



## Measuring for C-Reactive Protein

1.

**Should patients be screened with C-reactive protein, and if so, how often should it be measured?**

Question submitted by:

**Dr. Charles Lynde,  
Markham, Ontario**

Elevated values of high-sensitivity C-reactive protein (hs-CRP) greater than 2 mg/dl indicate an elevated risk for CVD in certain patient groups. Accordingly, Canadian guidelines recommend using hs-CRP as a screening tool in men 50-years-of-age or older and women 60-years-of-age or older, who are at moderate risk for developing CVD with a Framingham Risk Score between 10 and 20%, and who have an LDL-C below 3.5 mmol/L. To avoid false positive results, patients should be free of acute illness, and only the lower of two consecutive measurements, taken at least two weeks apart, should constitute the baseline value. There is no need to repeat this screening tool. Once hs-CRP is assessed in this fashion, the test should then be put to bed and not remeasured.

### Resources

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Answered by:

**Dr. Theodore Fenske**

## Sputum Colour and Its Diagnostic Value

2.

**Is the colour of sputum of any diagnostic value?**

Question submitted by:

**Dr. Graham Worrall  
Whitbourne, Newfoundland**

Yes. Purulent sputum generally indicates the presence of a bacterial infection and the sputum colour would be deep yellow or green. Purulent sputum in a patient with chronic obstructive pulmonary disease (COPD) is a strong indication for antibiotic. Similarly, in a patient who is known to have bronchiectasis, a change in sputum colour, especially if it becomes green, is an indication for antibiotics and for enhanced bronchial toilet. Conversely, the presence of clear, white, mucoid, pale yellow, or grey sputum suggests that bacterial infection is not present and that an antibiotic is unlikely to be of benefit.

Answered by:

**Dr. Robert Cowie**



## Administering Strep Tests in a Rural Clinic

3.

**Are strep tests in a rural clinic recommended (where culture and sensitivity swabs are only available weekly) for reducing the use of antibiotics?**

Question submitted by:  
**Dr. Juliana Losier**  
**Mayne Island,**  
**British Columbia**

Managing pharyngitis (or indeed most infectious diseases) in settings where laboratory backup is limited, slow, or absent is always a challenge. The problem here is trying to treat those who might benefit from antibiotics — those infected with group A streptococci (GAS) — while avoiding unnecessary antibiotic use in the remainder. The difficulty with the rapid tests for GAS is that they tend to be specific, but not sensitive. Thus, a positive test tells you to go ahead with antibiotics, but a negative test does not give you enough confidence to withhold antibiotics. If you end up giving everyone antibiotics, there is no point to the test. **I would suggest the following: do not test or treat children and adolescents with manifestations suggestive of viral illness (e.g., coryza, conjunctivitis, hoarseness, anterior stomatitis, discrete ulcerative lesions or vesicles, diarrhea). For those with more typical acute pharyngitis, especially with fever and during the winter season, use a rapid test and treat the positives.** If a culture can be obtained within two days or so, withhold treatment for a negative rapid test pending the result of culture. However, for cases where culture will take more time, promptly begin treatment, and, if results eventually return negative, stop treatment.

For adults, waiting for the culture is usually appropriate, because GAS is uncommon in adults, and the worst outcome of untreated disease (first episode rheumatic fever) is extremely rare in adults. If you deal with this frequently, I would consider investing in a small incubator and using 5% sheep blood agar plates with bacitracin discs to do your own cultures. The technique is simple and can be learned in an hour or so with a helpful technologist.

Answered by:  
**Dr. Michael Libman**

## 4.

## COX-2 Inhibitor Use in Patients with Crohn's or Ulcerative Colitis

**Are COX-2 inhibitors safe to use in patients with crohn's disease or ulcerative colitis?**

Question submitted by:

