



*Answers to your questions
from our medical experts*

1. Pros and Cons of Probiotics

? What are the pros and cons of probiotics?

Submitted by: **Edwin J. Franczak, MD**, Scarborough, Ontario

Probiotics are dietary supplements of potentially beneficial bacteria, most commonly consisting of strains of the *Lactobacillus* and *Bifidobacterium* species. Probiotics are intended to assist the body's naturally occurring gut flora. Claims are made that probiotics strengthen the immune system assisting the body in combating illness due to infections, allergies, stress and other toxic substances. They can be found as additives to foods, most commonly yogurt, or can be bought on their own as commercial products in health food stores and pharmacies. There are limited safety concerns over probiotics and therefore

some physicians have suggested their use in addition to or as a safer alternative to more traditional pharmaceutical options. They have been evaluated for treatment in *C. difficile* colitis, inflammatory bowel disease, irritable bowel syndrome and other GI disorders usually associated with diarrhea. Unfortunately the clinical trials evaluating probiotics are conflicting with most trials being negative or suggesting just modest benefits. Further research is required to evaluate the role of probiotics in the treatment of GI disease.

Answered by: **Dr. Richmond Sy**

2. Increased Risk of Pneumonia with Long-Term PPI Use

? Should I be concerned about the increased risk of pneumonia in patients on long-term PPIs?

Submitted by: **Mohamed I. Ravalia, MD**, Twillingate, Newfoundland

A number of theoretical concerns have been raised over the years since the introduction of PPI agents for long-term gastric acid suppression, including masking or development of upper GI (UGI) malignancy, malabsorption of nutrients and pathogen colonization of the UGI tract. To date, despite widespread use of PPIs, none of these concerns have been realized in clinical practice. A recent retrospective, case-controlled, cohort study from a large population database from the Netherlands assessed the risk of community-acquired pneumonia (CAP) with gastric acid suppression.¹ The authors concluded that current users of PPIs had an increased relative risk of CAP (1.89-fold), compared to individuals who stopped PPIs, which translated into approximately one extra case of pneumonia for every 100 years of patient exposure to PPIs. A major criticism of

this study is that individuals who required ongoing PPI use likely had more severe UGI problems, such as gastroesophageal reflux, which itself is associated with increased risk of pneumonia. Therefore, until such time as a placebo-controlled, prospective trial of PPI is conducted with CAP as the primary outcome, there will be no definitive answer to this question. No medication is without risk of adverse effects; the possibility of a very small risk for CAP with long-term PPI use must be balanced against the benefit of treatment of the condition for which PPI is prescribed.

Reference

1. Laheij RJ, Sturkenboom MC, Hassing RJ, et al: Risk Of Community-Acquired Pneumonia And Use Of Gastric Acid-Suppressive Drugs. *JAMA* 2004; 292(16):1955-60.

Answered by: **Dr. Paul Hernandez**

3. Cardioversion in New Onset Rapid AF

? In case of new onset rapid atrial fibrillation (AF), is it necessary to do cardioversion after controlling the rate?

Submitted by: [Esmail Abej, MD](#), Gander, Newfoundland

It is most important to control the ventricular rate in patients with new onset AF. Diltiazem 0.25 mg/kg or metoprolol 5 mg to 15 mg IV are generally used for this purpose. Digoxin is not very effective to slow ventricular rate. Cardioversion is indicated for any patient with hemodynamic instability (systolic BP < 90 mmHg, pulmonary edema or ongoing myocardial ischemia). Cardioversion is also indicated if adequate rate control cannot be achieved (resting heart rate > 100 bpm at rest). Many patients with new onset AF will convert spontaneously back to sinus rhythm within 24 to 48 hours. It would be reasonable to discharge patients with new onset AF from the ER on metoprolol 50 mg b.i.d. or diltiazem 240 mg q.d. with follow-up in one week. Studies have not shown any survival benefit for a strategy of rhythm control over rate control in patients with AF.

