1. PSA testing for healthy 60-year-olds?

Should I submit to pressure and request routine PSA tests for my otherwise healthy male patients > 60-years-of-age?

Submitted by:
David May, MD
Powell River,
British Columbia

The goal of prostate-specific antigen (PSA) testing is the early detection of prostate cancer and the identification of patients who have clinically significant cancers at a time when treatment is most likely to be effective. No generally accepted definition exists of a clinically significant or insignificant cancer. Stage, grade, tumour volume and PSA testing are used to address this issue. PSA testing is a fairly controversial issue and still causes a lot of debate. At the moment, PSA screening is recommended annually for all men ≥ 50-years-of-age who have an anticipated lifespan ≥ 10 years. For men with a family history of prostate cancer or for African American men, PSA testing should begin at age 40 years. Although PSA testing detects more cancers than digital rectal examination, a combination of the two methods is better.

Answered by:
Dr. Hugues Widmer

2. How to manage a thyroid cyst

How does one manage a thyroid cyst early and later on? Serial ultrasound? Serial biopsy?

Submitted by:
Marie-France Noel, MD
Candiac, Quebec

In general, as with thyroid nodules, a thyroid cyst should undergo a fine needle aspiration biopsy and the follow-up will depend on the result of the biopsy.

Answered by:
Dr. Vincent Woo

3. Which colon cancer screening protocol to use?

What screening protocol should be used for the detection of colon cancer in asymptomatic patients > 50-years-of-age with no family history of disease in a first-degree relative?

Submitted by:
Kent Pottle, MD
Halifax, Nova Scotia

This question is appreciated and is an opportunity to remind us that colorectal cancer screening decreases mortality. Individuals *without* a presence of the following are deemed to be at average-risk:

- first-degree family history of colorectal cancer,
- personal history of inflammatory bowel disease,
- personal history of adenomatous polyps and
- personal history of colorectal cancer.

Screening recommendations for average-risk asymptomatic persons aged 50 years to 75 years include annual fecal occult blood testing (FOBT) of three separate consecutive stool samples. A single office-based specimen from a digital rectal examination is not adequate. A positive test on any specimen warrants a colonoscopy. Flexible sigmoidoscopy, every five years, may be offered in addition to annual FOBT. Adenomatous polyps found on flexible sigmoidoscopy warrant a colonoscopy.

Alternatively to these two options, a colonoscopy every 10 years may be considered, although direct evidence demonstrating a survival advantage with this approach is lacking. While considered to be the gold standard by many, additional limitations include:

- the need for sedation,
- bowel preparation,
- time for recovery,
- availability of endoscopist,
- risk of bleeding and
- perforation.

Ultimately, the decision of which strategy to pursue will depend upon patient preferences, cost and availability of the screening tests.

Answered by:
Dr. Sharlene Gill

4. Treating an obese, hypertensive TRD patient

What is the best treatment for an obese, hypertensive, very depressed (TRD) patient who has been tried on SSRIs, atypicals and TCAs unsuccessfully?

Submitted by:
Maurice Butchey, MD
London, Ontario

Psychiatric assessment is warranted to determine treatment-resistant depression (TRD) and to exclude a chronic depression perpetuated by the negative social stigma that is frequently associated with obesity and that leads to low self-esteem, self-loathing and eventually, a chronic depression that is not responsive to antidepressant medication alone. If this is the case, cognitive-behavioural treatment combined with a medically-supervised weight loss program may improve self-esteem and alleviate the chronic depressed mood. Also, referral to a sleep disorders specialist may be appropriate to rule out obstructive sleep apnea, which can perpetuate TRD.

In terms of pharmacological treatment for an obese, hypertensive patient with TRD that did not respond to selective serotonin reuptake inhibitors (SSRIs) or tricyclic antidepressants (TCAs), the following approaches are suggested:

- A trial on bupropion, with a starting dose of 150 mg q.d. for one week. If well tolerated, the dosage can be increased to 300 mg q.d. Bupropion has the added advantage of appetite suppression that may facilitate weight loss. It does not cause hypertension as a side-effect
- A trial on venlafaxine, with a starting dose of 75 mg q.d. to be increased gradually up to 300 mg q.d. by weekly increments of 75 mg. Venlafaxine has the disadvantage of causing hypertension as a side-effect, usually around 10 mmHg to 15 mmHg in the supine diastolic BP. If venlafaxine is to be used for this hypertensive patient, close monitoring of BP is mandatory and it is assumed that the patient's hypertension is already well controlled with hypotensive medications
- If monotherapy with either bupropion or venlafaxine fail to relieve the depression, then augmentation therapy with an SSRI, such as cipralex or fluoxetine plus a dopamine reuptake inhibitor, such as bupropion or a serotonin-noradrenaline inhibitor like venlafaxine may be tried
- Atypical antipsychotic medications should be avoided because they induce weight gain which is undesirable for an obese patient. The same also applies to the two antidepressants paroxetine and mirtazapine
- If all the above fail, then electroconvulsive therapy may be considered