**Dr. Bajaj****Waterloo, Ontario**

NSAIDs have been suspected of precipitating and potentiating disease activity in inflammatory bowel disease (IBD). The proposed mechanisms include active drug release into the distal small intestine and colon via enterohepatic circulation with metabolism and distribution, uncoupled mitochondrial oxidative phosphorylation, increased mucosal permeability at tight junctions, and susceptibility to luminal toxins (including bacteria) as well as the inhibition of the protective effects on mucosal integrity of prostaglandin synthesis.<sup>1</sup> As such, the selective inhibitory activities of COX-2 NSAIDs have been suggested as potentially providing beneficial analgesic effects without increasing IBD activity.<sup>1</sup> A multicenter, randomized, double-blinded, placebo-controlled trial of ulcerative colitis patients in remission demonstrated similar exacerbation rates in celecoxib and placebo groups, with no evidence of short-term NSAID-related precipitation of IBD exacerbations, although follow-up long-term data on these rates was not assessed in the study.<sup>2</sup> As such, a beneficial effect of treatment for COX-2 NSAIDs in relation to reduced exacerbation rates amongst IBD patients has not been definitively identified. Although the existing literature does suggest an association between nonselective NSAIDs and IBD exacerbations, significant methodological limitations (including inadequate control groups and timing of NSAID introduction and the diagnosis/symptoms of IBD) make it impossible to clearly establish causality of medication and disease.<sup>1</sup> Furthermore, the inherent ulcerogenic effect of NSAIDs on the gastrointestinal tract in healthy and afflicted individuals, combined with the potential diagnostic ambiguity of resulting gastrointestinal lesions (medication or IBD related pathology), further limit one's ability to establish definitive causality in this association.<sup>1</sup>

## References

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Answered by:

**Dr. Theodore Xenodemetopoulos**



## A Child with an Aversion to Noise

**5.**

**A normal child, four-years-of-age, has an aversion to noise at home, at school, and at the mall. What could be the cause?**

Question submitted by:

**Dr. A. Mkondo**

**Burin, Newfoundland**

This condition is known as hyperacusis and is defined as unusual intolerance to ordinary sounds. Hyperacusis is strongly associated with tinnitus. Approximately 40 million people in North America suffer from tinnitus; an estimated one out of every thousand persons also has hyperacusis. In the great majority of cases, no underlying medical condition can be found. The phenomenon is usually associated with cochlear hearing loss and dysfunction of the outer hair cells in the inner ear or dysfunction of the auditory efferent pathway. Because social situations are often painfully loud for those with hyperacusis, withdrawal, social isolation, and depression are common. The most common etiology of hyperacusis is overexposure to excessive loud noise. Other causes include: migraine, head trauma, facial nerve dysfunction, depression, ear irrigation, tension myositis syndrome, post traumatic stress disorder, temporomandibular joint (TMJ) disorder, various medication side effects, autism, Bell's palsy, Ménière's disease, Lyme disease, chronic ear infections, Williams syndrome, and Tay–Sachs disease.

There are no specific surgical or medical treatments for hyperacusis. Retraining therapy is the most common treatment; it uses broadband noise. Completion of sound therapy may take a few months and usually improves sound tolerance. Another treatment method is auditory integration training. Steroids have also been used to treat hyperacusis within three days of the onset of the condition. However, the results are not impressive.

Answered by:

**Dr. Ted Tewfik**



## Protein Deficiency and Its Association with Blood Clotting

6.

### What is protein deficiency, and how is it associated with blood clotting?

Question submitted by:

**Dr. G. Savvidon**

**Toronto, Ontario**

Protein C, protein S, and antithrombin deficiency are known to be associated with an increased risk of thrombosis (blood clotting). These deficiencies can be due to hereditary or acquired disorders. Protein C and protein S are vitamin K-dependent clotting factors that act as natural anticoagulants. The incidence of hereditary deficiency of protein C or protein S is approximately 1 in 400 individuals in the general population. Acquired causes of these factor deficiencies may include liver disease, protein-losing enteropathy, and warfarin therapy. This is why starting warfarin monotherapy may lead to an initial procoagulant state and should be avoided as initial monotherapy for the treatment of heparin-induced thrombocytopenia. Antithrombin, previously called antithrombin-III, is an enzyme that interrupts the coagulation process by inhibiting thrombin and activated factor X. Hereditary antithrombin deficiency has an incidence of 1 in 1,000 individuals in the general population. Acquired causes may be due to liver disease, nephrotic syndrome, and protein-losing enteropathy.

Thus, deficiencies in protein C, protein S, and antithrombin result in an increased risk of thrombosis, due to the reduction in these natural anticoagulation properties.

Answered by:

**Dr. Cyrus Hsia and**

**Dr. Kang Howson-Jan**

## Treatment for Dandruff

**7.**

**I have a young male patient with dandruff, which he treats using sulfur powder. Any comments? Suggestions?**

Question submitted by:

**Dr. Peter Lee**

***New Glasgow, Nova Scotia***

Sulfur has a long history of use in dermatology. It has a mild antibacterial and antifungal action, as well as being a bit keratolytic. It is often used in compound preparations and is usually combined with other therapeutic agents, such as sodium sulfacetamide, to cut down some of the odour from the sulfur. In short, the use of sulfur can be onerous — it is best diluted in oil, a smelly proposition. However, there can certainly be a beneficial effect for seborrhea, acne, and rosacea. Commercial, pre-mixed, sulfur-containing preparations may be a little more pleasant to use.

