1. Return to play following a concussion

There is a lot of confusion on *return to play* guidelines following a concussion. Given the current state of knowledge, what are prudent practical guidelines to follow?

Submitted by:
Greg Franklin, MD
Vancouver, British Columbia

Return to play, while still symptomatic, is very dangerous in a contact activity. The most severe consequence is the second impact syndrome. This is a rare, but usually fatal condition, whereby even a seemingly mild blow to a previously concussed brain leads to massive brain swelling. Return to play while symptomatic has also been shown to increase the risk of further concussion, persistence of post-concussive symptoms and other injury. Post-concussive symptoms may also increase with any type of exercise following injury, so a gradual increase in exercise and return to play protocol should be used. It has also been shown that multiple concussions can lead to permanent, irreversible changes, such as memory loss, concentration problems, headaches, *etc.*

While much has been learned about concussion, considerable controversy still exists in several areas. Numerous concussion-grading systems and return to play guidelines have been proposed (Cantu, AAN, Colorado), but are not based on scientific evidence. Therefore, it is prudent to err on the side of caution in returning an athlete to play.

My protocol is essentially this:

- A grade one concussion is without loss of consciousness (LOC) and any symptoms or amnesia lasting < 30 minutes. (The patient is likely able to return to play if they are asymptomatic for one week following the concussion)
- A grade two concussion is LOC for less than one minute with symptoms or amnesia lasting for less than one day. (The patient is likely able to return to play if they remain asymptomatic for two weeks following the concussion)
- A grade three concussion is LOC for more than one minute and symptoms or amnesia lasting for more than one day. (The patient is likely able to return to play if they remain asymptomatic for one month following the concussion)

Resources
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Answered by:
Dr. Aly Abdulla

2. Treating hepatitis C

Do you treat hepatitis C with normal enzymes? When is it necessary to do a liver biopsy on these patients?

Submitted by:
Christian Dallaire, MD
Québec, Quebec

Approximately 20% of patients who have a positive hepatitis C antibody test and ribonucleic acid polymerase (RNA) chain reaction, have persistently normal alanine aminotransferase (ALT) levels. This is defined as two or three normal ALT levels, at intervals of at least one month during a six month period. Although they usually have histologically milder disease with minimal activity and fibrosis, the prevalence of cirrhosis varies between 0.5% and 6%. Most patients have either no or minimal progression of fibrosis over the years, excluding those with HIV co-infection, concomitant alcohol consumption, or other coexisting liver diseases.

The need to treat is individualized, based on:

- patient factors (*i.e.*, the presence of comorbid illnesses, risks for progression and impact on patient quality of life)
- patient motivation and
- cost.

Liver biopsy in these patients can be offered to grade and stage inflammatory activity, fibrosis and for the exclusion of other liver diseases, but is not mandatory for a patient to be a candidate for treatment. The response to pegylated interferon plus ribavirin is equally effective in chronic hepatitis C patients, with normal or elevated ALT values. Finally, there remain patients who seek treatment regardless of the degree of fibrosis, such as healthcare providers, prospective mothers and patients with extrahepatic manifestations (*i.e.*, cryoglobulinemia) and patients with genotype 2 or genotype 3, who have a higher sustained virologic response (75% to 80%).

Answered by:
Dr. Karen Matouk and Dr. Phil Wong

3. Role of infliximab in ulcerative colitis

What is the role of infliximab in ulcerative colitis?

Submitted by:
Craig Render, MD
Kelowna, British Columbia

Infliximab is a chimeric monoclonal anti-tumor necrosis factor antibody that has been approved by Health Canada, since 2001, for the management of patients with Crohn's disease. Recently, studies have demonstrated that infliximab is also effective in managing patients with the other forms of inflammatory bowel disease, such as ulcerative colitis. In randomized controlled trials, infliximab has been shown to be effective in managing patients with moderate-to-severe steroid-refractory ulcerative colitis. This evidence led to the 2005 Health Canada approval of infliximab for use in managing ulcerative colitis.

However, there is still controversy over the exact position of infliximab among other well-demonstrated agents for ulcerative colitis, such as cyclosporine. It is unknown which of these agents should be used as first-line treatment for steroid-refractory disease. Also, further studies will need to determine if further benefit is achieved by infliximab after failure to respond to cyclosporine and vice versa. Evidence demonstrating that infliximab may be used as a bridge to maintenance agents, such as azathioprine or mercaptopurine for steroid-refractory disease, are also lacking. Until further studies are available, the optimal timing and role of infliximab in ulcerative colitis is unknown.

Resources
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Answered by:
Dr. Robert Bailey and Dr. Justin Cheung

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4. EpiPen® for kiwi throat allergies

Do kiwi throat allergies need an EpiPen®?

