



Experts on Call

Answers to your questions
from our medical experts

1. β -blockers and allergy injections



Are β -blockers contraindicated in patients undergoing allergy injection?

Submitted by: **Beth Vallieres, MD**, Cambridge, Ontario

Patients with asthma are at higher risk for adverse reactions to immunotherapy compared to rhinitis, particularly if not well controlled. Additional risk factors that have been identified in patients experiencing fatal reactions are:

- dosage errors,
- first injection from a new vial of extract and
- use of β -blocking agents.¹

The problem stems not from an increased risk of an allergic reaction or anaphylaxis from the injection, but from the difficulty in treating such a reaction, as these patients can be very resistant to standard regimens. Similarly, angiotensin converting enzyme (ACE)

inhibitors may also be problematic during anaphylaxis, as the blockade of ACE inhibitors prevents the compensatory release of angiotensin, a potent vasoconstrictor during hypotension, which is associated with anaphylaxis. Therefore, immunotherapy should certainly be avoided in patients requiring β -blockers and perhaps ACE blocking agents as well.

Reference

1. Reid MJ, Lockey RF, Turkeltaub PC, et al: Survey of fatalities from skin testing and immunotherapy 1985-1989. *J Allergy Clin Immunol* 1993; 92(1 Pt 1):6-15.

Answered by: **Dr. Tom Gerstner**

2. Contraindicated treatments in sleep apnea and CHF



Are there any treatments that are contraindicated in patients with both sleep apnea and CHF?

Submitted by: **Louis G. Latulippe, MD**, Cap-Rouge, Quebec

Obstructive sleep apnea (OSA) is a risk factor for increased morbidity and mortality from cardiovascular conditions, such as hypertension.¹ Central sleep apnea (CSA) is present in approximately 25% to 40% of patients with congestive heart failure (CHF).² Although small improvements are seen in physiological parameters (e.g., ejection fraction, apnea-hypopnea index), treatment with continuous positive airway pressure for combined CSA and CHF has not been shown to improve or worsen important clinical endpoints (e.g., quality of life,

hospitalization rates and survival).² Use of other medical therapies for CHF, including angiotensin converting enzyme inhibitors, angiotensin receptor blockers, β -blockers, diuretics and digoxin, are not contraindicated in the setting of coexistent sleep apnea.

References

1. Flemons WW: Obstructive sleep apnea. *NEJM* 2002; 347(7):498-504.
2. Bradley TD, Logan AG, Kimoff RJ, et al: Continuous positive airway pressure for central sleep apnea and heart failure. *NEJM* 2005; 353(19):2025-33.

Answered by: **Dr. Paul Hernandez**

3. Overcoming chronic insomnia



How is chronic insomnia treated?

Submitted by: **Man Wai Kwan, MD**, Vancouver, British Columbia

As a first step, psychiatric disorders, including chronic depression and generalized anxiety disorders, should be ruled out as possible cause for chronic insomnia, or properly treated if present. In the absence of any psychiatric disorders, chronic insomnia may imply a psychophysiological insomnia that is often referred to as a conditioned insomnia. That means the patient has developed a conditioned arousal associated with attempts to sleep. Objects associated with sleep (e.g., bed, bedroom) likewise become conditioned stimuli that evoke insomnia. The condition occurs in combination with other causes of insomnia, including episodes of tension due to family and/or work-related stress. In contrast to the insomnia in patients with psychiatric disorders, daytime adaptation is generally good. Work and relationships are satisfying; however, extreme tiredness can exist. Other features include:

- excessive worry about not being able to sleep,
- trying too hard to sleep,
- rumination, inability to clear one's mind while trying to sleep,
- increased muscle tension when attempting to sleep,
- being able to sleep better when away from one's own bedroom and
- being able to fall asleep when not trying (e.g., watching television).

The sleep complaint becomes fixed over time. Interestingly, many patients with conditioned insomnia sleep well in the laboratory.

Treatment is difficult. Sleeping pills should be used only sparingly and at the lowest

effective dose. Because many patients with conditioned insomnia have developed poor sleep habits, improving sleep hygiene is usually beneficial.

Stimulus-control therapy is recommended to break the conditioning and improve the association between going to bed and being able to fall asleep. Its rules attempt to enhance stimulus cues for sleeping and diminish associations with sleeplessness. The following instructions are simple, but they must be followed consistently.