Answered by:

**Dr. Scott Murray**



## Cancers Associated with Smoking and Alcohol

8.

**Could you please list the cancer(s) that have no established connection with smoking and alcohol intake?**

Question submitted by:

**Dr. M.S. Das**

**Yorkton, Saskatchewan**

Cigarette smoking and alcohol consumption are independently linked with an increased risk of various malignancies; tobacco use accounts for at least 30% of all cancer deaths.<sup>1</sup> Population studies have established a link between cigarette smoking and an increased risk for the following cancers: head and neck (oral cavity, oropharynx, nasopharynx, hypopharynx, larynx, nasal cavity, and paranasal sinuses), lung, gastrointestinal (esophagus, stomach, colorectum, liver, pancreas), genitourinary (kidney, bladder, ureter), gynecological (uterus, cervix, ovary of mucinous histology), and acute myeloid leukemia.<sup>1-2</sup> Currently, there is limited evidence linking cigarette smoking with cancers of the breast and prostate, and there are no known connections with endometrial or brain cancers.<sup>2-3</sup> In addition, smoking does not appear to be an independent risk factor for melanoma.<sup>4</sup>

Meanwhile, alcohol consumption has been linked with cancers of the head and neck (oral cavity, pharynx, larynx), gastrointestinal ulcers (esophagus, colorectum, liver), and breast cancer.<sup>2,5</sup> Evidence linking alcohol consumption and pancreatic cancer is currently limited, and there are no known associations with non-Hodgkin lymphoma or kidney, endometrial, lung, bladder, ovarian, or brain cancers.<sup>5-7</sup> Heavy alcohol consumption ( $\geq 50$  g of alcohol daily) and regular heavy drinking ( $\geq 4$  drinks daily, five days per week) have been associated with an increased risk of high-grade prostate cancer.<sup>8</sup> Similarly, heavy alcohol drinking ( $\geq$  four drinks per day) was associated with an increased risk for gastric cancer, although this was not observed with moderate alcohol drinking.<sup>9</sup> Interestingly, a recent study identified a reduced risk of papillary thyroid cancer, and possibly follicular thyroid cancer, with both cigarette smoking and alcohol consumption.<sup>10</sup>

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Answered by:

**Dr. Roger Y. Tsang**

## Open Lipid Levels in Patients on Medication

**9.**

**How frequently should you find open lipid levels in patients on medication?**

Question submitted by:  
*Anonymous*

I usually open a lipid profile 6 to 12 weeks after initiating, or making a change in the dosage of lipid-lowering medication. In patients who have had lipid levels on target and who are on stable doses of medications, it is reasonable to reassess every 6 to 12 months, unless there has been a change in the patient's health or comorbidities.

Answered by:  
[Dr. Hasnain Khandwala](#)





## Information on Devices Available for Home Monitoring of INR

10.

### What devices are available for home monitoring of INR? How reliable are they? How costly?

Question submitted by:

**Dr. Jill Feacock**

**Rossland, British Columbia**

In theory, there are three instruments for home INR monitoring available in the North American market. These are CoaguCheck<sup>®</sup>XS, INRatio<sup>®</sup> and ProTime<sup>®</sup>.

I have only been able to find information on one instrument available in Calgary. I can not comment on other areas. This is the CoaguChek<sup>®</sup>XS from Roche. In Calgary, this is only available through selected pharmacies and from pharmacists who have taken a course on the use of this instrument.

Each of these instruments are reported to be very reliable, but I confess I have no experience with them. The range for reliability is between 1.5 and 4.0. Outside of this range, the results are variable. I can find no evidence that suggests that levels outside the reliability range are interpreted as being within the reliability range by INR monitors.

These instruments are not cheap. In Calgary, for example, the CoaguChek<sup>®</sup>XS system sells for approximately \$500, and each test strip costs between \$7 and \$8. As you can see, if your patient requires very frequent testing of his or her INR, the bill could run up pretty quickly.

