



Barrett's Esophagus

1.

What is the appropriate follow-up/treatment for Barrett's esophagus?

Question submitted by:
Dr. Stacey Saunders
Burin, Newfoundland

Barrett's esophagus is a condition in which an abnormal columnar epithelium replaces the normal stratified squamous epithelium of the distal esophagus. It results from chronic gastroesophageal reflux disease (GERD) and predisposes to esophageal adenocarcinoma. Patients with Barrett's esophagus should have regular surveillance endoscopy with esophageal biopsies.

GERD should be treated with a PPI prior to surveillance endoscopy. This is recommended to minimize

confusion between inflammation in the interpretation of dysplasia. If a patient has two consecutive endoscopies that show no dysplasia, surveillance endoscopy can be carried out every three years. If low-grade dysplasia is seen, more frequent endoscopies are required. If high-grade dysplasia is found either surgery, thermoablation or endoscopic mucosal resection is indicated.

Answered by:

Dr. Jerry McGrath

Thinning Hair in Females

2.

What is the work-up for thinning hair in a female?

Question submitted by:
Dr. Steve Choi
Oakville, Ontario

Thinning hair has many possible causes and a thorough history and physical must be done to ascertain family history, stresses (telogen effluvium), medical history (medications, thyroid *etc.*) and dermatologic conditions (diffuse alopecia areata). The actual pattern of hair loss must be defined by a practiced physician. If the hair loss is thought to be androgenetic and there is a supporting family history, hormonal background (menopause, *etc.*) further

investigation may not be needed. If there are signs of hirsutism, then ovarian studies— (luteinizing hormone/follicle-stimulating hormone/ovarian, ultrasound) can be done as well as androgen evaluation—(Dehydroepiandrosterone Sulfate, sex hormone binding globulin, testosterone). An endocrinology opinion may be useful as well.

Answered by:

Dr. Scott Murray



Statin Therapy for Diabetics

3.

Should all diabetic patients be on statin therapy?

Question submitted by:
Dr. Parmjit Sohal
Surrey, British Columbia

Dyslipidemia is common among diabetic patients. Adenosine triphosphate III and the Canadian Cancer Society Dyslipidemia Guidelines¹ recognized diabetes as a “coronary artery disease (CAD) equivalent,” thereby elevating it to the highest risk category (10-year CAD risk \geq 20%). As per the Canadian guidelines, among high-risk individuals, treatment should be started immediately, concomitant with diet and therapeutic lifestyle changes. The primary target of therapy is to achieve an LDL-C level of $<$ 2.0 mmol/L. The secondary treatment target is achievement of a Total Cholesterol/HDL-C ratio of $<$ 4.0.

The American Diabetes Association recommends screening for lipid disorders at least annually in diabetic patients and more often if needed to achieve goals. Not all diabetic patients need to be treated with statin. Adults with low-risk lipid values (LDL-C $<$ 2.6 mmol/L, HDL-C $>$ 1.3 mmol/L and triglycerides $<$ 1.7 mmol/L may be screened every two years.

Reference

1. McPherson R, Frohlich J, Fodor G, et al: Canadian Cardiovascular Society Position Statement—Recommendations For The Diagnosis And Treatment Of Dyslipidemia And Prevention Of Cardiovascular Disease. *Can J Cardiol* 2006; 22(11):913-27.

Answered by:

Dr. Chi-Ming Chow

Theory of Mindfulness

4.

Please explain the theory of “mindfulness.”

Question submitted by:
Dr. J. Molson
Kingston, Ontario

“Mindfulness means paying attention in a particular way, on purpose, in the present moment and non-judgmentally.” Jon Kabat-Zinn.

Mindfulness in large being is a state of mind and conscious. The patient becomes aware of the rationale for the actions that they are performing. An example would be in substance abuse for a patient in recovery. When they feel the urge to use or misuse their substance of choice, they are encouraged to be aware of

the thoughts and dynamics behind the craving. Also, to “play the tape” through and ascertain what would happen if indeed they were to use again. This could be applied to eating, anxieties or post-traumatic stress disorder flare-ups. It is also the act of being focused in the present vs. living in the past or anticipating events in the future.

Answered by:

Prof. Joel Lamoure

Mammography

5.

Recently, mammogram reports recommend screening every year for patients 40- to 50- years-old. Should I change my current practice?

Question submitted by:
Dr. Michael Silver
Scarborough, Ontario

Several large scale randomized control trials have shown mammography decreases mortality for breast cancer when performed every two years in women 50- to 69-years-of-age. In the 40- to 49-year-old female population, the evidence is more controversial and inconclusive.