Submitted by:
Mike Keating, MD
Saint John,
New Brunswick

In theory, allergy to kiwi may take two basic forms. The first is related to the oral allergy syndrome whereby certain fresh fruit and vegetables, in their native (fresh) form, may cause oral symptoms of itching, swelling and redness. These symptoms do not typically progress to a systemic form, as the allergens are quickly denatured in the upper GI tract. An example of this would be fresh apples causing oral pruritus in a patient with seasonal allergic rhinitis and tree pollen allergy (cross-reactive allergens between birch pollen and apple). When this same person ingests cooked apple, there are no symptoms. This patient would not require an EpiPen®. However, if the patient is sensitized to a more stable component (*e.g.*, primary or secondary protein structure vs. tertiary) that resists denaturation by heat or acidity, then systemic symptoms are possible. Skin testing to fresh and commercial extracts of kiwi may help sort this out. Allergy to kiwi can be serious and patients with throat symptoms should carry self-administered epinephrine and be further assessed.

Answered by:
Dr. Tom Gerstner

5. Allergies at night

Why don't patients with allergies sneeze at night?

Submitted by:
Gordon Milne, MD
Thunder Bay, Ontario

In fact, patients with allergic rhinitis *do* sneeze at night and a recent review actually highlights this as an important criterion for the control of symptoms in treatment studies.[1] Like many inflammatory diseases, allergic rhinitis displays a circadian rhythm. Reinberg, *et al*[2] reported that sneezing was among the symptoms that worsened during the night (circadian variation for sneezing was 23%), especially towards the morning. The mechanism is unknown, but it may relate to recumbency and secretion accumulation, increased allergen exposure, low cortisol levels, or autonomic nervous system activity at night, which promotes vagal tone, favouring vasodilation.

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2. Reinberg A, Gervais P, Levi F, et al: Circadian and circannual rhythms of allergic rhinitis: An epidemiologic study involving chronobiologic methods. J Allergy Clin Immunol 1988; 81(1):51-62.

Answered by:
Dr. Tom Gerstner

6. Screening for testicular cancer

Should we be screening for testicular cancer in young men?

Submitted by:
Balbina Russillo, MD
Town of Mount Royal, Quebec

Testicular self-examination (TSE) and clinical testicular examination (CTE) performed by a physician are inexpensive, easy to administer and pose little harm to the patient. However, good screening tests should also screen for a common disease, detecting cancers early enough to gain a clinical benefit and be accurate. These latter points are cause for controversy.

The lifetime probability of developing testicular cancer is only 0.3%, but it is the most common malignancy in males ages 15 to 34. There are no studies that show a mortality benefit due to TSE or CTE. It is difficult to demonstrate a mortality benefit when the cure rate for testicular cancer is > 90%. There is no data to suggest that screening would detect a cancer at an earlier stage, which would necessitate fewer cycles of chemotherapy or radiation. With regards to accuracy, a nodule detected by TSE may represent a malignancy, but nodules can also be due to benign lesions.

The American Cancer Society recommends CTE as part of the routine cancer-related checkup but not TSE, unless there are certain risk factors, such as cryptorchidism, previous testicular cancer or a family history of testicular cancer. Other groups, such as the Canadian Task Force on Preventative Health Care, its American counterpart and the American Academy of Family Physicians state that there is insufficient evidence to make a recommendation on TSE or CTE.

Therefore, there is no evidenced-based recommendation for testicular cancer screening. Because testicular cancer commonly presents as a nodule or swelling of the testicle, it is worthwhile for young patients to be aware of TSE, but a general recommendation cannot be made. Physicians may perform a CTE during a routine examination at their discretion.

Answered by:
Dr. Daniel Heng and Dr. Sharlene Gill

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7. Snoring solutions

What recommendations can we offer patients regarding snoring?

Submitted by:
John M. Archibald, MD
Sydney, Nova Scotia

Snoring is a common complaint in primary care, particularly among men. Snoring can have detrimental effects, not only for a patient, but also for their bed partner (*e.g.*, excessive daytime sleepiness, morning headache, fatigue). Snoring may also be a symptom of a more serious sleep disorder (*e.g.*, obstructive sleep apnea [OSA]).

Evidence of OSA includes:

- obesity,
- witnessed apneas,
- excessive daytime sleepiness,
- comorbid conditions, such as hypertension, or
- a chronic respiratory disorder.

Individuals whose quality of life is negatively impacted by snoring or who have other evidence to suggest OSA should undergo additional evaluation by a sleep disorder specialist, typically including polysomnography.

There are effective therapies for snoring. These include:

- weight reduction,
- changing sleep position,
- avoidance of alcohol and sedatives at bedtime,
- oral appliances,
- continuous positive airway pressure and
- surgical intervention.

Treatments must be tailored to the individual and will depend on the presence or absence of associated OSA.

Answered by:
Dr. Paul Hernandez

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8. Long-term effects of prednisone for FMF

? What are the long-term effects of prednisone for FMF?