The two other major issues in the patient with new onset AF are to determine the cause of AF and the thromboembolic risk.

Patients with AF should have a TSH to exclude thyroid disease and an ECHO to assess left ventricular function, left atrial size and exclude valvular disease. Patients with mitral stenosis or a prosthetic valve need life-long anticoagulation if they develop AF. Otherwise, patients should be started on warfarin if they have more than one of the following risk factors:

- heart failure,
- hypertension,
- > 75-years-of-age,
- diabetes,
- prior stroke or
- embolic event (CHADS2 score).

If this is the first episode of AF and the patient is still in AF one week after initial presentation, I would initiate warfarin with a plan for electrical cardioversion after therapeutic anticoagulation for at least three weeks.

Answered by: [Dr. Bibiana Cujec](#)

Cardioversion is indicated for any patient with hemodynamic instability (systolic BP < 90 mmHg, pulmonary edema or ongoing myocardial ischemia).

4. Glucosamine for Osteoarthritis



Please review the use of glucosamine for osteoarthritis.

Submitted by: **Colin Leech-Porter, MD**, Vancouver, British Columbia

Due to the lack of a true “disease modifying” drug for osteoarthritis (OA), there has been ongoing interest in the use of glucosamine. Several small studies suggested benefit for pain control and possibly even cartilage protection. However, the much anticipated Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT) tempered some of the enthusiasm.

The study involved 1,583 patients with OA of the knee, randomized to one of four arms—glucosamine hydrochloride 500 mg t.i.d., sodium chondroitin sulfate 400 mg t.i.d., a combination of the two, or the selective COX-2 inhibitor celecoxib 200 mg o.d.

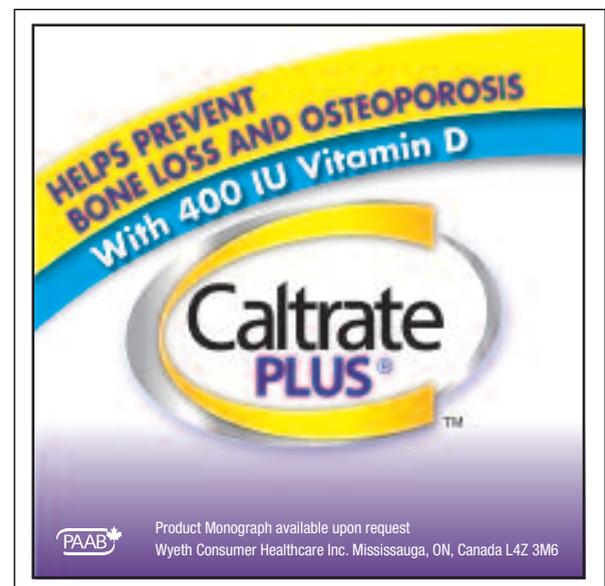
The authors concluded that there was no evidence of efficacy for glucosamine and/or chondroitin compared with placebo, although in the predetermined subgroup of patients with moderate to severe pain, there was a statistically significant effect of the combination supplements vs. placebo (79.2% vs. 54.3% of patients, $p=0.002$).

Given the generally negative press for NSAIDs in the past few years (*i.e.*, GI and CV risk, several drugs withdrawn from the market, *etc.*), many patients and physicians are reluctant to use this class of drugs for treatment of OA. Glucosamine and chondroitin have at least had a very favourable side-effect profile in the studies done to date. It may not be unreasonable to suggest a short-term trial (two to three months) in select patients with OA, but they should be informed of the limits of the current clinical data.

Resource

1. Clegg DO, Reda DJ, Harris CL, et al: Glucosamine, Chondroitin Sulfate, And The Two In Combination For Painful Knee Osteoarthritis. *N Engl J Med* 2006; 354(8):795-808.

