# Consultant's Corner

*Practical Answers To Your Everyday Questions*

## Bronchiolitis in Newborns

### 1. In the case of bronchiolitis in a newborn, should I install oxygen to diminish work of breathing, despite a normal Saturation of Peripheral Oxygen (SpO2), taking into account the potential risks of oxygen toxicity?

Question submitted by:
***Dr. Antoine St-Pierre***
***Charny, Quebec***

This is an interesting question, as it raises the controversial issue of the management of bronchiolitis. Bronchiolitis is an acute infection involving inflammation of small airways such as the bronchioles and is largely a disease of infants. The conventional management of bronchiolitis has been fluids and oxygen; bronchodilators have a limited role at best, while corticosteroids have been reserved for children with a very severe disease.

Oxygen therapy is currently the mainstay of the active management of bronchiolitis. As the disease involves inflammation of small airways, a concern has been raised that there is hypoxia at the tissue level. Certainly, use of oxygen for bronchiolitis is well established. In the normal baby born at term, oxygen toxicity is not an issue, notably if oxygen concentrations are kept within reasonable limits. It should be noted that there is a major national trial on the use of corticosteroids for bronchiolitis Canadian Bronchiolitis Epinephrine/Steroid Trial that hasjust been completed and thus new information will be available shortly to help provide evidence for therapy of infants with bronchiolitis.

Answered by:
**Dr. Michael Rieder**



## Allergy to Mother's Breast Milk

### 2. Could nursing infants be allergic to their mother's breast milk?

Question submitted by:
***Dr. Peter Mucal***
***Queensville, Ontario***

Infants may experience hives while breastfeeding and may occasionally display worsening of eczema. Some lactating women have reported that urticaria or eczema may change in relation to maternal dietary intake. In these situations, nursing infants are not allergic to their mother's breast milk, but may be allergic to foreign proteins present in breast milk. Proteins from certain foods in the maternal diet may be absorbed from the GI tract into the bloodstream and then secreted into breast milk. These dietary proteins include Ara h1 and Ara h2 from peanuts, lactoglobulin from cow's milk, ovalbumin from hen's egg, gliadin found in wheat and other cereal grains and soy protein. Usually, the time from ingestion to appearance in breast milk is several hours. In those circumstances where infants are clearly sensitized to foods known to be secreted into breast milk, a maternal avoidance diet may be recommended.

Answered by:
**Dr. Peter Vadas**

## IUDs as Contraception Options for Teenagers

### 3. Is an IUD a good first choice for teenagers for contraception?

Question submitted by:
***Dr. Ulrike Meyer***
***Pouce Coupe,***
***British Columbia***

The IUD is a good choice for women who are at low risk of acquiring STIs, who need to avoid estrogen-based products and who want a reversible form of contraception. The IUD is contraindicated in women with severe anatomic uterine distortion and active pelvic infections.

Teenagers are likely to have exposure to multiple sexual partners, directly or indirectly through their partner and are at increased risk for STIs. The IUD is thus not a good first choice for teenage contraception particularly as a newly sexually active teen cannot predict her or her partner's future sexual behaviour.

Notwithstanding these aforementioned concerns, the IUD can be used effectively by the appropriate adolescents but IUD problems including expulsion, removal for bleeding and pain and pregnancies are more frequent in teens than older women using the IUD.

Answered by:

**Dr. Cathy Popadiuk**

## Osteoma

### 4. For a frontal sinus osteoma should a follow-up be advised and is this hereditary?

Question submitted by:
***Dr. Danielle Fisch***
***Canton de Hatley, Quebec***

Osteomas are one of most common benign tumours of the paranasal sinuses. They consist of dense, lamellar bone. They occur most commonly in the frontal sinuses, followed by the ethmoid and axillary sinuses. The most accepted etiological theories are embryologic, infectious or traumatic. Osteomas may also occur in Gardner's syndrome (associated with soft tissue tumours and high-risk intestinal polyps). The majority of paranasal osteomas are discovered incidentally. Most publications agree that symptomatic osteomas should be treated surgically, but the management of asymptomatic osteomas is controversial. However, they should be operated upon if they extend beyond the frontal sinus boundaries, or if they show signs of enlargement on repeated radiological examinations. Another surgical indication is if they are located at the frontonasal duct, to prevent chronic infection of frontal sinus. Endoscopic resection of small frontal sinus osteomas is the current treatment in most centers. Larger tumours are usually approached through an osteoplastic flap with or without craniotomy.

