations of FSH and estradiol may be marked and can frequently change. Therefore, a single serum FSH value in the post-menopausal range, even with undetectable estradiol levels, does not provide reliable evidence that menopause has occurred.

Answered by:
Dr. Vincent Woo

Not for Sale
Unauthorised use prohibited
display, view, print a single copy for personal use

2. Diagnosing asthma in children



What is the youngest age at which one can confidently diagnose a child with asthma?

Submitted by:
Herbert Chang, MD
Coquitlam, British Columbia

Diagnosis of asthma in pre-school children is a major clinical challenge due to the broad differential diagnosis for symptoms such as wheezing and the lack of available objective measures in this age group. In the pre-school age child, wheezing (particularly if persistent and unassociated with colds), accompanied by the atopic phenotype (eosinophilia, allergic rhinitis or parental history of atopy), greatly increases the likelihood of persistent asthma as the diagnosis. However, confirmation of the clinical diagnosis of asthma with objective measures (*i.e.*, pulmonary function tests), is not practical for children < six years of age. Research into newer measures of lung function (*e.g.*, forced oscillation technique) that require less patient cooperation than traditional pulmonary function testing, is ongoing and holds promise for the future.

Resource

1. Becker A, Berube D, Chad Z, et al: Canadian pediatric asthma consensus guidelines, 2003 (update to December 2004). CMAJ 2005;173(6 Suppl):S12-S55.

Answered by:
Dr. Paul Hernandez

3. Investigating increased CK



What investigations are there for increased CK?

Submitted by:
Steve Choi, MD
Oakville, Ontario

The differential diagnosis of elevated creatine kinase (CK) is very wide and the workup tends to be dictated by the patient's history and symptoms. CK tends to increase in patients with neuromuscular diseases. However, CK may increase in the absence of intrinsic muscle disease, for example, with:

- vigorous exercise,
- trauma, or
- motor neuron disease.

In the absence of symptoms, a suggested workup for asymptomatic elevated CK would include:

- complete blood count,
- thyroid profile,
- electrolyte levels,
- calcium levels,
- renal and hepatic function,
- erythrocyte sedimentation rate or C-reactive protein,
- chest x-ray and
- ECG.

Depending on the history, the following should also be considered:

- antinuclear antibody,
- rheumatoid factor,
- hepatitis screen,
- complement levels and
- an electromyogram.

Also, carefully evaluate whether there have been any recent infections, or if any medication known to elevate CK (e.g., statin drugs) could be playing a role. Along with a careful medical history, obtaining information regarding the patient's exercise habits and other physical activities is important. If there are persistently high or rising CK levels, then a muscle biopsy may be indicated.

Answered by:
Dr. Michael Starr

If there are persistently high or rising CK levels, then a muscle biopsy may be indicated.

4. Frequency of PSA testing



With what frequency should PSA testing be done in otherwise healthy men > 50 years of age?

Submitted by:
P. Mucalov, MD
Keswick, Ontario

For a healthy male > 50 years of age who wants to be screened for prostate cancer, the usual recommendation is to repeat prostate-specific antigen (PSA) and digital rectal examinations at yearly intervals. This assumes a normal baseline PSA level to begin with. There has been at least one study that has suggested that patients with PSA levels of < 1 ng/ml could safely wait five years before having a repeat PSA test, yet this has not been widely adopted. More recent studies indicate that absolute PSA levels may be less predictive of cancer than the rate of rise of PSA (PSA velocity or doubling time). If PSA levels rise > 0.75 ng/ml in one year, there is a greater risk of having prostate cancer. Also, a rise of > 2 ng/ml in one year prior to being diagnosed with prostate cancer is associated with a greater risk of prostate cancer mortality.

Resources

1. D'Amico AV, Chen MH, Roehl KA, et al: Preoperative PSA velocity and the risk of death from prostate cancer after radical prostatectomy. *N Engl J Med* 2004; 351(2):125-35.

Answered by:
Dr. Fred Saad

5. Pneumococcal vaccinations




Do you recommend routine pneumococcal vaccination boosters every five years?

Submitted by:
Peter Loveless, MD
Hamilton, Ontario

Currently available pneumococcal vaccines are derived from capsular polysaccharide of 23 stereotypes that account for the majority of invasive pneumococcal infections. Anti-pneumococcal IgG antibody levels initially increase following vaccination in immunocompetent adults, but wane over time.¹ Revaccination has been demonstrated to boost antibody levels without risk of serious adverse effects, which may confer prolonged protection against serious pneumococcal infections. The clinical benefits of periodic revaccination have yet to be demonstrated in large, randomized clinical trials. However, according to the Canadian Thoracic Society, based on the relative safety and theoretical benefits, it has been recommended that certain high-risk individuals (*i.e.*, high-risk individuals with chronic obstructive pulmonary disease) receive pneumococcal vaccination boosters every five years.²

For references, please contact diagnosis@sta.ca.