Submitted by:
S. Sundar, MD
Mississauga, Ontario

Familial Mediterranean Fever (FMF) is a rare inherited inflammatory condition, usually in people of Mediterranean origin, characterized by recurrent fevers, joint inflammation and abdominal pain.

The treatment of choice is colchicine, both for acute attacks and for prophlaxis. It is unusual for patients to remain on long-term corticosteroids, but occasionally, this is required to control complicated cases.

The long-term effects of chronic corticosteroid use are significant. Some of the more pertinent side-effects include:

- diabetes,
- hypertension,
- pituitary adrenal axis suppression,
- muscle weakness,
- glaucoma and
- osteoporosis,
- Cushing's syndrome,
- cataracts,
- impaired wound healing.

Answered by:
Dr. Michael Starr

9. T3 and T4 for hypothyroidism

? Patients are asking to take T3, as well as T4 for hypothyroidism. How should I adjust and monitor responses?

Submitted by:
Sandra Foss, MD
Calgary, Alberta

The vast majority of studies have shown that there is no benefit from the combination of taking triiodothryronine (T3) and thyroxine (T4) for patients with hypothyroidism. T3 has a shorter half-life and is more difficult to obtain. T4 is the drug of choice for the treatment of hypothyroidism. Monitoring a patient's response and dose is best done using the thyroid stimulating hormone (TSH) and titrating to keep the TSH in the normal range. It should be pointed out though, that after a dosage change, it will take a number of weeks for the TSH to reach a stable level.

Answered by:
Dr. Vincent Woo

10. Treatment for skin allergy to metals

Is there any treatment for severe contact skin allergy to metals?

Submitted by:
David Hawkins, MD
Kelowna, British Columbia

Allergic contact dermatitis is recognized as the prototypical cutaneous cell-mediated (type 4) reaction (in association with the epidermal Langerhans cell) in which the offending agent, acting as an antigen, initiates the immunologic reaction at the site of contact with the skin. Contact dermatitis can be acute (*e.g.*, erythematous papules, vesicles) or chronic (*e.g.*, pruritus, erythema, scaling, fissuring, excoriations, lichenification). Nickel is the relevant antigen in most metal reactions and is reported as the most common allergen in children. It is more common in girls, with ear piercing being the most important predisposing factor.

Of note, nickel in stainless steel is not normally biologically available. The mainstay of treatment is complete avoidance of the offending agent; all other measures are palliative and temporary. Mechanical barriers against contact may occasionally be effective, as in the example of coating a nickel buckle with clear nail polish to prevent skin contact.

After removal of the offending agent, topical therapy may be used and can include cool compresses, calamine lotion, emollients and moisturizers, so long as they are nonsensitizing and fragrance-free. Topical corticosteroids are most effective when treating localized dermatitis. Low-potency creams are recommended for thinner skin and high-potency steroids are recommended for thickened lichenified lesions. Ointments are generally more potent and more occlusive and contain less sensitizing preservatives than do creams and lotions. Topical calcineurin inhibitors are approved for use in children two years of age and up and have been used in patients with allergic contact dermatitis.[1]

Antihistamines may offer some benefit in contact urticaria and sedating antihistamines may offer some relief. At present, the hyposensitization of patients with allergic contact dermatitis is not a viable therapy.

Reference
1. Queille-Roussel C, Graeber M, Thurston M, et al: SDZ ASM 981 is the first non-steroid that suppressess established mickel contact dermatitis elicited by allergen challenge. Contact Dermatitis 2000; 42(6):349-50.

Answered by:
Dr. Tom Gerstner

11. Coenzyme Q for myocardial disease?

? Many of my patients are using coenzyme Q for cardiac disease. Is there any evidence to show that coenzyme Q has any effect on myocardial disease?

Submitted by:
V. Carulei, MD
Assiniboia, Saskatchewan

Coenzyme Q10 (CoQ10) (the only form of coenzyme Q synthesized in humans) is a fat-soluble, vitamin-like compound, also known as ubiquinone, necessary for the basic functioning of cells. Levels of this antioxidant are reported to decrease with age and are low in some patients with some chronic diseases, such as:

- heart conditions,
- muscular dystrophies,
- Parkinson's disease,
- cancer,
- diabetes,
- HIV/AIDS and
- others.

Levels of CoQ10 in the body can be increased by taking CoQ10 supplements, although it is not clear that replacing low CoQ10 is beneficial.

This dietary supplement has been studied in small human and animal studies for the treatment of:

- hypertension,
- angina,
- cardiomyopathy,
- MI and
- heart failure.

Although results have suggested benefit for some of these conditions, it remains controversial in others. Further research in this field is needed before firm recommendations can be made. It has been shown to be relatively safe with a low incidence of adverse effects.