The first step is to go to bed only when sleepy, to maximize success. The second step is to use the bed only for sleeping. While in bed, do not watch television, do not read, do not eat and do not talk on the telephone. The third step is to instruct the patient not to lie in bed and become frustrated if unable to sleep. After a few minutes (without watching the clock), patients are to get up, go to another room and do something non-arousing until sleepiness returns. The goal is to associate the bed with rapid sleep onset. The last two steps attempt to enhance the mechanisms underlying the circadian and sleep-wake cycles. Step four is to awaken at the same time every morning, regardless of bedtime, total sleep time, or day of week. Step five is to totally avoid napping.

Stimulus control therapy does work; results take weeks to months to appear. If these instructions are continually practiced, the bouts of insomnia lessen in both frequency and severity.

Answered by:
Dr. Hany Bissada

4. Dealing with GI stromal tumours



What are the treatment options for metastatic GIST?

Submitted by: **Sheila Fergusson, MD**, Kelowna, British Columbia

GI stromal tumours (GISTs) are rare, constituting approximately 1% of all GI cancers. The management of patients with unresectable, locally-advanced or metastatic GISTs has changed dramatically over the past five years, prior to which no effective therapy existed. Now, patients with advanced GIST should be referred to medical oncology. The majority of GISTs have mutations in the KIT protooncogene. Imatinib, an orally active tyrosine kinase inhibitor of c-KIT, has demonstrated dramatic

and sustained responses in > 50% of patients with stable disease. Another 30% of patients had sustained responses lasting more than five years.

Patients who are intolerant of imatinib or who become refractory to imatinib may be candidates for treatment with sunitinib, another multitargeted tyrosine kinase inhibitor.

Answered by: **Dr. Sharlene Gill**

5.

Do finasteride or selenium prevent prostate cancer?



Is there any evidence that the use of finasteride or selenium prevents prostate cancer?

Submitted by: **Peter T. C. Lee, MD**, New Glasgow, Nova Scotia

Selenium is an important constituent of many antioxidant enzymes. It can be found in grains, fish, meat, poultry, eggs and dairy products and enters the food chain through plant consumption. The Nutritional Prevention of Cancer (NCP) trial, a randomized study of oral selenized yeast in patients with non-melanoma skin cancer,¹ showed the strongest evidence for a protective effect of selenium. In that trial, 1,312 participants took the equivalent of 200 µg of yeast q.d. vs. placebo with a mean follow-up of 4.5 years. The incidence of prostate cancer was reduced in the selenium arm by two-thirds compared with placebo. Currently, the SELEnium and vitamin E Cancer prevention Trial (SELECT) is being done to see if prostate cancer can be prevented by selenium supplementation.

The use of finasteride in the chemoprevention of prostate was studied in the Prostate Cancer Prevention Trial (PCPT).² In the PCPT, 18,882 men ≥ 55-years-of-age with normal findings on digital rectal examination and a PSA level of ≤ 3.0 ng/mL were randomly assigned to treatment with finasteride (*i.e.*, 5 mg q.d.) or placebo for seven years. This trial showed that the prevalence of prostate cancer was reduced by 24.8%, from 24.4% to 18.4%, in those randomized to finasteride compared with placebo. However, the results of this study are still being debated.

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Answered by: **Dr. Hugues Widmer**

6. Combining allergy serums



I noticed that some allergists combine different allergy serums into one needle for injection (*i.e.*, moulds and pollen). Is this acceptable practice?

Submitted by: **Roshan Dheda, MD**, Bradford, Ontario

In general, allergen immunotherapy (IT) has been shown to be more successful in patients with a single sensitivity and far less effective in those with multiple allergies. The efficacy of IT is strongly related to an adequate dose of allergen which can then induce the immunologic changes necessary for acquisition of tolerance. All too often, doses are inadequate for this to occur, especially in the context of multiple extracts in a single vial. Mixing of various allergen extracts may dilute the allergen concentration to a suboptimal dose. Also, the mixing of various

allergen extracts may result in allergen degradation due to proteases that are present. In particular, mixing mould with pollen extracts may reduce pollen allergen potency. I would suggest that one carefully chooses the most relevant one or two allergens, based on the patient's history and ensure that adequate doses are used.

Resource

1. Nelson HS, Ikle D, Buchmeier A: Studies of allergen extract stability: The effects of dilution and mixing. *J Allergy Clin Immunol* 1996; 98(2):382-8.