Since different provinces have adopted varying standards for screening, a physician should follow locally recommended standards and practices and apply them to the individual patient's circumstances. In the 40- to 49-year-old age group, a patient's risk factors and personal views about mammography should be considered in deciding

whether to proceed with testing.

In women < 50-years-of-age, mammographic results are more likely to require further testing such as spot compression views and ultrasound for delineation of denser breasts and associated pre-menopausal lesions. It is important to counsel the patient about these possible steps to prevent anxiety. For women with family histories of breast cancer, screening should begin 10 years before the age of diagnosis of the youngest affected family member.

Answered by:

Dr. Cathy Popadiuk

Excessive Dose of Hepatitis B Vaccine

6.

What is the recommended schedule for someone who has only received two doses of Hepatitis B vaccine several years earlier (i.e., never received a full course)?

Question submitted by:
Dr. Katrina Sawatsky
Calgary, Alberta

There is obviously little long-term data on the clinical outcomes associated with all the various non-standard vaccination regimens which have been used. Since this is a very safe vaccine with an extremely low rate of adverse events, the most reliable approach would be to restart the series. However, seroconversion after two doses is fairly high and in these cases a late booster induces high antibody levels. Therefore, it is also reasonable to

simply give the third dose, even if it is several years later, then check for the presence of Hepatitis B surface antibody about one month later. The appearance of antibody at a titre of ≥ 10 IU to 15 IU after the third dose appears to correlate well with lifelong protection from infection.

Answered by:

Dr. Michael Libman



Treating Hyperthyroidism

7. How do you treat hyperthyroidism? When do you stop treatment?

Question submitted by:
Dr. Roy Maroney
Kelowna, British Columbia

The treatment of hyperthyroidism generally depends on the cause. If it is due to a self-limited condition such as thyroiditis, β -blockers can be given to control symptoms such as palpitations. If there is significant neck discomfort and tenderness due to subacute thyroiditis, NSAID's or a short course of glucocorticoids may be needed. In Graves' disease, treatment options include antithyroid

agents such as propylthiouracil or methimazole or radioactive iodine ablation or surgery. If the cause of hyperthyroidism is due to a toxic multinodular goiter or an autonomously functioning thyroid nodule, then generally radioactive iodine ablation or surgery are the preferred options.

Answered by:
Dr. Hasnain Khandwala

Dual Chamber Pacing

8. Who benefits from dual chamber pacing?

Question submitted by:
Dr. Craig Render
Kelowna, British Columbia

Dual chamber pacing provides physiologic pacing with sensing and pacing in both the atrium and the ventricle. The dual chamber pacing mode is appropriate for those when atrioventricular synchrony is desired. Dual chamber pacing can help to avoid pacemaker syndrome as a result of pacing the right ventricle only. This pacing mode is recommended for patients with sinus node dysfunction or patients with AV block who have normal sinus node function. Dual chamber pacing is sometimes also recommended for patients with carotid sinus

hypersensitivity with symptomatic cardioinhibition.

Most patients with a dual chamber pacer should have rate responsiveness capability. Rate responsiveness refers to the ability of a pacemaker to adjust its programmed paced rate based upon patient activity (e.g., minute ventilation, oxygen saturation, vibration). With this additional feature, rate responsiveness and AV synchrony can be restored at the same time.

Answered by:
Dr. Chi-Ming Chow

9.

Parents Refusal to Vaccinate Children

For parents who refuse vaccinations for their children, have you any useful resources to help persuade them otherwise?

Question submitted by:

Dr. John McSorley
Airdrie, Alberta

The problem of patients who refuse vaccinations is an increasingly troubling one, notably as vaccination is one of the most patient-friendly, cost-effective methods of reducing the risk for serious and life-threatening disease.

