



Answers to your questions
from our medical experts

1. Allopurinol and the elderly



What are the dangers of using allopurinol in the elderly?

Submitted by:
Nadine Manson, MD, CCFP
Brampton, Ontario

Allopurinol is an isomer of hypoxanthine, which lowers the urate concentration by inhibition of the xanthine oxidase enzyme. The allopurinol agent is used to normalize hyperuricemia.

Introduction of allopurinol depends on the number of previous gouty attacks, the degree of hyperuricemia and the presence of tophi.

Allopurinol has not been well-studied in the elderly, therefore, it is not known whether it works the same in younger adults or if it causes different side-effects. There is no specific information comparing the use of allopurinol in the elderly to other age groups.

The serious allopurinol hypersensitivity reaction (fever, rash, systemic features, hepatitis and interstitial nephritis) has a mortality rate of 25%. The risk of this reaction increases significantly in the presence of renal insufficiency at any degree. This reaction occurs commonly in the elderly, therefore, the dose of allopurinol should be lowered in proportion with glomerular filtration rate.

Further, more allopurinol may potentiate the effect of anticoagulants, a commonly used medication in the elderly, and increase the chance of bleeding.

Answered by:
Rafat Faraawi, MD, FRCPC
Assistant Clinical Professor
McMaster University
Kitchener, Ontario

This month's topics:

1. Allopurinol and the elderly
2. Withdrawal from acetaminophen
3. New diabetic agents
4. BPD: To say or not to say?
5. Investigating a hypertensive teen
6. Sperm count conundrum
7. Catching cattle ringworm
8. Is MRI diagnostic for shoulder abnormalities?
9. INH and tuberculosis skin testing
10. How do you test the status of hepatitis B?

2. Withdrawal from acetaminophen

? **What is the best method of acetaminophen withdrawal for a patient with fibromyalgia/chronic fatigue syndrome if he/she is intermittently depressed and treated with selective serotonin reuptake inhibitors?**

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

References

1. Wolfe F, Smythe HA, Yunus MB, et al: The American College of Rheumatology 1990 Criteria for the Classification of Fibromyalgia. Report of the Multicenter Criteria Committee. *Arthritis Rheum* 1990; 33(2):160-72.
2. Russel IJ: The Fibromyalgia Syndrome: A Clinical Case Definition for Practitioners. *J of Musculoskeletal Pain* 2003; 11(4):1-122.
3. Evidence-Based Recommendations for Medical Management of Chronic Non-Malignant Pain Reference Guide for Clinicians, Facilitated by the College of Physicians and Surgeons of Ontario, November 2000: www.cpso.on.ca/Publications/pain.htm.
4. Jovey RD: *Managing Pain The Canadian Healthcare Professional's Reference* 2002. Distributed by Purdue Pharma: www.painCare.ca.

Answered by:
Alison Bested, MD, BSc, FRCPC
 Physician
 Sunnybrook & Women's College
 HSC-Women's College Ambulatory
 Care Centre
 Toronto, Ontario

Fibromyalgia is a complex and poorly understood, but rewarding, area of medicine that can be measured in small, incremental gains. The treatment is complicated and individualized to each patient.

Fibromyalgia is one of a large group of soft-tissue pain syndromes. What would be the reason to withdraw pain medication from a patient who has chronic pain that all other treatment modalities (*e.g.*, aquatherapy/exercise, biofeedback, massage, transcutaneous electrical nerve stimulator and other non-opioid analgesics) have failed to relieve? The treatment of fibromyalgia is supportive and symptomatic.^{1, 2}

The purpose of pain management is to gradually increase the patient's activities of daily living.³ For example, the goal might be to bring the pain level down from 10/10 (uncontrolled) to a 5/10 (moderate) pain in which the patient can function. This can be accomplished with the use of pain medication, such as narcotics, and adjuvant therapies, such as antidepressants.⁴ A long-acting narcotic (*e.g.*, slow-release oxycodone, morphine or a pain patch) would be a superior alternative and give improved overall pain control. In addition, breakthrough pain relief medication would also be needed. Proper history and documentation maintenance by the doctor and the patient is essential (*e.g.*, treatment contract, pain scales, alcohol and drug history, *etc.*).