Answered by:
Dr. Hany Bissada

5. Treating OSA

What are the treatment options for obstructive sleep apnea?

Submitted by:
Adam Moscovitch, MD
Calgary, Alberta

Obstructive sleep apnea (OSA) is a common condition seen in primary care, occurring in approximately 2% to 4% of adults between 30-years-of-age and 60-years-of-age.[1] Typical symptoms include:

- Snoring
- Morning headaches
- Witnessed apneas by the bed-partner
- Excessive daytime somnolence
- Poor control of comorbid conditions such as hypertension

There are effective therapies for OSA that include:

- Weight reduction
- Sedatives at bedtime
- Avoidance of alcohol
- Oral appliances
- Surgical interventions
- Continuous positive airway pressure

Treatments must be tailored to the individual and will depend on the severity of OSA and the effect of the sleep disorder on the patient's quality of life and comorbidities.

Reference
1. Flemons WW: Clinical practice. Obstructive sleep apnea. NEJM 2002; 347(7):498-504.

Answered by:
Dr. Paul Hernandez

6. Synthroid and change in diabetic control

Can I expect a change in diabetic control when I start a Type 1 diabetic patient with mild disease (TSH 4.99) on synthroid?

Submitted by:
Caitlin McFadden, MD
Campbell River,
British Columbia

An individual with a thyroid stimulating hormone (TSH) of 4.99 has subclinical hypothyroidism. I assume that the free thyroxine (T4) and free triiodothyronine (T3) are normal and that the TSH is stable and that there is no history compatible with thyroiditis, pregnancy and other conditions. If that is the case, I believe that diabetes control is unlikely to significantly change if this person is placed on thyroid replacement.

Answered by:
Dr. Vincent Woo

7. Recommendations for clopidogrel use

What are the current recommendations regarding clopidogrel use for more than one month in a patient who had a stent for single vessel coronary disease; or in a patient who has multi-vessel coronary disease with a stent and multiple risk factors?

Submitted by:
B. L. Chandrarajan, MD
Kingston, Ontario

Recommendations published in 2005 regarding the use of clopidogrel for the purpose of recent stent insertion are as follows:

1. Clopidogrel should be given for at least one month after bare-metal stent implantation (unless the patient is at increased risk of bleeding; then it should be given for a minimum of two weeks), three months after drug-eluting sirolimus stent implantation, six months after drug-eluting paclitaxel stent implantation and ideally, up to 12 months in all patients who are not at high risk of bleeding
2. Note that 325 mg of acetylsalicylic acid q.d. should be given concurrently with clopidogrel and may be decreased to between 80 mg and 162 mg q.d. after one month following a bare-metal stent, three months following a sirolimus stent and six months following a paclitaxel stent

In summary, to address this question more specifically, clopidogrel should preferably be administered up to one year following any type of stent implantation if the patient is not at high risk of bleeding. Whether the patient has had a single stent or multiple stents, or whether the patient has several or few multiple risk factors does not influence the decision.

With recent findings of increased incidence of late-stent thrombosis with drug-eluting stents, recommendations may very well change in the next few months or years as many within the cardiology community are already advocating life-long clopidogrel administration after drug-eluting stent implantation in patients who are not at high risk of bleeding.

Answered by:
Dr. Igal A. Sebag

8. About hiccups

Regarding hiccups, what is the diagnosis and treatment?

Submitted by:
Claude Roberge, MD
Rock Forest, Quebec

Hiccups are caused by unilateral contractions of the diaphragm which can occur when there is stimulation of the reflex arc. This arc involves the phrenic nerve, the vagus nerve, the glottis muscles and the intercostal muscles. Although usually a benign event of unknown etiology, hiccups can be persistent (defined as lasting > 48 hours) and even intractable (defined as lasting longer than two months) and can be caused by serious pathology.