Answered by: **Dr. Michael Starr**



5. Brittle, Cracking Fingernails

? Can anything be done about brittle, cracking fingernails?

Submitted by: **Anonymous**

Patients often present with brittle nails by expressing complaints of inability to grow long nails, as well as softness, dryness, weakness or easy breaking of nails. Clinical signs of brittle nails include onychoschizia (transverse or lamellar splitting) as well as onychorrhexis with longitudinal splitting.

Many cases of brittle nails are idiopathic. The most common causative factor is dehydration of the nail plates. This is often associated with contact with water, detergents or dehydrating chemicals especially nail polish remover.

Treatment of brittle nails usually focuses on removal of exogenous factors that cause or exacerbate the nail fragility. Frequent hand washing and water or dehydrating chemical

contact should be avoided. Nail polish can be applied once weekly but nail polish remover should not be used. Brittle fingernails may respond well to rehydrating the nail plates by first soaking the nails in lukewarm water for five to 10 minutes followed by immediate application of a moisturizer to the nail plates.

α -hydroxy acids such as Lac-Hydrin lotion™ containing 12% lactic acid or urea containing creams can be very useful nail moisturizers. There are uncontrolled reports of biotin being used to treat brittle nails based on its use to treat pathologic hoof changes in horses. The recommended dose is 2.5 mg q.d. for three to six months.

Answered by: **Dr. Richard Haber**

6. Seasonal Affective Disorder

? If a patient suffers from seasonal affective disorder, should I test with an antidepressant, light therapy/theory or both?

Submitted by: **Raouf Dimitry, MD**, Edmonton, Alberta

Seasonal affective disorder is characterized by recurrent depressions that usually begin in November and end in March. Patients typically experience depression as the photo period of the day decreases with advancing winter. Symptoms of winter depression commonly include lethargy, decreased activity and social withdrawal, loss of interest in sex, oversleeping, overeating, carbohydrate cravings and weight gain.

Phototherapy (light therapy) was introduced in 1984 as a treatment for seasonal affective disorder. It tends to be well-tolerated by patients. Generally, patients with more

prominent hypersomnia as a feature of their seasonal depression may show more robust response to phototherapy. Light therapy may be recommended as a time-limited trial, primarily in outpatients with clear seasonal pattern. In patients with more severe forms of seasonal major depressive disorder, it is considered adjunctive to psychopharmacological intervention.

Resource

1. American Psychiatric Association: Practice Guidelines for the Treatment of Psychiatric Disorders. 2006, page 792.

Answered by: **Dr. Hany Bissada**

7. Obstructive Sleep Apnea



What are the indications of uvulopalatopharyngoplasty (UPPP) in severe obstructive sleep apnea (OSA)?

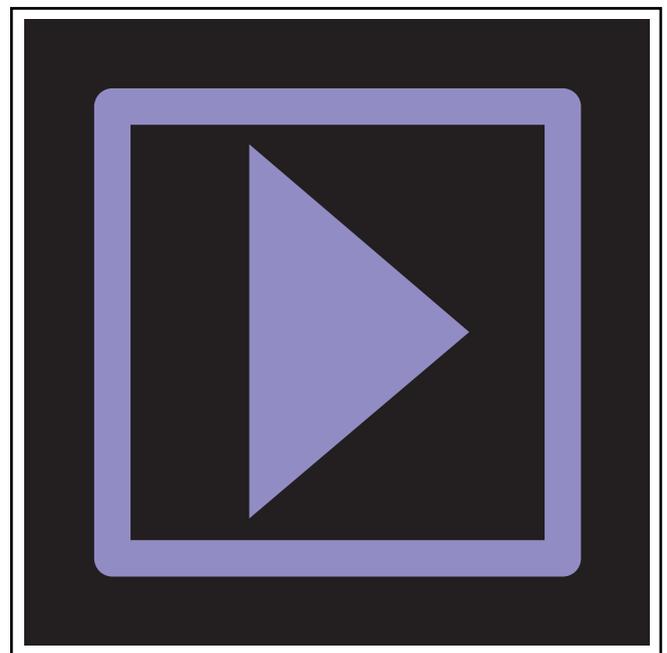
Submitted by: **Yaghoub Nikahn, MD**, Newmarket, Ontario