Answered by: **Dr. Tom Gerstner**

7. Common causes of dysphagia



What are the commonest causes of dysphagia in the general population?

Submitted by: **Irene D'Souza, MD**, Willowdale, Ontario

Esophageal dysphagia should be differentiated from oropharyngeal dysphagia, which primarily presents as difficulty initiating swallowing. In patients with the sensation of impidence of swallowed material, there are a wide variety of causes. History taking is important as it is estimated that 80% of causes can be determined by history alone. Patients with dysphagia, to both solids and liquids, tend to have esophageal motility peristalsis disorders. Achalasia is the classic autoimmune motility disorder due to the lack of peristalsis and incomplete relaxation of the lower esophageal sphincter. Esophageal hypomotility is common in patients with scleroderma.

Patients with dysphagia to solids tend only to have mechanical obstructions. In patients with chronic gastroesophageal reflux disease, peptic esophageal stricture dysphagia is usually insidious, while esophageal cancer is more rapidly progressive. Patients with longstanding intermittent solid food dysphagia suggest a diagnosis of esophageal mucosal rings (*i.e.*, Schatzki ring).

There is recent and increasing recognition that children and young adults with intermittent dysphagia and a history of allergies, such as asthma, may have an entity called eosinophilic esophagitis.

Answered by: **Dr. Robert Bailey; and Dr. Justin Cheung**

8. What is the usefulness of human leukocyte antigen-B27 testing?



A patient with recently-diagnosed AS has a sister with a positive HLA-B27 but minimal symptoms. What treatment or further investigations would you recommend?

Submitted by: [Thomas E. Maxwell, MD](#), Hawkesbury, Ontario

Genetics play a very important role in the pathogenesis of ankylosing spondylitis (AS). Both a family history of AS and the presence of human leukocyte antigen (HLA)-B27 afford an additive risk of developing the disease. However, the usefulness of HLA-B27 testing is debatable. Although the vast majority (93%) of patients suffering from AS will be HLA-B27 positive, the high population prevalence (6% to 9%) of HLA-B27 means that this test is a poor screening tool. Additionally, in a patient who clinically has AS, this test will not change disease management. The true utility of this test may be to elucidate atypical cases of AS.

The question alludes to another important issue in the diagnosis of AS: that the presentation may differ in women and men. Men may have more severe spinal disease and women may have more enthesitis and less ankylosis.

This particular patient could be sent for sacroiliac films to document the presence of sacroiliitis (the hallmark of the disease).

The treatment of AS is symptom-driven. NSAIDs and an exercise program that emphasizes posture training and flexibility are first-line treatments and may be sufficient for a patient with mild symptoms.

Answered by: [Dr. Michael Starr](#); and [Dr. Elizabeth Hazel](#)

9. Homocysteine levels and CV risk



What is the current status of homocysteine as a cardiovascular (CV) risk factor?

Submitted by: [Barry P. Conway, MD](#), Victoria, British Columbia

Recent guidelines do not advocate the routine use of homocysteine. Several reasons suggest that this approach is warranted for most patients. Although initial cross-sectional and retrospective studies reported strong positive associations between homocysteine levels and CV risk, prospective studies have established this association to be substantially smaller than previously reported. More importantly, screening adds little to standard lipid evaluation or to the Framingham risk

score. However, there are specific special populations for whom homocysteine evaluation may prove to be appropriate, including those lacking traditional risk factors, in the setting of renal failure or those with premature atherosclerosis or a family history of coronary or cerebrovascular events at a young age.

Answered by: [Dr. Igal A. Sebag](#)

10. Pap smears for hysterectomy patients?



Do women who have had a total hysterectomy for benign disease really need to have pap smears of the vaginal vault?

Submitted by: **Stephen Sullivan, MD**, Victoria, British Columbia

Neoplastic and preneoplastic lesions of the cervix can arise in an area which includes the:

- endocervix,
- extocervix and
- adjacent tissues of the extocervix (the so-called transformation zone).

Abdominal hysterectomy and vaginal hysterectomy for benign disease of the uterus generally do not remove all of the area which may give rise to malignancy, so there is a theoretical risk of vaginal cuff abnormalities and a risk of primary vaginal tumours elsewhere in the vagina. Determining the need for continuing surveillance of the vaginal vault and the vagina depends on the likelihood of such an abnormality.