I do not recommend this drug to my patients at this time. For patients who choose to continue on this expensive supplement, I usually temper their enthusiasm with regards to the need for further studies showing benefit for cardiovascular disease; however, I do not adamantly oppose continued intake. I also inform them that CoQ decreases the response to warfarin. Its effect is inhibited by statins, some ß-blockers, hydralazine, thiazide diuretics, clonidine, methyldopa and diazoxide.

Answered by:
Dr. Igal Sebag

12. Are DREs necessary in older asymptomatic patients?

In this day of fecal occult blood screening and flexible sigmoidoscopy/ colonoscopy, is there really any need to do a DRE in an older asymptomatic woman?

Submitted by:
Steve Sullivan, MD
Victoria, British Columbia

The short answer to this questions is yes; a digital rectal exam (DRE) is a simple, inexpensive and cost effective physical examination tool that can provide the clinician with valuable information on a range of systems that may not be appreciated on sigmoidoscopy alone. As a matter of fact, DREs are routinely performed as part of any sigmoidoscopy to compensate for this shortcoming.

Symptoms that may go undetected with sigmoidoscopy can include:

- sphincter tone,
- samples for fecal occult blood testing and
- information regarding non-GI tract genitourinary pathology.

Another important consideration is that neither fecal occult blood testing, flexible sigmoidoscopy, nor the combination of the two is 100% sensitive in screening for rectal neoplasms. There remains a proportion of patients whose rectal cancer diagnosis was prompted by a suspicious finding on DRE in the FP's office.

Answered by:
Dr. Robert Bailey and Dr. Ali Cadili

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13. Colchicine or indomethacin for gout?

What is the current treatment for acute gout? Colchicine or indomethacin?

Submitted by:
Stephen P. Ashwell, MD
Dawson Creek, British Columbia

Acute gout is an extremely painful inflammatory arthritis that usually affects a single joint, although it can be polyarticular.

Nonsteroidal anti-inflammatory drugs (NSAIDs) are generally considered first-line therapy for most patients, despite the lack of high quality placebo-controlled, randomized clinical trials. All NSAIDs and selective cyclooxygenase-2 (COX-2) inhibitors can be effective, but a potent, fast acting NSAID, such as indomethacin, is often a preferred choice, as long as there are no major contraindications to its use. These contraindications inlcude:

- peptic ulcer,
- uncontrolled congestive heart failure,
- renal failure, or
- warfarin use.

A suggested regimen would be 50 mg of indomethacin t.i.d. for two days to three days and a reduction in the dosage by one-half for another three days to five days. If the attack is already of several days duration, a longer course of therapy may be required.

Oral colchicine is a good alternative, particularly in patients with contraindications to NSAIDS. Colchicine works best if started at the onset of symptoms and is given in a dose of 0.6 mg every one hour to two hours until symptoms begin to improve (or a total dose of 6.0 mg is reached) or if GI intolerance limits further use. As soon as control of inflammation is achieved, the dose can be reduced to twice a day until complete resolution of the attack.

Note that glucocorticoids (orally or intraarticularly) can also be used for those who cannot tolerate NSAIDs or colchicine.

Answered by:
Dr. Michael Starr

14. Preventing renal complications in diabetes

Which is better, angiotensin receptor blockers or angiotensin-converting enzyme inhibitors and at what dose are they considered best evidenced for preventing renal complications with diabetes?

Submitted by:
Lorne Parent, MD
Ottawa, Ontario

Prevention of renal and other microvascular complications is best done at the early stage, prior to detecting any abnormalities. In the case of renal disease, it would be prior to a patient developing microalbuminuria. There is excellent evidence that good glycemic control will prevent the onset of diabetic nephropathy. As well, achieving a BP of 130/80 mmHg or less is also very important and antihypertensive agents that are recommended by guidelines should be utilized. This may also prevent other microvascular and macrovascular complications.

The recent BErgamo NEphrologic DIabetes Complications Trial (BENEDICT), showed that treatment with an angiotensin-converting enzyme (ACE) inhibitor prevented the onset of microalbuminuria. Other studies in patients with microalbuminuria and macroalbuminuria have been performed with angiotensin receptor blockers and ACE inhibitors and both were found to be effective in delaying the progression of diabetic nephropathy at these later stages. In general, these studies have used the higher recommended doses and therefore, in practice, these doses should also be utilized. Dx

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2. Lewis EJ, Hunsicker LG, Bain RP, et al: The effect of angiotensin-converting enzyme inhibition on diabetic nephropathy. N Engl J Med 1993; 329(20):1456-62.
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5. Brenner BM, Cooper ME, de Zeeuw D, et al: Effects of losartan on renal and cardiovascular outcomes in patients with type 2 diabetes and nephropathy. N Engl J Med 2001; 345(12):861-9.

Answered by:
Dr. Vincent Woo