Once hiccups become persistent, a treatable cause should be considered. Irritation of the vagus and phrenic nerves may be secondary to tumours, foreign bodies or inflammation anywhere along the length of the nerve.

The differential diagnosis is therefore quite broad and involves looking in the ear and throat on physical exam, as well as possibly evaluating the thorax and upper abdomen with a chest x-ray or computed axial tomography (CAT) scan and potentially also bronchoscopy or upper endoscopy.

Structural lesions in the brain can also influence the reflex arc; therefore, central causes may need to be considered with a CAT scan or MRI of the head. Central nervous system infection may need to be considered and a lumbar puncture or an electroencephalogram may be required if associated symptoms are present. In addition, signal transmission may be increased if there is irritation of the nerves because of:

- Metabolic dysfunction
- Intoxication
- Anesthesia
- Psychiatric factors

Hence, work-up should include:

- A complete blood count
- Liver function testing
- Renal function
- Calcium level

Treatment should then be tailored to the cause of the hiccups. If no cause if found, the first-line in managing symptoms includes non-pharmacological physical maneuvers (*i.e.*, breath holding, breathing into a bag, Valsalva maneuvers, *etc.)* which try to block or interfere with the reflex arc.

Medications (*e.g.*, chlorpromazine, metoclopramide or baclofen oral) have proven successful and others have been found to be effective in case report studies.

Finally, if truly refractory and if no effective treatment is found, surgical options do exist. These include phrenic nerve crushing or blocking, or the implantation of phrenic or vagus nerve stimulators.

Answered by:
Dr. Robert Bailey; and Dr. Marilyn Zeman

9. When to stop alendronate and risedronate?

? At what age do we stop giving alendronate or risedronate?

Submitted by:
Claude Roberge, MD
Rock Forest, Quebec

In the elderly, significant morbidity and mortality can be attributed to bone fractures from falls. Age itself is a powerful independent risk factor for fracture (regardless of bone mineral density [BMD] score). Data overwhelmingly demonstrates the efficacy of bisphosphonates with regards to fracture reduction in post-menopausal women < 85-years-of-age with established osteoporosis.

Unfortunately, there is little data on the efficacy of bisphosphonate use in patients > 85-years-of-age.[1] What is known is that bone density continues to decline, even into very old age and vertebral fracture prevalence rises rapidly after the age of 75 years. Side-effects of bisphosphonate use is not more common in those > 85-years-of-age. Long term data (> 10 years) on the continuous use of bisphosphonates now exists and there does not seem to be any significant worry about bone quality.

Despite the lack of evidence, it is likely that high risk patients (*i.e.*, those > 85-years-of-age) would benefit from bisphosphonates and they should be continued on them for as long as tolerated. A drug holiday could be considered for long-term users who are stable over time and who may have moved into a lower risk category from the time of therapy initiation.

References
1. Dhesi JK, Allain TJ, Mangoni AA, et al: The implications of a growing evidence base for drug use in elderly patients. Part 4. Vitamin D and bisphosphonates for fractures and osteoporosis. Br J Clin Pharmacol 2006; 61(5):521-8.

Answered by:
Dr. Sabrina Fallavollita; and Dr. Michael Starr

It is likely that high risk patients (i.e., those > 85-years-of-age) would benefit from bisphosphonates and they should be continued on them for as long as tolerated.

10. When to avoid fluoroquinolones

? What would you recommend to a patient who has taken ciprofloxacin, gatifloxacin (at least twice each) and then had generalized urticaria with one dose of moxifloxacin p.o? Avoidance of that class altogether?

Submitted by:
Nathalie Leroux, MD
Fenwick, Ontario

Drug reactions to these medications need to be classified as either:

- allergic (*e.g.*, rash, anaphylaxis, Stevens Johnson syndrome, toxic epidermal necrolysis),
- pseudoallergic (*e.g.*, phototoxicity), or
- non-immune mediated adverse reactions
  - idiosyncratic or
  - toxic (*e.g.*, hepatitis, aplastic anemia, tenosynovitis).

In general, an immediate urticarial rash following a single dose of a drug (after recent exposure to similar structural agents, "sensitization"), would indicate an increased risk of an allergic, IgE-mediated reaction to any agent in the same class (all quinolones). Unfortunately, reliable skin testing to the quinolones is unavailable. Therefore, it would be prudent to avoid all quinolones in this setting. However, if the drug was deemed absolutely necessary, a desensitization protocol may be considered in a hospital setting, with the appropriate resuscitation expertise in place.