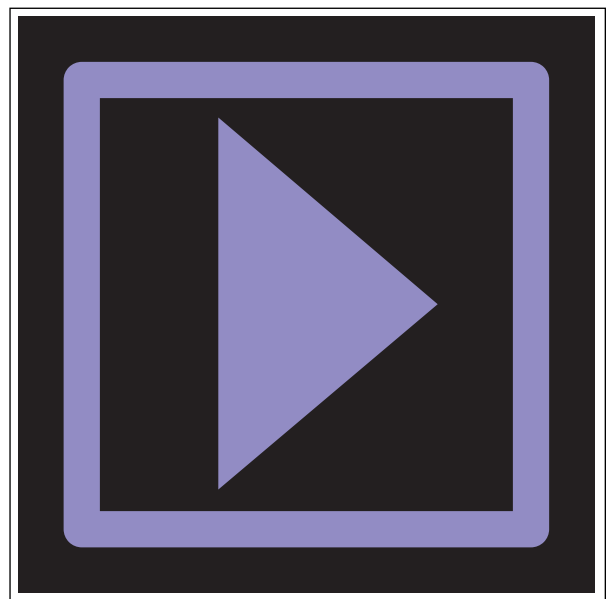
There is no single best answer to this question and the first step the physician should undertake is to understand the reason for the parent's reluctance to have their child immunized. If the reason is religious, it is likely to be extremely difficult, if not impossible, to persuade the parents otherwise. If the refusal to immunize is for other reasons, then the physician should have a calm, reasoned discussion on the merits and risks of immunization, with the primary focus of the discussion being the child's health.

Many parents who refuse immunization have the incorrect belief that that main beneficiary of immunization is the general population vs. their child, while in fact the child is the major beneficiary from immunization. It helps in my

case that I was in practice before many common immunizations such as Hemophilus B immunization were in place and have a first eye view of the considerable benefits provided to children who otherwise would be at risk for meningitis and other life-threatening diseases. As well as the health benefits, it is worth mentioning the doors that are closed to people who are not immunized, which include attending many universities, essentially all healthcare professional schools such as, nursing or medical school and major limitations on travel and employment. The World Health Organization (WHO) website has a good discussion of the common misconceptions with respect to immunization (www.who.int/immunization_safety), while "Your Child's Best Shot" by Ron Gold (published by the Canadian Paediatric Society, www.cps.ca/english/publications/bookstore) is an excellent source of information for families on the risks and benefits of immunization.

Answered by:

Dr. Michael Rieder





Liver Cysts

10. What is the significance of multiple liver cysts? How many and how big should they be before becoming concerned?

Question submitted by:
Dr. Omayma Fouda
Corner Brook, Newfoundland

Cystic lesions of the liver often pose a diagnostic challenge. Simple cysts are the most common lesions. Clinical features and sonographic findings are often enough to distinguish simple cysts from other cystic lesions. Progressive symptoms, abnormal liver enzymes, rapid growth on periodic follow-up, calcifications or daughter cysts,

thick or irregular cyst wall and inhomogeneous cyst content should raise suspicion for an alternative diagnosis such as cystadenoma, cystadenocarcinoma, hydatid cyst or metastasis.

Answered by:
Dr. Jerry McGrath

Suspected Drug Eruption Rash

11. What is the approach to suspected drug rash/contact dermatitis. Is biopsy always required?

Question submitted by:
Dr. Kathleen Davis
Ottawa, Ontario

As a rule, an eczematous (vesicular) eruption is usually a dermatitis related to endogenous factors such as atopy, or exogenous (irritant or allergic). It is somewhat unusual for a purely dermatitic eruption to be due to an ingested medication. A knowledge of the many faces of drug eruptions (exanthems, fixed eruptions, lichenoid, erythema multiforme, etc.) is needed to assess each case and weigh the decision of whether a drug can be implicated. Therefore, an informed assessment is needed (often a dermatology consultant is essential).

Biopsies can help but often a nonspecific result is obtained to the frustration of the clinician.

Therefore, again a clinical correlation is needed.

If a drug eruption is likely, a knowledge of the relative tendency of each medication the patient is taking may allow an attempt to withdraw the most likely offender only. If several medications are equally possible multiple or even all medications can be held depending on the medical necessity of the agents. Suffice it to say the assessment and management of possible drug eruptions is a complex business and usually relies on the clinical experience and careful follow-up of an expert.

Answered by:
Dr. Scott Murray



Lyme Disease Test

12.

What is the best test for Lyme disease?

Question submitted by:

Dr. Alope De

Westville, Nova Scotia

Testing for Lyme disease is, unfortunately, not straightforward. It has also been a topic of debate between advocates of evidence-based medicine and various other Lyme disease support and advocacy organizations. The American Centers for Disease Control (CDC) has issued guidelines for the laboratory diagnosis of Lyme disease and issued cautions about laboratories using their own independent criteria, or criteria developed for other epidemiologic environments, such as Europe.