OSA is characterized by collapse of one or more regions of the airway at night. This results in either outright stoppage of breathing (apnea) or significant “shallowing” of the breathing (hypopnea). If these episodes occur frequently enough and with significant duration, there may be drops in blood oxygen levels that pose a long-term and serious risk for heart disease, stroke and hypertension. Additionally, this leads to serious sleep disruptions that may cause daytime fatigue, poor job performance and seriously impaired driving performance.

The evaluation of individuals with suspected OSA needs to start with a detailed history from the patient and if possible from the bed partner. The next essential element is a comprehensive head and neck examination with specific emphasis on the upper airway. A thorough fibre-optic examination can often help to identify the palate and oropharynx as the level of obstruction.

The oropharynx is the site of obstruction for 40% to 50% of individuals with OSA. The specific problem may involve flaccidity and redundancy of the palate, uvula and/or significant tonsillar encroachment. Treatment options include continuous positive airway pressure (CPAP) and surgical correction. The surgical correction involves performing a UPPP or its equivalent using a laser. Short-term results suggest an improvement in 80% of patients. However, five year results drop below 50% in most studies. Patients with severe OSA should be counselled on this. It should also be mentioned that CPAP can be problematic following UPPP and this should be considered in the treatment decision-making.

Answered by: **Dr. Jonathan Irish, Dr. Emma Barker; and Dr. Sanjay Verma**



8. Relationship Between Acne and Food

? Is there a relationship between acne flare-ups and food?

Submitted by: **Ashok Nadkarni, MD**, Alexandria, Ontario

Acne vulgaris or acne is a chronic inflammatory condition of the pilosebaceous unit that is nearly universal in youth. It is the most common skin disease affecting up to 90% of teens. It rarely develops after 25-years-of-age and < 10% of cases persist into the fourth decade.

Acne can have a major impact on patient quality of life affecting self-esteem and psychosocial development, causing emotional distress and social isolation.

The pathophysiology of acne is well-known. At puberty, increased androgens stimulate growth of sebaceous glands with increased sebum excretion. Changes in keratinocytes that line the follicular opening obstruct sebum secretion. This blockage, with subsequent buildup of sebum, causes the formation of the microcomedone—the primary acne lesion. Sebum and sloughed keratinocytes build up, creating the perfect microenvironment for the proliferation of the anaerobic Gram-positive bacilli *Propionibacterium acnes*. Inflammatory cytokines and chemokines are released, attracting neutrophils into the lesion and a pustule forms. If the pus bursts onto the surface, the inflammation may resolve. If it bursts into the dermis, deep inflammation is triggered and a nodule forms with possible scarring.

After > 30 years of studies investigating the relationship of acne and diet, new evidence has been presented to suggest a link between

acne and high glycemic index food and skim milk.^{1,2} It is thought that elevated insulin and insulin-like growth factor increase testosterone levels. The strength of these associations is weak, as the findings were made through post-hoc analysis. Smith, *et al* compared dietary intervention of a low vs. high glycemic index diet over 12 weeks in 43 male patients with acne and showed that the low glycemic index group had a greater reduction in lesion count. However, weight loss in the intervention group was more significant and this may have influenced the outcome. More studies are needed to show the benefits, if any, of dietary changes. Healthy lifestyle choices should be encouraged in all patients regardless of the presence of acne.