Answered by:
Dr. Tom Gerstner

In general, an immediate urticarial rash following a single dose of a drug (after recent exposure to similar structural agents, "sensitization"), would indicate an increased risk of an allergic, IgE-mediated reaction to any agent in the same class (all quinolones).

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11. Treating bulimia nervosa

What is the treatment for bulimia?

Submitted by:
Claude Chaine, MD
Saint Grégoire de Bécancour, Quebec

Both psychological and pharmacological treatments options are available for the treatment of bulimia nervosa.

In terms of psychological treatment, cognitive behavioural therapy has been the most intensively studied in adults and for which there is the most evidence of efficacy. It can be delivered either individually or in group therapy sessions. The latter has the benefit of providing additional peer-based feedback and support and is certainly less expensive than individual therapy. It is the model used in most day hospital programs for eating disorders, which also provides dietary counselling as part of their program.

In terms of pharmacological treatment, the fact that bulimia nervosa patients exhibit an elevated lifetime prevalence of mood disorders, as well as an elevated prevalence of mood disorders among first-degree relatives, has prompted clinicians and researchers to use antidepressants for the treatment of bulimia nervosa and any associated mood disorders. Presently, it is established that selective serotonin reuptake inhibitors, particularly fluoxetine and sertraline, are effective in reducing the frequency of binging and purging in bulimia nervosa patients, irrespective of the presence or absence of a mood disorder. A multicenter, placebo-controlled double blind study[1] demonstrated that 60 mg of fluoxetine q.d. is superior to placebo and superior to 20 mg of fluoxetine q.d. in controlling binging and purging in bulimia nervosa.

For references and resources, please contact **diagnosis@sta.ca**

Answered by:
Dr. Hany Bissada

Cognitive behavioural therapy has been the most intensively studied in adults and for which there is the most evidence of efficacy.

12. Managing recurring aphthous ulcers

What treatment options are available for recurrent aphthous ulcers?

Submitted by:
Roshan Dheda, MD
Bradford, Ontario

A first important step in the management of recurrent aphthous ulcers is the identification and treatment of conditions that might be causative, such as:

- Behcet's disease,
- inflammatory bowel disease,
- iron deficiency,
- vitamin B12 deficiency,
- folate deficiency,
- medications,
- neoplasia, or something as simple as
- poor dentition.

Many different agents are available for therapy, but no one treatment works every time. Antibiotics are purely empiric but have some efficacy. Topical steroids are occasionally effective.

Many different agents are available for therapy, but no one treatment works every time. Antibiotics are purely empiric but have some efficacy. Topical steroids are occasionally effective. Chlorhexidine mouth washes have been shown to reduce secondary bacterial infection. Topical anaesthetics may relieve pain.

Confronted with the diversity of treatments for such a poorly understood disease, most physicians are guided by the individual patient's response in the absence of structured objective guidelines.

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

13. Calcium and vitamin D use in osteoporosis

Please comment on the use of calcium and vitamin D in osteoporosis. Does it prevent fractures? In what doses? Is calcium carbonate better than calcium citrate? Does caffeine prevent absorption?

Submitted by:
Gayle Garber, MD
Conception Bay South, Newfoundland

The use of calcium supplements has long been advocated for the prevention and treatment of osteoporosis. Clinical trial evidence suggests that calcium has positive effects on bone mineral density (BMD) in post-menopausal women. However, these effects have been small and would only be clinically significant if they were progressive with continued use.

With regards to fracture risk, there is no strong evidence to support a reduction in fractures using calcium monotherapy or combined therapy with calcium and vitamin D despite small, but significant increases in BMD. The problem with obtaining long-term data is poor compliance with calcium secondary to GI side-effects (*i.e.*, constipation).

The recommended dosing for calcium is 1000 mg q.d. with 800 IU of vitamin D. When comparing different types of calcium, there are two main differences: bioavailability and cost. Calcium citrate is more bioavailable than calcium carbonate as it is better absorbed with or without food. However, calcium carbonate is less expensive than calcium citrate. With regards to osteoporosis, both have been shown to increase BMD and either could be used.

Caffeine consumption has been reported to be associated with reduced bone mass and an increased fracture risk in some observational studies. Yet, the majority of studies looking at caffeine do not show any effect on bone mass or fracture risk. In addition, human physiological studies and controlled balance studies show a clear, but only a very small depressant effect of caffeine itself on intestinal calcium absorption and no effect on total 24-hour urinary calcium excretion. More evidence is needed in order to list caffeine as a definite risk factor for osteoporosis; therefore, moderate intake would seem acceptable at this time.