There are also a few practitioners and laboratories which operate quite outside the bounds of scientific evidence, some of whom charge fees I can only describe as predatory. Early Lyme disease can be diagnosed clinically in a patient exposed to ticks in an endemic area with typical signs

of erythema migrans. In later cases, serology is generally positive. Standard serologic testing involves using a sensitive, but not specific enzyme-linked immunosorbent assay screening test, which when positive is followed by a more specific Western blot test (interpreted by CDC criteria). Even these tests can give false-positive results when used in a patient with low clinical likelihood of disease. Seropositivity can persist long after cure or spontaneous resolution and confuse the diagnosis of subsequent symptoms. Rarely, discrepant results between serology and other research methods such as culture or polymerase chain reaction have occurred and require expert evaluation.

Answered by:

Dr. Michael Libman

When Nail Cultures Are Negative

13.

The majority of toenail clippings that appeared to have onychomycosis came back negative. Why?

Question submitted by:

Dr. James Beacon

Kingston, Ontario

There are many reasons for this. First of all, many dystrophic looking toenails are caused by non-fungal conditions (psoriasis, trauma, lichen planus, etc.).

Sampling errors commonly result in false negatives, so experience in sampling the nail is key. Random nail clipping often misses the fungal deposit in the plate.

In addition, there can be quite a bit of variability between labs in proficiency in fungal results, so make sure your local lab is experienced in this analysis.

Answered by:

Dr. Scott Murray



Congestive Heart Failure in Anemic Patients

14. How do you approach new onset congestive heart failure in patients with anemia, such as a hemoglobin level of < 85 g/L?

Question submitted by:
Anonymous

Anemia is not uncommon among patients with heart failure (HF). The prevalence has been reported to be between 4% and 55% depending on the population studied. The presence of anemia can worsen cardiac function and HF symptoms.

Anemia may be an incidental finding or directly related to HF itself. Some of the factors that contribute to anemia in HF include:

- increased circulating TNF- α
- hemodilution due to volume overload,
- iron deficiency and
- ACE inhibitors may induce anemia directly.

Anemia causing HF on its own is not common unless associated

with some underlying valvular conditions or cardiac dysfunction. Anemia is associated with increased rates of mortality among HF patients. However, anemia may simply be a marker of more severe disease. So far, the effects of anemia treatment in HF patients with erythropoietin and/or IV iron have only been assessed in small clinical trials. Larger trials are needed before these specific treatments can be recommended.

It is important to rule out underlying causes of anemia, such as GI bleed and treat the patient accordingly.

Answered by:

Dr. Chi-Ming Chow

Indications for TNF- α

15. What are the indications for TNF- α therapy in chronic disease?

Question submitted by:
Dr. Sankar Vaidyanathan
Toronto, Ontario

TNF- α is a cytokine involved in systemic inflammation. It stimulates the acute phase reaction causing cell death, cellular proliferation and inflammation. It has been implicated in the pathogenesis of many chronic inflammatory conditions including Crohn's disease, ulcerative colitis, rheumatoid arthritis, psoriasis and ankylosing spondylitis. From

a gastroenterology perspective, the indications for this class of medications include steroid dependent Crohn's disease or ulcerative colitis, fistulizing Crohn's disease and/or inflammatory bowel disease resistant to immunosuppressants.

Answered by:

Dr. Jerry McGrath



Spider Bites

16.

In Canada, do house spiders actually bite? How often? What is the clinical significance? What about garden spiders? Dock spiders?

Question submitted by:

Dr. Christine Johns
Ottawa, Ontario

In Canada, symptomatic spider bites are rare and are generally over-diagnosed. Reports are typically speculative and spiders are rarely seen, or are found to be other types of arthropod. Most spiders are incapable of biting through human skin, those that can rarely bite unless they are being accidentally crushed and most spider venom has no effect on mammals. That said, the most common symptomatic spider bites in Canada are probably due to *loxosceles* (“recluse”) spiders. These bites are usually mild, but occasionally become necrotic. These spiders are endemic to parts of western Canada. Transportation

to other parts of the country (e.g., with food products) is theoretically possible, but rarely documented. The Western black widow may occasionally be found in Western Canada and bites occasionally result in local pain syndromes, more rarely, systemic reactions. Clues that tend to exclude spider bites as a diagnosis include multiple bites on one person, or multiple members of a household being affected. Definitive diagnosis would require capturing and speciating the spider.

Answered by:

Dr. Michael Libman

Examining Calcium and Vitamin D Levels

17.

How often and in which patients should calcium and vitamin D levels be checked?