Answered by:
Dr. Paul Hernandez

Cont'd on page 26 

6. Oral ulcers from chemotherapy



Can one get oral ulcers from chemotherapy?

Submitted by:
J. P. Raubenheimer, MD
Neepawa, Manitoba

Oral complications from chemotherapy are common. The risk of oral toxicity is related to the type of agent, dose and patient comorbidities. Mucositis and ulceration (which may range from painless ulcers and erythema, to severely painful ulcerations that may require parenteral support or prophylactic intubation) may affect the:

- oropharynx,
- esophagus and
- the entire GI tract.

Agents most commonly associated with mucositis include:

- bleomycin,
- doxorubicin,
- 5-fluorouracil and
- methotrexate.

Bacterial, viral and fungal infections may also occur. Early recognition and prompt management of this common and serious complication is important.

Answered by:
Dr. Sharlene Gill

7. Treating uncontrollable nightmares



Are there any medications to treat uncontrollable nightmares?

Submitted by:
M. Dedonde, MD
Burks Falls, Ontario

Nightmares are anxiety-provoking dreams that occur during rapid eye movement (REM) sleep. Nightmares are typically complex dreams that become increasingly frightening toward the end, culminating in an awakening, usually in the second half of the sleep cycle. Because they are REM sleep-related dreams, they are generally terminated with arousal and the individual usually remembers the content. Seldom is talking, screaming, walking, or striking out associated with nightmares.

Nightmares should be differentiated from night terrors, which are associated with slow (Δ) wave sleep and occur mainly during the first-third of sleep. After awakening from a night terror, a patient is usually unresponsive to stimuli, confused, or disoriented. Vocalizations are usually incoherent.

Treatment of nightmares, if required due to severity, consists of REM suppression, using a selective serotonin reuptake inhibitor. Tricyclic antidepressants also suppress REM sleep. The treatment of night terrors, on the other hand, consists of suppressing slow (Δ) waves using a benzodiazepine, such as 0.5 mg to 1 mg of clonazepam at bedtime.

Answered by:
Dr. Hany Bissada

8. Renal artery stenosis assessment recommendations



What are the current recommendations for workup of renal artery stenosis?

Submitted by:
Stefania Argentin, MD
 Montreal, Quebec

Renovascular disease is an important and potentially treatable cause of secondary hypertension. It accounts for < 1 % of cases of mild-to-moderate hypertension, but the incidence rises to 10% to 40% in patients with acute (even if superimposed upon a preexisting elevation in BP), severe, or refractory hypertension. The 2006 Canadian Hypertension Education Program suggests recommendations for the assessment of renovascular hypertension in patients presenting with two or more of the clinical clues listed:

1. Sudden onset or worsening of hypertension and > 55 years of age or < 30 years of age
2. The presence of an abdominal bruit
3. Hypertension that is resistant to three or more drugs
4. A rise in creatinine associated with use of an angiotensin-converting enzyme inhibitor, or an angiotensin receptor blocker
5. Other atherosclerotic vascular diseases, particularly in patients who smoke or have dyslipidemia
6. Recurrent pulmonary edema associated with hypertensive surges

The following tests are recommended, when available, to aid in the usual screening for renal vascular disease:

- captopril-enhanced radioisotope renal scan,
- Doppler sonography,
- magnetic resonance angiography and/or
- CT angiography.

Answered by:
Dr. Vincent Woo

Renovascular disease accounts for < 1 % of cases of mild-to-moderate hypertension, but the incidence rises to 10% to 40% in patients with acute, severe, or refractory hypertension.

9. Soy products and breast cancer

? Are soy products not advisable for patients at-risk of breast cancer?