Studies have consistently shown that in the absence of previous dysplasia, the risk is very low for both preneoplasia and neoplasia arising in the vaginal vault and for primary vaginal cancer. The US Preventive Services Task and the American Cancer Society have both recommended that routine vaginal pap screening is unnecessary for women who have undergone a total hysterectomy for benign disease. An American College of Obstetricians and Gynecologists (ACOG) Technical Bulletin states that it is not cost effective.

In the absence of significant risk factors, the post-hysterectomy pap smear is unnecessary, but if risk factors (Table 1) are present, I would continue to recommend vaginal cuff smears for post-hysterectomy patients.

Resources

1. Farghaly H, Bourgeois D, Houser PM, et al: Routine vaginal Pap test is not useful in women status-post hysterectomy for benign disease. *Diagn Cytopathol* 2006; 34(9):640-3.
2. Sirovich BE, Welch HG: Cervical cancer screening among women without a cervix. *JAMA* 2004; 291(24):2990-3.

Answered by: **Dr. David Cumming**

Table 1

Risk factors for cervical neoplasia

- Multiple sexual partners or a male sexual partner with multiple partners
- Sexual intercourse at an early age
- Male sexual partners who have had other sexual partners with cervical cancer
- Women with current or prior HPV infection, HIV infection or other sexually transmitted diseases
- Immunosuppressed women
- Smokers and abusers of other substances, including alcohol
- History of cervical dysplasia or cervical cancer or endometrial, vaginal, or vulvar cancer
- Women of lower socioeconomic status/women who have not been able to obtain regular gynecologic screening and care

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11. Which PSA velocity to use?



What PSA velocity is used as safe range and does it all depend on the age of the patient?

Submitted by: **Daniel R. Berendt, MD**, Edmonton, Alberta

Longitudinal changes in PSA are being used more frequently in order to guide the recommendation to perform prostate biopsies. In 1992, Carter, *et al*¹ reported that a velocity of 0.75 ng/ml yearly could help distinguish men with benign prostatic hyperplasia from men with prostate cancer. However, more recently, this cut-off has been questioned especially for younger men. There is a concern for the latter group (those < 60-years-old) that the traditional cut-off of 0.75 ng/ml per year

might be too high. A cut-off of 0.40 ng/ml per year could be more appropriate. This would increase sensitivity with only a slight decrement in specificity and, therefore; improve prostate cancer diagnosis.

Reference

1. Carter HB, Pearson JD, Metter EJ, et al: Longitudinal evaluation of prostate-specific antigen levels in men with and without prostate disease. *JAMA* 1992; 267(16):2215-20.

Answered by: **Dr. Hugues Widmer**

12. Following-up on a previous Hodgkin's diagnosis



How does one follow-up with a patient who had Hodgkin's disease 10 years earlier?

Submitted by: **Alain F. Turcotte, MD**, Quebec, Quebec

As most patients with Hodgkin's lymphoma are cured with treatments, the follow-up largely addresses preventive and early recognition strategies for any rare, long-term toxic effects from their treatments. Therefore, recommendations depend upon the extent of disease at presentation and the treatment received. Clarification of recommended follow-up should be obtained from the treating hematologist/oncologist when possible.

As a general guideline, a patient now 10 years after diagnosis should be examined annually, including:

- lymph nodes,
- breast,
- abdomen and
- skin.

Prior radiation to the neck warrants careful dental care (for risk of dental caries due to decreased salivation) and thyroid examination with annual thyroid stimulating hormone (risk of hypothyroidism and secondary thyroid cancer after irradiation). Additional bloodwork may include an annual complete blood count and alkaline phosphatase. Chest x-rays every two years, in addition to mammography (starting 10 years after diagnosis or age 40, whichever comes first) and pap smears are recommended. Immunizations should be up-to-date, including an annual influenza vaccination, a pneumococcal vaccine every five years and tetanus/diphtheria every 10 years.

Answered by: **Dr. Sharlene Gill**

13. Understanding and managing encopresis



What is the latest medical treatment and prognosis of encopresis?