Referral to a pain clinic would be ideal for assessment and treatment suggestions, however, this option is often not available. The College of Physicians offers courses in pain management so that we can learn what we need to help our chronic pain patients. In this setting, you might find a mentor to discuss your individual patients on an ongoing basis.

Depression can be part of any chronic illness. Antidepressants and cognitive behavioural therapy can be helpful and can also aid the patient to grieve the loss of the pain-free, normal, energetic life they once had.

3. New diabetic agents

? Can you please name some of the newer diabetic agents, along with their indications?

Submitted by:
Kelly Wong, MD, CCFP, CCFP(E.M.)
Mississauga, Ontario

Rosiglitazone and pioglitazone belong to a newer class of anti-hyperglycemic agents called thiazolidinediones (TZDs). The TZDs, which are selective ligands of the nuclear transcription factor peroxisome-proliferator-activated receptor, act as insulin sensitizers. According to the Canadian Diabetes Association 2003 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada, rosiglitazone and pioglitazone are indicated as monotherapy or in combination with other oral anti-hyperglycemic agents for the management of Type 2 diabetes. They are contraindicated in patients with hepatic dysfunction or significant cardiac failure.

Answered by:
Candace Lee David, MD, FRCPC
PhD Candidate
Department of Physiology
Institute of Cardiovascular Sciences
St. Boniface General Hospital Research Centre
University of Manitoba
Winnipeg, Manitoba

Sora M. Ludwig, MD, FRCPC
Associate Professor of Medicine
Section of Endocrinology and Metabolism
University of Manitoba
Winnipeg, Manitoba

4. BPD: To say or not to say?

? Is it good to diagnose BPD and to tell the patient about the diagnosis?

Submitted by:
Waguih Tannous, MD, CCFP
Bois des Filion, Québec

Borderline personality disorder (BPD) is a common psychiatric disorder with a prevalence of 1% to 2% in the general population. There is a strong association with bipolar disorder. The American Psychiatric Association recently published Practice Guidelines for the Treatment of Patients with Borderline Personality Disorder.

A recent review discussed the issue of disclosure of BPD and described why clinicians may be reluctant to do so because of the concerns with reports to the validity of BPD as a diagnosis, the stigma of such a diagnosis being harmful to the patient and the common transference/counter transference issues with such patients.

Nonetheless, the authors suggest factors promoting disclosure, include facilitating patient autonomy, collaboration and psychoeducation. The overall conclusion was that there were reasons to make the diagnosis the subject of open examination and discussion between clinician and patient and that disclosure may serve to advance the patient in his/her recovery.

Answered by:
Pierre Chue, MD, MB, BCh, FRCPsych, DABPN, LMCC, FRCPC
Associate Clinical Professor
University of Alberta Hospital-Stollery Children's Centre WCM
Director,
Alberta Hospital Edmonton
Edmonton, Alberta

Memorable Quote

“ *No man has a good enough memory to make a successful liar.* ”

Abraham Lincoln

5. Investigating a hypertensive teen

? What investigation would you recommend for a 16-year-old male athlete with a new onset of hypertension and what treatment would be safest? What are acceptable precautions involving his playing team sports?

Submitted by:
Nick Logarakis, MD, FRCSC
 Toronto, Ontario

Answered by:
Howard A. Winston, MD, CCFP, FCFP
 Dip. Sport Med. (C.A.S.M.)
 Assistant Professor
 DFCM, University of Toronto
 Medical Director, Centre for Health and
 Sports Medicine,
 North York, Ontario

Clearly, hypertension in a 16-year-old is not common. First, ensure that there have been multiple measures performed to establish that he does indeed have hypertension. Next, try to determine if there is an underlying reason for the hypertension. Is there a family history of hypertension? Is the athlete overweight? Is his diet laden with salt?