Answered by:

**Dr. Ted Tewfik**

## Differences Between Physical and Chemical Sunscreens

**5.**

### Are there any differences in the effectiveness between physical and chemical sunscreens?

Question submitted by:
***Dr. Denis Cheung***
***Ottawa, Ontario***

In general, the physical sunblocks—titanium dioxide and zinc—offer a wider protection across various frequencies of UV light (especially UVA). As well, they tend to "stick" better for swimming and resisting removal by sweating. They offer a good alternative to those who wish to minimize exposure to "chemicals" or who may have specific sensitivities to sunscreen constituents. They, however, can be less elegant to use, being visible to some degree. Most of the physical sunblocks leave a whitish cast on applications or even a total opaque appearance with zinc preparations.

Answered by:
**Dr. Scott Murray**

## Aortic Stenosis Treatment

**6.**

### What are the recommendations for aortic stenosis treatment by percutaneous aortic valve replacement (PAVR)?

Question submitted by:
***Dr. Enrique Guerra***
***Leamington, Ontario***

PAVR is a new technology that has recently been available in selected Canadian university-affiliated hospitals across the country. For many years surgical therapy has been the treatment of choice for symptomatic patients with significant aortic stenosis. However, the surgical approach entails the risks and morbidity associated with cardiopulmonary bypass and median sternotomy. A percutaneous approach to aortic valve replacement would allow treatment of high-risk patients without exposing them to the risks associated with surgery and cardiopulmonary bypass. In December 2002, Cribier and colleagues described the first human implantation of a prosthetic aortic valve. Currently the PAVR procedure is limited to only very high-risk patients for surigical replacement who often are elderly and with multiple comorbid conditions. I have a number of my elderly patients who have recently undergone this procedure at my hospital and they have very good initial results. If you have patients who may be suitable for the PAVR, you should contact your local cardiology or cardiac surgery colleagues who can help refer your patients on to the specialized valve clinic for individual assessment. In the future, once the technology matures, the CV community has hopes that this procedure will play a bigger role for treatment of paitents with significant aortic stenosis.

Answered by:
**Dr. Chi-Ming Chow**

## Depression in Pre-Teens

# 7.

### How often does depression in pre-teens present with somatic symptoms (*e.g.*, headaches or abdominal pain) and what is the best way to treat these patients?

Question submitted by:
***Dr. Mamin S. Lee-Sing***
***Regina, Saskatchewan***

Somatization disorder is a chronic condition where the patient presents to the practitioner in order to relieve various physical complaints. There is marked impairment to the patient and the patient's quality of life. However, there is no evidence upon clinical work-up of a physiological mechanism that is being displayed by the patient. As such, the physical symptoms are mediated by psychological problems. This disorder is characterized by multiple physical complaints. These complaints are often in an area that have a high degree of patient subjectivity. These may include GI, reproductive or nervous systems (such as headaches or stomach aches). Prevalence is greater in women than men and generally presents before 30-years-of-age.

This is not malingering as the patient truly has these symptoms and experiences the disease itself, the frustration of not being able to find a concrete answer, plus the stigma of a psychiatric "label," for these symptoms are very real to them. Symptoms negatively impact school, work and interpersonal relationships. A lifelong history of feeling unwell may also be present.

The etiology of dependency can be rooted in many patients who have had overprotective, authoritarian parents. Dependent patients demonstrate suggestibility, conformity, compliance and increased sensitivity to interpersonal nonverbal communication. These patients are more likely to have major depression and bipolar disorder than patients with other personality disorders. Anxiety, dysthymias and substance abuse as a whole occurred no more often or in case of substance abuse, less often than they do in the other personality disorders.

In teens, this is of particular concern as the medications used in somatization focus around serotonergic agents (*e.g.*, serotonin selective reuptake inhibitors) when there are co-existing mood components. These agents in a teen population have a "black box" warning attached to them secondary to increased suicidality. This suicidality may be associated with activation from the serotonergic agents. Awareness of the root cause such as pathophysiological and hormonal changes, school and family relationships must all be considered. Family counselling therapies and cognitive behavioural therapy all may be required in addition to or instead of pharmacological options.

Answered by:
**Prof. Joel Lamoure**

## Differences Between Gluten Sensitivity and Celiac Disease

### 8. How do you differentiate between gluten sensitivity and celiac disease?

Question submitted by:
***Dr. Huma Kazmie***
***Windsor, Ontario***

Celiac disease is also referred to as gluten-sensitive enteropathy and nontropical sprue.