References

1. Smith RN, Mann NJ, Braue A, et al: The Effect Of A High-Protein, Low Glycemic Load Diet Versus A Conventional, High-Glycemic Load Diet On Biochemical Parameters Associated With Acne Vulgaris: A Randomized, Investigator-Masked, Controlled Trial. *J Am Acad Dermatol* 2007; 57(2):247-56.
2. Adebamowo CA, Spiegelman D, Berkey CS, et al: Milk Consumption And Acne In Teenaged Boys. *J Am Acad of Dermatol* 2008; 58(5):787-93.

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

9. Risk of QT Interval with Methadone Therapy

? What is the significant risk of QT interval when considering methadone maintenance therapy?

Submitted by: **Tom Crawford, MD**, Glace Bay, Nova Scotia

Methadone is an inhibitor of potassium channels and can prolong the QT interval and cause *torsades de pointes* ventricular tachycardia and sudden cardiac death in predisposed patients (including those with congenital QT syndromes, hypokalemia, left ventricular (LV) dysfunction, altered liver function or taking other drugs that prolong QT interval).

In a series of 167 hospitalized methadone maintenance patients,¹ 16% had a significantly prolonged QTc (> 0.5 seconds) and 3.6% had *torsades de pointes*, compared to none of 80 control patients (injection drug users not taking methadone). A dose relationship has been observed between methadone and QT interval. A daily methadone dose > 40 mg is much more likely to cause QT prolongation. However, methadone even at therapeutic levels, may increase the risk for sudden cardiac death either by potentiating arrhythmia or causing respiratory suppression.

The low risk of sudden cardiac death must be weighed against the benefit of methadone. EKG screening may be appropriate for patients taking high doses of methadone, as well as those with other risk factors for a prolonged QT (LV dysfunction, hypokalemia, cytochrome P450 inhibitors or other drugs which prolong the QT interval). Additionally, when possible, other drugs which prolong the QT interval should be avoided in patients who are taking high dose methadone.

Reference

1. Ehret GB, Voide C, Gex-Fabry M, et al: Drug-Induced Long QT Syndrome In Injection Drug Users Receiving Methadone: High Frequency In Hospitalized Patients And Risk Factors. Arch Intern Med 2006; 166(12):1280-7.

Answered by: **Dr. Bibiana Cujec**

10. Bochdalek Hernia

? What is a Bochdalek hernia?

Submitted by: **Jenny Molson, MD**, Kingston, Ontario

A Bochdalek hernia is a congenital defect formed by the improper fusion of the posterolateral foramen of the diaphragm. It is a common diaphragmatic hernia occurring in as many as one in 2,500 live births. It is more common on the left side of the diaphragm and occurs more commonly in males than females. The defect allows abdominal viscera to protrude into the chest cavity. This may

cause hypoplasia of the left lung and a mediastinal shift to the right side. The treatment is usually surgical.

Answered by: **Dr. Richmond Sy**

11. Cardiomyopathy in Pregnancy



How would you manage a pregnant woman with cardiomyopathy?

Submitted by: **Michael G. Bendall, MD**, Whitehorse, Yukon

Management of the pregnant woman with cardiomyopathy depends on the cause and the presenting symptoms. In the patient with hypertrophic cardiomyopathy due to subaortic obstruction (normally an autosomal dominant disorder) presenting with chest pain, hypovolemia and tachycardia, significant sympathetic outpouring should be avoided. The latter must be considered in a woman presenting with preterm labour where β -agonists should be avoided. In the event of symptomatology associated with diastolic ventricular dysfunction β -blockers, calcium channel blocker or judicious diuretic therapy should be applied. Some reports suggest symptoms of hypertrophic cardiomyopathy may be ameliorated with dual chamber pacing, altering the pattern of ventricular depolarization decreases the degree of obstruction. In the event of a life-threatening ventricular arrhythmia, consider an implantable cardiac defibrillator.

