*Answers to your questions from our medical experts*

# 1. What's the immunization duration of chicken pox?

## What is the latest evidence for the duration of chicken pox immunization?

Submitted by:
Robert Dickson, MD
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The most recent update (February 2004), by the Canadian National Advisory Committee on Immunization, stated:

"It is not known whether booster doses of either vaccine are necessary after primary vaccination, and booster doses are currently not recommended for healthy individuals."[1]

In June 2004, a publication, describing a Minnesota elementary school outbreak found that students with vaccinations older than five years had significantly greater breakouts of varicella compared to students vaccinated within five years.[2]

Ongoing studies may soon influence recommendations for booster doses and the optimal age for primary immunization.

References
1. National Advisory Committee on Immunization: http://www.hc-sc.gc.ca/pphb-dgspsp/naci-ccni/index.html.
2. Lee BR, Feaver SL, Miller CA, et al: An elementary school outbreak of varicella attributed to vaccine failure: policy implications. J Infect Dis 2004; 190(3):477-83.

Answered by:
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### *This month's topics:*

# 2. Workout machine clarification

## What is the difference between the fat burning target heart rate and cardiac condition heart rate goal labels seen on workout machines?

Submitted by:
Catherine Andrew, MD
Toronto, Ontario

The terms on exercise machines attempt to differentiate between training zones. To be accurate we must eliminate some of the nomenclature misunderstandings.

1. **The warm-up zone:**
   50% to 60% of maximum heart rate:
   - Is the easiest and best zone for fitness beginners.
   - Can be used as a warm-up for serious walkers.
   - Is the zone for patients undergoing cardiac rehabilitation.
   - Shown to help decrease body fat, blood pressure and cholesterol (per cent of fat calories is 85%).

2. **The fitness and fat burning zone:**
   60% to 70% of maximum heart rate:
   - Provides the same benefits as the warm-up zone, but is more intense and burns more total calories (per cent of fat calories is 85%).
   - Is the fat-burning target heart rate.

3. **The aerobic and endurance zone:**
   70% to 80% of maximum heart rate:
   - Will improve your cardiovascular and respiratory system and increase the size and strength of your heart.
   - Is the preferred zone when training for an endurance event.
   - Burns more calories (50% from fat and 50% from glycogen and protein sources).
   - Is the cardiac-conditioning target heart rate.

4. **The anaerobic zone:**
   80% to 90% of maximum heart rate:
   - Improves maximum volume oxygen utilization (the highest amount of oxygen one can consume during exercise) and, thus, results in an improved cardiorespiratory system.
   - Improves the lactate tolerance ability, which means endurance will improve and fatigue will slow.
   - Is a high-intensity zone, burning more calories, but only 15% of fat.

Answered by:
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# 3. Anticonvulsants and migraine prophylaxis

## What is known about anticonvulsant use in migraine prophylaxis?

Submitted by:
F. McGrath, MD
Delta, British Columbia

Antiepileptic drugs have been used for sometime in the prevention of migraine headaches. Currently, doctors use valproate or divalproex sodium, gabapentin and, recently, topiramate. In the US, the Food and Drug Administration has approved divalproex sodium and topiramate for use in migraine prevention, but not gabapentin. Only topiramate has recently been approved in Canada.

There is an evidence base for the usage of these agents; with good evidence for valproate or divalproex sodium and topiramate and fair evidence for gabapentin. All these agents statistically reduce the number of monthly migraine attacks over placebo in randomized, controlled studies. These agents can be very helpful, but must be used with care and treatment should be individualized, as significant side-effects and adverse events can occur.

Answered by:
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### Memorable Quote

*"I have found the best way to give advice to your children is to find out what they want and then advise them to do it."*

Harry S. Truman

# 4. Screening men for osteoporosis

## What are the recommendations for osteoporosis screening in men?

Submitted by:
Jo-Ann Eaton, MD
London, Ontario

Low-bone mineral density (BMD) in men may not be associated with the same increased risk of fracture as in women. Current data regarding the bone mineral density and fracture risk relationship in men is limited and further clinical trials are necessary to fully understand the risk of fracture in men with low BMD in the absence of a fracture risk.

The Osteoporosis Society of Canada has recommended that individuals with one major risk factor or two minor risk factors for fracture be further evaluated for osteoporosis. If a low BMD is identified, then it is necessary to investigate to ensure that secondary causes for the low BMD are not present.