Submitted by:
Kalyani Srinivasan, MD
 Fredericton, New Brunswick

Much media attention has been paid to the role of soybeans in cancer prevention. The effects of soy are due to isoflavones, sometimes known as plant estrogens or phytoestrogens. While soybean products have been promoted for their potential protective effects, there have also been concerns about the weak estrogenic effect of soy that has provided the basis for concern about soy consumption and breast cancer. Some animal studies have indicated that isoflavones may enhance tumour growth in those animals with a hormone-dependent cancer. At present, there is no human data available to indicate this. Therefore, definitive conclusions cannot be drawn regarding the impact of soyfoods or isoflavones on breast cancer risk in high-risk women, or on survival in women with breast cancer.¹

In practice, for patients at-risk of breast cancer, it is premature to recommend soy products for cancer prevention, or to restrict their use due to concerns of their suspected weak estrogenic activity. Some oncologists may recommend that post-menopausal women who are taking tamoxifen or aromatase inhibitors, or people with estrogen-sensitive breast cancers should avoid adding large amounts of soy to their diets. When used, it is always preferable to obtain plant estrogens from food sources (e.g., tofu, miso, soymilk) rather than tablets or supplements, as foods will contain other desirable components (i.e., nutrients, fibre, phytochemicals) that will not be found in the supplement.

Reference

1. Messina M, McCaskill-Stevens W, Campe JW: Addressing the soy and breast cancer relationship: Review, commentary and workshop proceedings. *J Natl Cancer Inst* 2006; 98(18):1275-84.

Answered by:
Dr. Sharlene Gill

In practice, for patients at-risk of breast cancer, it is premature to recommend soy products for cancer prevention, or to restrict their use due to concerns of their suspected weak estrogenic activity.

10. Testing with apo B

? Is apolipoprotein B the best current test for arteriosclerosis?

Submitted by:
P. Scott, MD
 Kelowna, British Columbia

Excellent question! Let me first start by further explaining this molecule, with which some readers may not necessarily be familiar.

Atherogenic particles each contain one molecule of apolipoprotein B (apo B). These particles include:

- very low density lipoprotein,
- low density lipoprotein (LDL),
- intermediate-density lipoprotein and
- lipoprotein (A).

Thus, the concentration of apo B reflects the total number of these particles. Several recent prospective studies have suggested that this marker provides a better estimate of the risk of vascular events than does the LDL-cholesterol level.

Increased apo B and high triglyceride concentrations, prevalent in patients with the Metabolic syndrome and Type 2 diabetes, are associated with the presence of smaller, denser and more atherogenic LDL particles.

To answer your question, I think apo B provides the clinician with an additional tool to estimate cardiovascular risk, in a way that LDL alone sometimes fails to do, particularly in contexts such as hypertriglyceridemia (HTG) and in patients with Metabolic syndrome.

Recommendations from the Working Group on Hypercholesterolemia and Other Dyslipidemias suggest that apo B may be used to identify the risk category of patients with HTG and may be used as a good indicator of response to statins. This marker may be of particular benefit in

determining cardiovascular risk and the adequacy of treatment in people who have Metabolic syndrome.

An optimal level of apo B in a patient at high-risk for coronary artery disease is < 0.9 g/L.

Resource

1. Genest J, Frohlich J, Fodor G, et al: Recommendations for the management of dyslipidemia and the prevention of cardiovascular disease: 2003 update. *CMAJ* 2003; 168(9):921-4.

Answered by:
Dr. Igal A. Sebag



Diovan **Diovan HCT**
VALSARTAN VALSARTAN / HYDROCHLOROTHIAZIDE

Angiotensin II AT₁ Receptor Blocker
 Please see product monographs for
 details, available at www.novartis.ca



11. Immunotherapy for IgE hypersensitive patients

? In a patient with IgE hypersensitive response, how long do they need immunotherapy (*i.e.*, as in a patient who is allergic to venom from bee stings)?

Submitted by:
B. Huff, MD
 New Aiyansh, British Columbia

Immunotherapy (or allergy shots) has shown benefit in the treatment of allergic rhinitis (AR), venom allergy and to a lesser extent, allergic asthma. It is particularly effective in the setting of venom allergy, reducing the likelihood of a subsequent systemic reaction from 60% to 70% down to < 5%. This reduction occurs soon after initiating therapy and has been shown to persist for many years following discontinuation. The duration of treatment is highly individualized, but rarely last longer than five years. The possible exception to this would be the patient with a history of severe anaphylaxis to honeybee who has ongoing risk of exposure and continued demonstration of specific IgE on repeated skin testing. Typically, for most honeybee and other venom allergies, therapy would be discontinued after three years. Similarly, patients undergoing treatment for ragweed, grass, or other aeroallergens for AR would be continued for three years, with clinical benefit continuing for years afterwards.

Answered by:
Dr. Tom Gerstner



Immunotherapy is particularly effective in the setting of venom allergy, reducing the likelihood of a subsequent systemic reaction from 60% to 70% down to < 5%.