**If your patient does decide to buy one of these instruments, encourage him or her to consider the following points:**

- The recommendation of their physician or anticoagulation clinic, based on their experience and knowledge of the instruments available
- The ease of upgrading the instrument and the training programs available through pharmacists

Answered by:

**Dr. Wayne Warnica**

## Screening Pregnant Women for Syphilis

# 11.

**A pregnant woman has a venereal disease research laboratory (VDRL) test. The result comes back positive, but no antibody is detected. Is it a false positive result? What is the suggested management?**

Question submitted by:  
**Dr. Thi Thanh D. Pham**  
*Saint-Laurent, Quebec*

Syphilis screening has recently become more complicated. The traditional technique was to use a nontreponemal test first. This used to be the VDRL, although virtually all labs now use the simpler rapid plasma reagin (RPR) test. The test is sensitive but has many false positive results. Thus, all results need to be confirmed by a treponemal test, which tests for specific treponemal antibodies. The treponema pallidum particle agglutination assay (TPPA) and the treponema pallidum haemagglutination assay (TPHA) are among the most common of these. Pregnancy is a common cause of false positive nontreponemal tests, so, in this case, a positive VDRL and negative treponemal antibody test indicates a false positive VDRL, and no further action is required. Recently, rapid, automated treponemal tests using enzyme immunoassay (EIA) technology have become available.

We now have a new situation where a patient has a positive EIA but negative VDRL or RPR. This could be a false positive EIA, and the test is usually confirmed by a second treponemal test like the TPPA. However, this situation could also arise in early primary syphilis, in old treated syphilis, or, rarely, in long-duration latent syphilis, or even tertiary disease. Case-by-case evaluation with a specialist is indicated in the management of patients with this combination of test results.

Answered by:  
**Dr. Michael Libman**

## Vertigo after Blunt Trauma

# 12.

**How common is vertigo after a motor vehicle accident (MVA) with nonsignificant head injury and no loss of consciousness?**

Question submitted by:  
**Dr. J. Mitchell**  
*Clinton, Ontario*

Vertigo after blunt trauma to the head, which can occur in an MVA, is quite common. It must be distinguished, however, from vertigo associated with a concussion or migraine. The question posed here is regarding nonsignificant head injury. Patients with cervical whiplash injuries also present with vertigo; the exact frequency is not known, but it is reported in 25 to 50% of published studies.<sup>1</sup>

### Reference

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Answered by:  
**Dr. Sarah A. Morrow**



## Serum Omega-3 Fatty Acid Testing

13.

**Is it worthwhile to perform a serum omega-3 fatty acid test in patients at risk for CVD, diabetes, etc.?**

Question submitted by:

**Dr. Christopher Lam, Victoria, British Columbia**

While tests for plasma or red blood cell levels of omega-3 and other fatty acids are commercially available, the results have not been shown to correlate with outcomes.<sup>1</sup> Observational studies have suggested that high intake of omega-3 fatty acids may protect against heart disease, cancer, mental illness, developmental abnormalities, and inflammatory disorders.<sup>2</sup> However, recent clinical trials of supplementation with omega-3 fatty acids have shown no decrease in CVD or cancer incidence.<sup>3-4</sup> Indeed, cancer incidence in women was increased in the fatty acid supplemented group. It seems prudent to advise patients to spend their money not on testing, but on healthy foods.

### References

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Answered by:

**Dr. Thomas Wilson**

## Childhood Obesity

**14.**

### Do you have suggestions for treating obesity in young children?

Question submitted by:

***Dr. Laurel Comeau, Saint John, New Brunswick***

The treatment of obesity in children is simple, yet difficult. The cold hard fact is that obesity is related to the balance between activity and caloric intake, and the best way to treat an obese child is to prevent obesity in the first place by encouraging physical activity and by limiting high calorie foods, notably those with a high sugar or fat content. This is unfortunately easier said than done, as a number of contemporary recreational activities, such as video games, are sedentary, and the amount of screen time for children has risen alarmingly over the past three decades. Environmental architecture also contributes to this, as stairs give way to escalators and children are more often driven to activities rather than walking. At the same time, there is a robust and very successful advertising industry marketing foods that often have too much sugar, too much salt, or both. This has been accompanied by well intentioned, but sometimes uninformed, choices — as an example, encouraging the intake of juices is often counter-productive, as many juices have a very high sugar content. A thankless, but useful intervention is to have parents read nutritional labels when making food choices. It should also be noted that interventions for children are much more likely to be successful when parents model them. It should be emphasized that there is essentially no evidence of the long-term efficacy of pharmacotherapy for childhood obesity.