Question submitted by:

Dr. Sheri Lupul
Airdrie, Alberta

There are no clear guidelines as to whether measurement of calcium and vitamin D in otherwise healthy individuals is indicated. Serum calcium levels may be measured if either hyper- or hypocalcemia is suspected based on the patient’s history and comorbidities. Measurement of serum calcium levels in entirely asymptomatic individuals will sometimes lead to the discovery of mild hypercalcemia that is due to underlying primary hyperparathyroidism. Vitamin D levels are generally measured if vitamin D deficiency is suspected, or during investigations for hypo- or

hypercalcemia. It is also generally measured in patients with renal dysfunction and osteoporosis. A significant number of otherwise healthy individuals turn out to be vitamin D insufficient or deficient and given the accumulating evidence about the non-skeletal benefits of vitamin D, including its role in malignancy *etc.*, it may be reasonable to get a baseline vitamin D level in individuals who have risk factors for vitamin D insufficiency/deficiency.

Answered by:

Dr. Hasnain Khandwala

Dietary Treatments for Colicky Infants

18.

What is the dietary treatment of colic in an infant? What is really going on here?

Question submitted by:

Dr. David Ross
Moncton, New Brunswick

Just as there is no universally accepted theory for the etiology of colic, there is no universally accepted therapy for colic, which is defined as episodic inconsolable crying in infants. Interestingly, despite the relative frequency of colic (estimated variously between 15% and 25% of all North American infants), there has been relatively little work on either the etiology or therapy of this problem, which in fairness always resolves spontaneously over time.

There are four therapies which have been evaluated in sufficient detail to enable comment, these being hypoallergenic diet, soy formula diet, reduced stimulation and use of herbal tea. Of these

therapies, the largest number of infants studied have been those involved in dietary interventions. These studies suggest that the use of a hypoallergenic diet (by breastfeeding mothers), hypoallergenic formula or soy-based formula is associated with a reduction in the amount of crying by extrapolation, therefore improving the symptoms of colic. Given our lack of understanding on the mechanism(s) responsible for colic, it is not clear how this improvement occurs. Interestingly, of the few studies done to date involving drug therapy, no beneficial effect has been demonstrated.

Answered by:

Dr. Michael Rieder

Vertex Positioned Birth

19.

When do most fetuses turn head down?

Question submitted by:

Dr. Janna Bentley
Kelowna, British Columbia

Ninety seven per cent of term fetuses are delivered in the head down, or "vertex" position. Between 29 and 32 weeks, 86% of fetuses are vertex. In the remaining weeks until term, another 11% will rotate to the vertex position. Before 32 weeks, the amniotic fluid volume is large compared to the fetus and there is no crowding of the fetus by the

uterine walls such that the fetus is able to rotate more easily. After 32 weeks, the ratio of amniotic fluid to fetus decreases resulting in less room to move and closer apposition to the uterine walls.

Answered by:

Dr. Cathy Popadiuk



When Should An Antidepressant Not Be Prescribed

20. When should antidepressants not be prescribed for depression?

Question submitted by:
Dr. Paul Steinberg
Vancouver, British Columbia

This question evokes the premises of pharmaceutical and medical care. That being that we must get the right drug for the right person and for the right condition, with a minimum of adverse effects. A thorough history taking includes current and past medical conditions, past exposure to medications and reactions/allergies, family history with their response to medications and current medications including herbals and OTC issues. Brief examples for each of these are below:

A patient presents with depression and is started on a serotonin selective reuptake inhibitor and three days later the patient is manic. Depression is the predominant feature in bipolar disorder presenting 76% of the time and is usually when a patient sees a physician.

However, in bipolar patients which may have been elicited through history, family history or medication history are prone to "switching."

A patient is started on a serotonin-norepinephrine reuptake inhibitor and 24 hours after starting, the patient is confused, with neurologic changes, elevated BP and myoclonus of the limbs. This patient was later found to have been on the herbal St. John's wort and developed

Serotonin syndrome.

An 18-year-old patient is started on fluoxetine 20 mg q.d. for her eating disorder. She has depression with suicidal ideations of jumping off a balcony. Seven days after being started on fluoxetine the emergency medical services is called to her apartment for a trauma secondary to acting through the ideations. Several factors here include that antidepressants may be activating and also fluoxetine is a 50/50 racemic mix. Both the *rectus* (R) and *sinister* (S) forms are substrates of 2D6 and several other P-450 enzymes. The patient may be a poor metabolizer of 2D6 and the levels built up. Plus there are warnings attached to agents that act on serotonin in teens/young adults and activation of suicidal ideations.

A patient with a seizure disorder is started on bupropion, a norepinephrine-dopamine reuptake inhibitor. This combination is contraindicated as bupropion inherently may cause seizures at standard doses.

As such, there are many times an antidepressant may not be prescribed for depression. Reasons are multifactorial and patient specific.

Answered by:
Prof. Joel Lamoure

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