The most useful test for screening for celiac disease is for antibodies against tissue transglutaminase (anti-TTG), which is highly sensitive and specific for the condition. Approximately 2% of patients with celiac disease will have unrecognized IgA deficiency. Since anti-TTG is an IgA-based test, total IgA should be measured in patients with negative results but a high clinical suspicion of celiac disease. Some experts recommend testing IgA levels in all patients along with the anti-TTG. Patients with a positive anti-TTG should undergo a small bowel biopsy. A small bowel biopsy is the gold standard for the diagnosis of celiac disease but is much more invasive than serological testing. Patients with confirmed celiac disease have to avoid gluten.

Answered by:

**Dr. Jerry McGrath**

## Investigating High Hemoglobin in the Healthy

### 9. How should we investigate isolated high hemoglobin in an otherwise healthy patient?

Question submitted by:
***Anonymous***

An isolated high hemoglobin or hematocrit value is referred to as polycythemia or erythrocytosis. The first step in the investigation is to determine if there is a true (absolute) or an apparent (relative) increase in the red cell mass. Apparent polycythemia occurs when an elevated hemoglobin/hematocrit is present due to a relative decrease in plasma volume compared to red blood cells rather than an absolute increase the red blood cell mass. This may occur due to dehydration or diuretic use, for example, that is clear from the history and physical exam. A red cell mass study done under nuclear medicine is currently not readily accessible. True polycythemia may result from a primary bone marrow malignancy such as polycythemia vera or secondary to factors that increase erythropoietin (EPO) production and erythropoiesis. A serum EPO level can help differentiate these. The secondary causes can be due to hypoxia, EPO secreting tumours, exogenous administration of EPO or rarely high affinity hemoglobinopathies. Further investigations such as pulmonary function tests, sleep studies, abdominal CT scans, molecular diagnostics for JAK2 mutational studies and bone marrow examinations should be directed by the history and physical examination.

Answered by:

**Dr. Kang Howson-Jan and Dr. Cyrus Hsia**

## Potential Risks from Shaving or Waxing the Genital Area

### 10. Does shaving or waxing the genital area increase the risk of aquiring HPV?

Question submitted by:
***Dr. Susanne Voetmann***
***Nanaimo, British Columbia***

Shaving or waxing will both cause myriads of tiny breaks in the skin, making it theoretically easier to transmit viruses by direct contact. This has been well documented for viruses with high transmissibility, short incubation periods and easily detectable lesions, such as Herpes simplex. Many people with herpes labialis have experienced the spread of their own lesions related to shaving or other skin trauma. Dentists used to acquire herpetic whitlow from their patients via small periungual injuries. I do not know of scientific literature demonstrating similar risks for the transmission of HPV, but it stands to reason that the principle would be the same.

Answered by:

**Dr. Michael Libman**

## Multiple Sclerosis Characteristics on an MRI

### 11. What are the changes on an MRI that are characteristic for multiple sclerosis (MS)?

Question submitted by:
***Dr. David Hawkins***
***Kelowna, British Columbia***

MRI has significantly changed our ability to diagnose MS in the last two decades. It is currently the modality of choice to confirm the diagnosis. The hallmark for diagnosis is the MS plaque. MS plaques are typically located in the periventricular region, corpus callosum, centrum semiovale and other deep white matter regions. Typical features include an ovoid structure and at right angles from the corpus callosum, as if radiating from it. They appear hypodense on T1 imaging and hyperintense on proton density or T2 imaging. Clinically definite MS will have MRI lesions in at least 90% of patients. Similar lesions, however, can also be seen in patients with cerebral ischemia, sarcoidosis, Behcet's disease and vasculitis. Acute lesions tend to be larger with ill-defined margins. With time they become smaller with sharper margins, presumably as the edema and inflammation settles. Active plaques enhance with gadolinium contrast agents. The enhancement decreases over the subsequent four to eight weeks. Gadolinium activity may also decrease with treatment with corticosteroids. MRI has been used to assess disease burden of MS. While there is good evidence that the activity and number of acute plaques increase with clinically active disease, this does not always remain consistent. Active acute lesions may often be evident on MRI in patients with no evidence of clinically active disease.

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Answered by:

**Dr. Ashfaq Shuaib**