Answered by:

**[Dr. Michael Rieder](#)**

**15.**

## How is fecal immunochemical testing for occult bleeding better than previous testing methods?

Question submitted by:  
**Dr. C. Ramsey**  
Campbell River,  
British Columbia

# Fecal Immunochemical Testing for Occult Bleeding

Guaiac-based fecal occult blood (g-FOBT) and fecal immunochemical testing (FIT) are tests that both detect blood products in feces. Detection with g-FOBT is dependent on heme-based peroxidase activity.<sup>1</sup> As such, a number of challenges exist with respect to the test characteristics of g-FOBT. False positive results can arise in the presence of plant peroxidases (such as raw fruit and vegetables) and dietary heme (such as red meat), while false negative results can occur in the presence of antioxidants (such as ascorbic acid).<sup>1</sup> Although its more sensitive for sources of lower gastrointestinal bleeding, the stability of heme in the lumen of the intestine means that positive g-FOBT testing can result from bleeding anywhere along the length of the gastrointestinal lumen.<sup>1</sup>

Test performance characteristics for detection of colonic neoplasia are highly variable for g-FOBT, and they are dependent on assay type and number of samples, in addition to specific preparatory dietary and drug restrictions.<sup>1</sup> As an example, the single sample sensitivity of Hemoccult II® g-FOBT for colonic malignancy ranges between 35% and 50%, although this increases up to 80% with repeated annual screening.<sup>1</sup> Assays with increased sensitivity are limited by poor specificity resulting from high false positive rates (such as rehydrated Hemoccult II® g-FOBT).<sup>1</sup> FIT detection of blood is dependent on antibody detection of globin.<sup>1</sup> As a result, FIT does not require the dietary considerations (and restrictions) of g-FOBT and is also specific for occult gastrointestinal bleeding of colonic origin.<sup>1</sup>

Recent studies comparing FIT and g-FOBT have demonstrated the superior performance of FIT for detecting advanced adenomas and cancers.<sup>2-5</sup> Furthermore, randomized, controlled evaluation of FIT compared to colonoscopy demonstrated similar numbers of individuals detected with colon cancers, with improved rates of participation in screening with FIT (although adenoma detection was higher with colonoscopy).<sup>6</sup> Indeed, FIT has been incorporated into the most recent guidelines from the Canadian Association of Gastroenterology on average-risk colon cancer screening.<sup>7</sup> Auto FIT (FOBT-CHEK®oc), which is an automated version of immunochemical testing with a single day and sample specimen collection protocol, has recently been made available in Canada and is a funded screening tool in several provinces (although not currently in Ontario).

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Answered by:

**Dr. Theodore Xenodemetropoulos**

## Treating Actinic Porokeratosis

**16.**

### How do you treat actinic porokeratosis?

Question submitted by:

**Dr. R. Schemmer**  
Victoria, British Columbia

Disseminated superficial actinic porokeratosis is a condition where wafer-like scaling areas emerge mainly on the forearms and shins. The condition is often familial. The lesions become irritated with light exposure. Actinic keratosis and (rarely) squamous cell carcinomas can form in affected areas.

Treatment is frustrating and many modalities are often tried, including cryotherapy, 5-fluorouracil cream, imiquimod cream, tretinoin cream, alpha hydroxy acid cream, calcipotriol ointment, oral acitretin, and photodynamic therapy. The best approach is aggressive protection from light exposure and periodic cryotherapy for more prominent lesions.

Answered by:

**Dr. Scott Murray**

## Congenital Dislocation of the Hips

**17.**

### At what age (months) is testing for congenital dislocation of the hips still valuable/useful?

Question submitted by:

**Dr. J.V. Patidar**  
Edmonton, Alberta

Testing for congenital dislocation of the hips should be part of the routine examination of every newborn at hospital discharge. The most reliable technique is Ortolani's sign, which demonstrates hip instability by the palpable sensation of the femoral head as it glides in and out of the acetabulum. This test should also be done during the first several months of life, as it has been clearly shown that the earlier that hip dislocation is detected, the better the long-term outcome is. In the case of an unclear test, this should be repeated in two weeks. Testing for congenital dislocation of the hip becomes less useful after three months of age, after which time the presentation becomes dominated by pelvic asymmetry and, later in life, with difficulty in walking — at which time invasive therapeutic approaches become necessary.

Answered by:

**Dr. Michael Rieder**



## Anything New in Schizophrenia Treatment?

18.