Congestive cardiomyopathy is due to primary myocardial disease with compromised contractile function leading to inadequate cardiac output with associated fatigue, dyspnea and a tendency towards arrhythmias may be due to familial cardiomyopathy or ischemic heart disease. In addition, progressive myocardial dysfunction may be secondary to chronic pressure or volume overload. The

former may occur with chronic hypertension, volume overloading in presence of congenital heart disease or secondary heart block. Dilated cardiomyopathy is managed with digoxin, inotropic support, diuretics to decrease diastolic filling pressures and volume, as well as afterload reducing agents (*i.e.*, hydralazine, labetalol).

Peripartum cardiomyopathy is a dilated cardiomyopathy usually not diagnosed until the postpartum period and is a diagnosis of exclusion for other causes of congestive cardiomyopathy. The incidence is 1/10,000 and is more common in multiparous, multiple gestations, Black women and those > 30-years-old. There may be an underlying immune process resulting in inflammatory myocarditis. Up to 50% deteriorate and die despite supportive measures—corticosteroids appear to be of little help. If the patient survives, a repeat pregnancy is not recommended in those even with full cardiac recovery and especially for those with persistent ventricular hypertrophy.

Resource

1. Management of High-Risk Pregnancy. John T. Queenan Fourth Edition, Published by Wiley-Blackwell, 1999.

Answered by: **Dr. Victoria Davis**

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12. ECHO Follow-Up on Bicuspid Aortic Valves

? How often should we do ECHOs to follow-up on bicuspid aortic valves? Annually or every two to five years?

Submitted by: **John G. Hamilton, MD**, Belleville, Ontario

Bicuspid aortic valves are a congenital abnormality of the aortic valve that leads to two aortic cusps, as opposed to three. These patients are potentially more susceptible to the development of aortic insufficiency or aortic stenosis. In addition, these patients may also develop aortic root dilatation due to an abnormality in the connective tissue of the ascending aorta. Patients with a bicuspid aortic valve who have dilatation of the ascending aorta should undergo yearly echocardiography (aortic root surgery is considered when the aortic root exceeds 5 cm in diameter). In the presence of valvular dysfunction (aortic

stenosis or aortic insufficiency), yearly ECHOs are also recommended to follow valvular lesions and also the aortic root. In asymptomatic patients with no valvular dysfunction and a normal aortic root, a repeat ECHO at one year is reasonable to assess if the aortic root is dilating rapidly. If there is no change in the ECHO at one year, then repeat serial ECHOs thereafter are not currently indicated in the guidelines (clinical judgement can be used for repeat ECHOs in such patients).

Answered by: **Dr. Richard Sheppard**

13. Antiviral Cream for Herpes Zoster

? Is antiviral cream beneficial alone or in combination therapy for herpes zoster?

Submitted by: **Gilbert Blanchard, MD**, Bas-Caraquet, New Brunswick

The treatment of choice for acute herpes zoster remains oral acyclovir, famciclovir or valacyclovir started within 72 hours of the onset of the skin eruption. These drugs have been shown in randomized placebo controlled trials to reduce the severity and duration of acute pain as well as reduce the incidence of postherpetic neuralgia.

A randomized double-blind controlled trial of topical 5% acyclovir ointment was performed on 45 immunocompromised patients. The ointment was applied four times daily for 10 days and begun within 72 hours of the onset of the skin lesions. The mean time to 50% and 100% healing of skin lesions was significantly shortened in the acyclovir ointment group. However, pain resolution was not significantly faster in the acyclovir group.

Two randomized placebo-controlled trials compared topical 40% idoxuridine vs. placebo. Both studies found beneficial effect on pain reduction at one month but no significant difference on pain reduction between treatment and control at six months.

Topical antiviral treatment for cutaneous herpes zoster is best avoided and herpes zoster is best treated with the more effective oral antiviral agents. **Dx**

Resource

1. Levin MJ, Zaia JA, Hershey BJ, et al: Topical Acyclovir Treatment Of Herpes Zoster In Immunocompromised Patients. *J Am Acad Dermatol* 1985; 13(4):590-6.

Answered by: **Dr. Richard Haber**