Answered by:
Dr. Sabrina Fallavollita; and Dr. Michael Starr

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14. Testing for peanut and nut allergies in children

What is the best way to safely test for peanut/other nut allergies in a young child?

Submitted by:
Michele Burns, MD
Calgary, Alberta

Identifying the presence of a peanut or nut allergy in a child involves taking a detailed history of a reaction following nut ingestion. Symptoms of a Type 1 IgE-mediated reaction are usually immediate (occurring within minutes) and consist of skin and cardiorespiratory manifestations. In a child with a suspicious history, skin prick testing is the most sensitive method to confirm the presence of specific IgE antibody. Skin prick testing is safe, as systemic reactions and anaphylaxis are exceedingly rare, but can occur. It is more sensitive than radioallergosorbent (RAST) testing which, however, offers quantitative analysis useful in following allergic patients over time.

An incremental oral peanut/nut challenge in a controlled setting is the gold standard in establishing the presence or absence of clinical allergy.

Screening patients for peanut/nut allergy via skin testing or RAST testing is not recommended, as false positive results are common. Exceptions to this may be considered in immediate families with a strong history of peanut allergy. Ultimately, in equivocal cases, or when the clinical index of suspicion is low, an incremental oral peanut/nut challenge in a controlled setting is the gold standard in establishing the presence or absence of clinical allergy.

Answered by:
Dr. Tom Gerstner

15. Kegel exercises

How does one do proper kegel exercises?

Submitted by:
Victoria Bojanowski, MD
Toronto, Ontario

Anti-incontinence exercises emphasize rehabilitation and strengthening of the pelvic floor muscles (levator ani muscles) that are critical in maintaining urinary continence. When levator muscles weaken and fail, pelvic prolapse and stress incontinence results.

Pelvic floor exercises, sometimes called Kegel exercises, are a rehabilitation technique used to tighten and tone the pelvic floor muscles (*i.e.*, levator ani muscles) that have become weak over time. Patients should be instructed to squeeze their pelvic floor muscles by performing one of the following techniques:

1) Stopping the flow of urine during micturition
2) Squeezing the anal sphincter as if to prevent passing gas
3) Tightening perivaginal muscles by squeezing a penis during sexual relations or squeezing a finger inserted into the vagina

Many regimens exist. For beginners, the individual should perform the squeezing exercise five times, holding each contraction for a count of five. Five contractions equals one set. Patients should do one set every hour while (for example):

- driving,
- reading, or
- watching television.

After a while, the patient becomes proficient at this. With time, the patient may be able to hold each contraction for at least 10 seconds, followed by an equal period of relaxation.

The pelvic floor exercises must be performed daily for at least three months to four months to be effective.

Answered by:
Dr. Hugues Widmer

Pelvic floor exercises, sometimes called Kegel exercises, are a rehabilitation technique used to tighten and tone the pelvic floor muscles that have become weak over time.

16. Pamidronate: in hospital or at a clinic?

Can we administer pamidronate in a clinic setting or should it be given at a hospital?

Submitted by:
Waguih Tannous, MD
Bois-des-Filion, Quebec

Pamidronate is an intravenous bisphosphonate used primarily for:

- malignancy-associated hypercalcemia,
- osteolytic bone metastases and
- Paget's disease.

Administration of pamidronate is associated with a low frequency of infusion reactions and is generally well tolerated by patients, making it safe to administer in a clinic setting, with appropriate nursing support.

The greatest disadvantage of administering pamidronate as compared to other intravenous bisphosphonates (*e.g.*, zoledronic acid) is the length of time of the infusion. In one study, the mean length of a pamidronate infusions was 161 minutes, whereas the mean length of time for zoledronic acid was half that at 78 minutes (Support Cancer Care 2004). In this study, patients preferred zoledronic acid because of the shorter length of administration.

Regardless of where pamidronate is administered, patients should be monitored for signs of renal and hepatotoxicity and the dose should be adjusted in patients with renal failure. Dx

Answered by:
Dr. Sabrina Fallavollita; and Dr. Michael Starr

Administration of pamidronate is associated with a low frequency of infusion reactions and is generally well tolerated by patients, making it safe to administer in a clinic setting, with appropriate nursing support.