### Is there anything new on the horizon for the treatment of schizophrenia?

Question submitted by:

**Dr. I. D'Souza, Toronto, Ontario**

The field of neuroscience is evolving, and treatment depends on an understanding of the root cause of the disease state itself, as well as an examination of the clinical presentation of schizophrenia.

First, let us look to agents that have been in marketing and efficacy studies that have been with us for awhile. Lamotrigine, a mood stabilizer, is being considered as an adjunct therapy in schizophrenia. Galantamine and memantine treatment have also been considered. These two agents impact acetylcholine and N-Methyl-D-aspartate (NMDA).

There are a couple of new medications that have recently been approved in Canada for the treatment of schizophrenia. The first is the multimodal, novel structure antipsychotic asenapine. The other is lurasidone, which is a new atypical antipsychotic. Both of these new atypicals are relatively weight neutral. They act on positive and negative symptoms of schizophrenia, and, in addition, they help cognition via serotonergic mechanisms at 5-HT<sub>7</sub> and 5-HT<sub>1A</sub>.

As we look towards emerging therapies, one may consider schizophrenia to be a multimodal disease that impacts far more than dopamine and serotonin. Emerging therapies address the multiple receptors and interleukins that are being implicated in disease pathophysiology. Ampakines, NMDA partial agonists, neuropeptide Y receptor antagonists, secretin and catechol-O-methyltransferase gene inhibitors are all at varying states of development.

I believe that the next step for the treatment of schizophrenia will be to focus on multimodal cognitive enhancement. Agents acting on these pathways will define the new horizon in the treatment of schizophrenia.

Answered by:

**Dr. Joel Lamoure**

## The Clinical Importance of Mean Platelet Volume

**19.**

### What is the clinical importance of mean platelet volume?

Question submitted by:

**Dr. Leonard Wagner, Thornhill, Ontario**

Mean platelet volume is not as clinically significant or universally embraced as mean red cell (corpuscular) volume for anemia. Platelets are small disc-like cells that are important in hemostasis, and they have variable sizes. Large platelets, called megathrombocytes, have attracted the interest of hematologists for many years. They are frequently found on blood smears of patients with active idiopathic thrombocytopenic purpura. Some have postulated that megathrombocytes are young platelets, analogous to reticulocytes, which are young erythrocytes. This idea, however, has not held up, though there is a reliable association between the prominence of megathrombocytes and any condition associated with increased platelet turnover, including systemic lupus erythematosus, rheumatic heart disease with severe valvular damage, disseminated intravascular coagulation, chronic autoimmune thrombocytopenic purpura (now called immune thrombocytopenia) in remission, and diabetes mellitus with retinopathy. In comparison, small platelets, also called microthrombocytes, may also be noted in peripheral blood smears. There are hereditary conditions of small platelets (low mean platelet volumes) and hereditary conditions of large platelets (high mean platelet volumes). These are extremely rare and further investigations should be directed by family history and clinical manifestations. The description of microthrombocytes or megathrombocytes in a blood smear with a normal platelet count does not require any further investigation.

Answered by:

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





## OCP and Possible Interactions with Antibiotics

20.

**When women who are taking oral contraceptive pills (OCP) are prescribed antibiotics, I was taught to advise them to take alternative forms of birth control. Is this really necessary, and, if so, for what purpose?**

Question submitted by:  
**Dr. Robert Dickson**  
Hamilton, Ontario

Traditionally, it was thought that many antibiotics could affect the effectiveness of oral contraceptive pills (OCP); however, only rifampin and griseofulvin have been shown to deleteriously impact on the pharmacokinetics of ethinyl estradiol. OCPs are metabolized in the liver, and these antibiotics increase liver microsomal enzyme activity, accelerating the metabolism of OCPs. They are the only antibiotics proven to decrease serum ethinyl estradiol and progesterone levels in women taking OCPs. Thus, an alternative backup form of contraception is advised when taking these antibiotics.

Anecdotal reports of the OCP's ineffectiveness in women taking antibiotics have to be tempered with the possibility of delayed or missed pills and the small known failure rate attributed to the OCP in real life use, from 3 to 8% versus 0.01% with perfect use. Nonetheless, the possibility of other OCP and antibiotic drug interactions has not been entirely excluded, but, if an interaction does exist, it is thought to be in a small number of predisposed individuals, and there is no method to identify them at this time. If there is any question or concern about possible contraceptive failure for a patient, an additional form of contraception should be encouraged, in particular, barrier methods, which also prevent the spread of many sexually transmitted infections.

Answered by:  
**Dr. Cathy Popadiuk**

*cme*