We know that 95% of hypertension is essential, with no known cause. Before this diagnosis can be made, we have to establish that the athlete doesn't have hypertension secondary to an underlying condition. A proper physical examination, focusing on fundoscopic examination, weak femoral pulses, cardiac auscultation and renal artery bruits is necessary. He should have bloodwork involving a complete blood cell count, blood sugar, electrolytes, blood urea nitrogen, creatinine and urinalysis. Investigations involving an electrocardiogram followed by a cardiac stress test, an echocardiogram and an ambulatory blood pressure test. Depending on the results of these tests, it would be prudent to obtain an abdominal ultrasound to get a good look at the aorta and kidneys.

If all investigations are normal and his blood pressure remains high, proceed with nonpharmacologic treatment and have him monitored monthly for the next six to 12 months.

The easy factors to modify are weight, diet, assessment of drug use (in particular, anabolic steroids and illicit drugs), smoking and prescription non-steroidal anti-inflammatory drugs.

If the athlete still has high blood pressure after attending to all the risk factors, then consider pharmacologic treatment and follow him monthly, until there is a consistent response of the blood pressure.

Once the blood pressure is properly controlled, the athlete can be involved in most activities, but not exercises that involve heavy lifting and a Valsalva maneuver. There are no further precautions for playing team sports, other than those that would preclude him from independent activities.

6. Sperm count conundrum

? A 25-year-old male has been married for three years, but he and his wife have been unable to conceive. His sperm count is 293 million. Can the high count cause infertility?

Submitted by:
Wayne Dong, MD, CCFP
Valmout, British Columbia

Occasionally high sperm counts can cause infertility, especially if the semen is very viscous. In this instance, the motility of the sperm is impaired due to the density of the semen. However, this is very uncommon. The more important parameters of this sperm count would be motility and morphology. If motility is poor, it does not matter how high the sperm count is. As well, it is important to assess female factors. Fifty per cent of infertility is a couple problem—only 20% are an isolated male factor.

Answered by:
Jay Lee, MD,
University of Calgary
Urologist and Sexual Medicine Specialist
Rockyview General Hospital
Calgary, Alberta

— Memorable Quote —

“Life does not cease to be funny when people die any more than it ceases to be serious when people laugh. ”

— George Bernard Shaw —

7. Catching cattle ringworm

? What kind of fungal skin infections might cattle farmers get? What treatment do you suggest before getting the results of the culture?

Submitted by:
R.T. Nichol
Calgary, Alberta

Cattle ringworm is a fungal infection occasionally seen among farmers working in the cattle industry. The causative organism is *trichophyton verrucosum* (one of the superficial dermatophyte fungi). Because it is a zoophilic fungus, it provokes a fairly inflammatory skin reaction among humans. Typically it occurs on the face and arms. This fungus may also exist on inanimate objects and it may cause infection by the individual simply rubbing against a contaminated fence post.

The typical lesion is an inflamed plaque or nodule that is usually not tender. Cattle ringworm clinically resembles an abscess and is frequently unsuccessfully treated with antibiotics or by incision and drainage.

This form of ringworm provokes a deep cutaneous inflammatory reaction, rendering topical agents ineffective in eradicating the fungus. Ringworm is best treated with oral agents, such as terbinafine or itraconazole.

Answered by:
Rob Miller, MD
Consultant
Queen Elizabeth II Health Sciences Centre-VG Site
Associate Professor
Dalhousie University
Halifax, Nova Scotia

8. Is MRI diagnostic for shoulder abnormalities?

? Is an MRI really diagnostic when investigating shoulder abnormalities?

Submitted by:
Ted Jablonski, BSc, ACLS, ATLS,
CCFP
Calgary, Alberta

The high inherent, soft-tissue contrast resolution and multiplanar imaging capabilities of magnetic resonance imaging are ideally suited for evaluating a wide variety of shoulder pathologies. This technique is able to detect inflammatory or traumatic alterations in the shoulder, including bursitis, tendinopathy, muscular strains and rotator cuff tears. It may also demonstrate osseous pathology, such as occult fractures, bone contusions or avascular necrosis that may not be seen on conventional X-rays. It is less useful in the evaluation of peri-articular calcification, early degenerative joint changes or intra-articular osseous fragments and conventional X-rays are usually performed in assessing these abnormalities.