It has been estimated that 55% of men have a secondary cause for their bone loss with approximately 45% having idiopathic osteoporosis. The most common causes of low BMD in men are hypogonadism, alcohol abuse and steroid therapy.

The major and minor risk factors for osteoporosis in men are listed in Table 1.

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**Table 1**
### Major and minor risk factors for osteoporosis in men

**Major:**

- Age 65 or older
- Vertebral compression fracture
- Fragility fracture after age 40
- Family history of osteoporotic fracture (especially maternal hip fracture)
- Systemic glucocorticoid therapy of at least three-month duration
- Malabsorption syndrome
- Primary hyperparathyroidism
- Propensity to fall
- Appearance of osteopenia on radiograph
- Hypogonadism

**Minor:**

- Rheumatoid arthritis
- History of clinical hyperthyroidism
- Long-term anticonvulsant therapy
- Weight loss > 10% of weight at age 25
- Weight < 57 kg
- Smoking
- Excess alcohol intake
- Excess caffeine consuption
- Low dietary calcium intake
- Long-term heparin therapy

# 5. What do ultrasounds reveal about gallbladder polyps?

## Ultrasound of the abdomen occasionally reports the presence of gallbladder polyps. What is the significance of these polyps? Can they be ignored?

Submitted by:
Lorna Kan, MD
Burnaby, British Columbia

Polypoid lesions of the gallbladder (PLG) are elevated lesions arising from the mucosal surface of the gallbladder.[1] PLGs are typically discovered incidentally and have a reported prevalence of 3% to 7% in healthy subjects.[2] On ultrasound, polyps exhibit features similar to the gallbladder wall, project into the lumen, are fixed, lack displacement, may or may not have a pedicle and lack an acoustic shadow.[2] The most common PLG is the benign cholesterol polyp (46% to 70%).[1,2]

Although most PLGs are benign, factors that increase the chance of a polyp being malignant and, therefore, warrant resection include: symptomatic patients, asymptomatic patients 50 years of age or older, polyps that are solitary (> 1.0 cm in diameter), sessile lesions (< 1.0 cm) or polyps associated with gallstones on serial ultrasound.[1-3]

For asymptomatic PLGs smaller than 1.0 cm, follow-up ultrasound every three to six months is necessary to exclude a potential malignant tumour. If the lesion is stable through a one- to two-year period, the follow-up interval may be extended to six to twelve months.[2]

References
1. Csendes A, Burgos AM, Csendes P, et al: Late follow-up of polypoid lesions of the gallbladder smaller than 10 mm. Annals of Surgery 2001; 234(5):657-60.
2. Lee KF, Wong J, Li JC, et al: Polypoid lesions of the gallbladder. Am J Surg 2004; 188(2):186-90.
3. Mainprize KS, Gould SW, Gilbert JM: Surgical management of polypoid lesions of the gallbladder. Br J Surg 2000; 7(4):414-7.

Answered by:
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Answered by:
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# 6. What's the role of DHEA in postmenopausal women?

## Is there a role for DHEA supplementation in postmenopausal women?

Submitted by:
Saskia Acton, MD
Golden, British Columbia

Dehydroepiandrosterone (DHEA) is the most prevalent of the hormones produced by the adrenal glands. It travels through the circulatory system as DHEA sulphate and may be converted to other hormones as needed. DHEA may be converted to testosterone, estradiol, estrone or estriol.

DHEA is low during menopause and has been produced commercially. Its use may improve mental clarity, sexual arousal and well-being as well as increase muscle mass. Individuals with breast or estrogen-producing tumours should avoid supplementing with DHEA. Certain medications interact with DHEAS and, hence, extreme caution is required among patients who are using such medications.

The National Heart, Lung and Blood Institute, which runs the Women's Health Initiative, reported the National Institute of Health's study conclusions in March 2004. The study, based on an average seven-year followup, found that estrogen alone does not appear to affect heart disease.

The increased risk of stroke in the estrogen-only arm of the study was similar to that of estrogen plus progestin. The Federal Drug Administration emphasizes that topical application for relief of postmenopausal symptoms, such as hot flashes, in moderate to severe cases is appropriate.

Answered by:
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### Memorable Quote

*"Old people have fewer diseases than the young, but their diseases never leave them."*

Hippocrates

# 7. Environmental factors affecting glue ear

## What environmental factors contribute to the development and maintenance of "glue ear?"

Submitted by:
John Nazareth, MD
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Otitis media with effusion (OME) is also referred to as serous, mucoid or secretory otitis, glue ear or chronic OM.