Submitted by: Sherry J. Taub, MD, Richmond Hill, Ontario

Encopresis is fecal incontinence that does not have an organic cause. It usually refers to fecal soiling in children who have usually already been toilet trained. Children with encopresis often leak stool into their underwear. Encopresis affects 2.8% of four-year-olds, 1.9% of six-year-olds and 1.6% of 10 to 11-year-olds. It usually presents in children younger than seven-years-of-age. More than 90% of encopresis is due to functional constipation where retained stool distends the rectum, resulting in stool leaking around a stool mass. The remaining 10% of encopresis is due to anorectal dysfunction after pull through surgery, damaged corticospinal pathways, or rarely, to anxiety or emotional stressors causing fecal incontinence without underlying constipation.

Encopresis affects 2.8% of four-year-olds, 1.9% of six-year-olds and 1.6% of 10 to 11-year-olds.

Current treatment of encopresis with constipation revolves around behavioural modification and laxative therapy. A recent Cochrane Systematic Review from 2007 looked at 18 trials of behaviour intervention for the management of defecation disorders in children. The conclusion of this review

was that behavioural intervention, plus laxative therapy, improves fecal continence in children who have encopresis. Medical therapy varies, but often uses a combination of bisacodyl pills, suppositories and enemas to achieve the initial clean out. Mineral oil and/or polyethylene glycol can then be used to maintain regular bowel movements. Referral to a center specializing in developmental and behavioural pediatrics, with experience in both behavioural modification and medical management of encopresis, is appropriate.

The prognosis of encopresis favours most children having meaningful improvement, although those with more complex social and psychiatric situations are prone to longer recovery times. Quoted recovery rates range from 30% to 50% after one year and 50% to 75% after five years.

Resources

1. Schonwald A, Rappaport L: Consultation with the specialist: Encopresis: Assessment and management. *Pediatr Rev* 2004; 25(8):278-83.
2. Brazzelli M, Griffiths P: Behavioural and cognitive interventions with or without other treatments for the management of faecal incontinence in children. *Cochrane Database of Systematic Reviews* 2006, Issue 2. Art. No.: CD002240. DOI: 10.1002/14651858.CD002240.pub3.

Answered by:
Dr. Robert Bailey; and Dr. Matt Butler

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14. Screening for acromegaly



What is a good screening test if I suspect acromegaly?

Submitted by: Harbhajan S. Kang, MD, Pointe-Claire, Quebec

The best screening test for acromegaly is clinical suspicion. Features include enlargement of facial features, hands and feet. Other symptoms include:

- excessive sweating,
- carpal tunnel syndrome,
- arthritis,
- hypertension,
- dysglycemia and
- sleep apnea.

The diagnosis of acromegaly involves the assessment of growth hormone responses to an oral glucose tolerance test. In individuals with acromegaly, growth hormone usually fails to suppress. Serum levels of insulin-like growth factor-1 are also usually elevated.

Additionally, imaging will be required, such as a CT or MRI scan.

Answered by: Dr. Vincent Woo

The diagnosis of acromegaly involves the assessment of growth hormone responses to an oral glucose tolerance test. In individuals with acromegaly, growth hormone usually fails to suppress.

15. Calcium supplementation in osteoporosis




What is the evidence for calcium supplementation in osteoporosis (OP) in primary and secondary prevention?

Submitted by: **Stefania Argentin, MD**, Montreal, Quebec

Evidence supporting the importance of calcium supplementation comes from prospective, randomized, placebo-controlled studies of calcium and vitamin D supplementation.

With regards to bone density, calcium has been shown to reduce bone loss. Post-menopausal women whose baseline calcium intake was < 400 mg q.d. lost less bone when supplemented with calcium to a total intake of 1,000 mg q.d. than with placebo.¹ This trend has been seen in elderly adults,² patients > 65-years-of-age and most recently, in older men aged > 50-years.³ The Women's Health Initiative (WHI) trial of 36,282 post-menopausal women, 50 to 79-years-of-age randomized to receive 1,000 mg of elemental calcium and 400 IU of vitamin D and placebo also showed a small improvement in hip bone density.⁴

With regards to fracture rate, there is variable evidence that calcium prevents fractures. Multiple studies have shown small reductions in fracture in patients receiving calcium and vitamin D supplementation as compared to placebo.⁵

However, a meta-analysis of randomized trials in post-menopausal women receiving calcium and placebo found a trend toward reduction in vertebral fractures which was not statistically significant.⁶ Also, the WHI did not show a reduction in fracture risk in patients receiving calcium and vitamin D.⁴ 

For references, please contact diagnosis@sta.ca

Answered by: **Dr. Sabrina Fallavollita**; and **Dr. Michael Starr**

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