Answered by:
Mike Mitchell, MD, FRCPC
Staff Physician
Queen Elizabeth II Health Sciences Centre-VG Site
Nova Scotia Rehabilitation Centre
Associate Professor
Dalhousie University
Halifax, Nova Scotia

Memorable Quote

“ *The things we remember best are those best forgotten.* ”

Baltasar Gracián

9. INH and tuberculosis skin testing

? If a skin test for tuberculosis is only positive on the second step, do you base prophylactic INH treatment on the first reading or the second? If a previous skin test is negative, but the patient is older than two years, does this affect treatment? Does age affect treatment?

Submitted by:
Smadar Tourjman, MD, FRCPC
Montréal, Québec

Answered by:
Robert Cowie, MB, ChB, FCP(SA),
MD, MSc
Staff Physician
Foothills Medical Centre
Professor
University of Calgary
Calgary, Alberta

There is no "correct" (evidence-based) answer to this question, however, a positive two-step tuberculin skin test (negative on the first test and positive on a second test, within three weeks) is found almost exclusively in only two situations:

1. Individuals who have had bacillus Calmette-Guérin (BCG) in childhood and
2. the elderly who have been infected with mycobacterium tuberculosis (*M. tuberculosis*) in the past, but whose immune system has temporarily "forgotten" this infection.

I would not consider offering isoniazid (INH) in either circumstance for two reasons:

1. It would not be appropriate if the test reflects previous BCG rather than a true *M. tuberculosis* infection and
2. it would be dangerous to offer INH as preventive therapy to the elderly who are very intolerant of this drug and may develop serious liver side-effects.

INH treatment would not be given on the basis of the first test, which is negative by definition.


Age has a bearing on treatment of latent tuberculosis infection in two ways:

1. Children, five years and younger, are more susceptible to infection with *M. tuberculosis* and we are, therefore, much more inclined to offer them INH if they have been exposed to an infectious case of tuberculosis. In that situation, I will usually start INH while awaiting the second test (not a two-step), which is done three months after the contact as it can take several weeks for the test to convert after infection.
2. Young children are much less likely to develop adverse effects from INH, which also encourages us to treat them for latent tuberculosis infection.

10. How do you test the status of hepatitis B?

? Can you explain the necessary testing to determine hepatitis B status (i.e., acute infectious vs. chronic carrier status, etc.)?

Submitted by:
Thomas Martin, MD
 Delta, British Columbia

The choice of hepatitis B serologic testing for suspected acute and chronic cases is determined by the clinical situation and should be supplemented by measurement of liver-function tests and liver enzymes. The following table outlines testing for various clinical situations. Not all tests may be required. For example, a patient with icteric hepatitis that is hepatitis B surface antigen, hepatitis Be antigen and anti-hepatitis B core antigen immunoglobulin M positive does not require a measurement of viral DNA “routinely.” 

Stage	HBsAg	HBeAg	Anti-HBc IgG	Anti-HBc IgM	Anti-HBs	Hepatitis B Viral DNA*
Acute (early)	+	+	+	+	-	+
Acute (resolving)	+	-	+	+	-	-
Chronic	+	+/-	+	-	-	+/-
Resolved	-	-	+	-	+/-**	-
Vaccinated	-	-	-	-	**	-

* In some jurisdictions, viral DNA has limited availability.
 ** In some patients, Anti-HBs may decline over time and may become undetectable.

HBsAg: Hepatitis B surface antigen
 HBeAg: Hepatitis Be antigen
 Anti-HBc IgG: Antibody to hepatitis B core antigen immunoglobulin G
 Anti-HBc IgM: Antibody to hepatitis B core antigen immunoglobulin M
 Anti-HBs: Antibody to hepatitis B surface antigen

Answered by:
Barbara Romanowski, MD, FRCPC, FACP
 Clinical Professor of Infectious Disease
 Faculty of Medicine and Dentistry
 University of Alberta
 Edmonton, Alberta