The environmental factors that contribute to OM are:

- children in large daycare facilities are more likely to have OM than children in home care;
- children exposed to second-hand smoke are more likely to develop OM than children who are not;
- some studies suggest that breastfeeding is associated with a decreased incidence of OM and
- allergy.

Recent investigations have suggested that the immunopathologic mechanism underlying the development of middle ear effusion in patients with allergy is largely due to the effects of T-helper cells subset 2 (Th2) mediators. However, a large number of allergic children do not have significant episodes of OM and many otitis-prone children do not have documented allergies. The relationship is clearly not a simple one.

Other anatomic or physiologic (eustachian tube, cleft palate) and host (male sex, American Indians or Inuit patients) factors exist.

Answered by:
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# 8. Treating noninfectious chronic prostatitis

## What is the best treatment approach of chronic prostatitis where the cause is proven to be noninfectious?

Submitted by:
S. Budhoo, MD
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Chronic prostatitis (CP), defined as chronic genito-urinary pain or discomfort, is usually localized to the perineum/pelvis. CP is associated with painful ejaculation and variable voiding symptoms that can be bacterial or nonbacterial, as well as inflammatory or noninflammatory.

The easiest way to determine infectious CP is to culture the initial urine stream produced after a vigorous prostate massage. If the culture is negative, I would still suggest that all antibiotic-naive CP patients be treated with a two- to four-week empirical course of antimicrobial therapy (fluoroquinolones are best) and decide on further antibiotics depending on the response. Those with negative post-massage urine cultures and no response to antimicrobials should not be further subjected to any further courses of antibiotics.

One of the most important adjuncts to effective therapy is an interested, empathetic physician promoting conservative lifestyle modifications (diet modifications, stress and anxiety reduction programs, exercise including stretching and perineal/pelvic floor protection, such as donut cushions, changing bicycle seats, *etc.*).

First-line medical therapy for chronic prostatitis includes alpha blockers (particularly those with voiding symptoms) and anti-inflammatories (particularly those with inflammation, *i.e.,* leukocytes in post-massage urinalysis).

Second-line medical therapies include herbal therapies (quercetin, saw palmetto, bee pollen extract), muscle relaxants (diazepam, cyclobenzaprine, baclofen) and neuromodulators (amitriptyline, gabapentin). Physical therapy can be extremely helpful and includes repetitive prostate massage (the historical therapy for chronic prostatitis), trigger point or myofascial release therapy, transcutaneous electrical nerve stimulation, biofeedback, acupuncture and local heat therapy. For many patients, amelioration of symptoms is the key, while mother nature and time hopefully affect the cure.

Answered by:
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# 9. Osteoporosis: How long can bisphosphonates be used?

## How long can someone stay on a bisphosphonate?

Submitted by:
R. Rajput, MD
Edmonton, Alberta

The 10-year study, Efficacy and Safety of the Bisphosphonate Alendronate in the Treatment of Osteoporosis in Postmenopausal women, has recently been published and shows:

- progressive increase in spine bone mineral density (BMD) for 10 years;
- progressive increases in total hip, trochanter and body BMD for three to five years and prevention of loss thereafter;
- prevention of loss of forearm BMD for 10 years;
- stable reduction of bone turnover to a premenopausal level;
- discontinuation of therapy does not lead to accelerated bone loss, but continuous therapy yields optimum skeletal benefits and
- safety and tolerability are similar during all years of treatment.

Suggested reading
1. Bone H, Hosking D, Devogelaer JP, et al: Ten years experience with alendronate for osteoporosis in post menopausal women. N Eng J Med 2004;350:1189-99.

Answered by:
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# 10. When to start augmentation therapy for depression

## At what therapeutic time do you start augmentation therapy for depression?

Submitted by:
Jean René, MD
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There is no universally accepted answer to this question, but here is a guide:

- At four weeks, if there is no response, consider switching agents. With a partial response, optimize the dose. Once this has been done, augmentation becomes an option.
- Augmentation should be strongly considered at six weeks if you do not have a 50% response. You could also switch antidepressants.
- Throughout the treatment course, review the patient's diagnosis, medication adherence, psychosocial issues and check for co-morbid conditions, such as substance abuse, anxiety disorder or medical problems. Include the patient in your decision making whenever possible. Dx

Answered by:
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**Memorable Quote**

*"The belief that youth is the happiest time of life is founded on fallacy. The happiest person is the person who thinks the most interesting thoughts, and we grow happier as we grow older."*

William Lyon Phelps