Quick "Lift" Medication for Depression

1.

Why is there no medication that a severely depressed patient can take to "lift" their mood very quickly?

Question submitted by:
Dr. J. P. Swart
Hanglide, BC

Many commonly used antidepressants work by means of blocking the membrane transporters for various neurotransmitters (*e.g.*, serotonin, norepinephrine, *etc.*), resulting in the elevation of the extracellular concentration of such neurotransmitters at the synaptic cleft of central monoamine synapses. This, in turn, enhances neurotransmission within the brain.

Initial theories proposed that there are downstream neuroadaptive changes resulting in an antidepressive effect (*e.g.*, down-regulation of subsets of post-synaptic serotonin and norepinephrine receptors; desensitization of autoreceptors located on serotonin and norepinephrine cell bodies).

Alternatively, some have proposed that the antidepressants induce the activation of second messengers resulting in changes in gene expression. This, in turn, would lead to increased production of neurotropic factors and thus, result in synaptic plasticity and neurogenesis.

As well, there is a large bio-psycho-social factor that comes into play here. That means that although we can create activation in the patients, especially using serotonergic agents, there are still home and work issues. The expression reads, "If nothing changes, then nothing changes." Only after activation has allowed for addressing the psycho-social component, can there be improvement.

In conclusion, there is still believed to be a delay between the immediate changes in the cleft occurring immediately after taking the medication, and the resultant clinical effect of mood elevation. There have been several hypotheses put forth to explain this delay, but additional studies are required to fully elucidate the reason for the lag time of clinical effect.

Answered by:
Professor Joel Lamoure

Normal BP Range for Children and Adolescents

2.

What is the normal BP range for children and adolescents?

Question submitted by:
Dr. Roshan Dheda
Bradford, Ontario

This is an excellent question, as the recent obesity epidemic has heightened, the importance of measuring blood pressure, including blood pressure in children has also increased. It should be noted that the first step is to obtain an accurate blood pressure reading. Having an appropriate sized blood pressure cuff is crucial for this. The blood pressure cuff should cover approximately 80% of the arm and have a width that is at least 40% of the circumference of the arm. Blood pressure cuffs that are too large, or too small will give misleading readings.

Blood pressure, heart rate and respiratory rate are related to age and mass. A typical range is demonstrated below. As it can be appreciated, blood pressure increases steadily to reach near-adult values by the adolescent years.

Answered by:
Dr. Michael Rieder

Reference
1. Behrman RE, Kliegman R., Jensen HB, Nelson's Textbook of Pediatrics. 16th Edition. WB Saunders, 2000, p. 252.

Age	HR	BP	RR
Premature infant	120 - 170	55-75 / 35-45	40 -70
0-3 months	100 - 150	65-85 / 45-55	35 - 55
3-12 months	90 - 120	70-100 / 50-65	30 - 40
2 years	70 - 110	90-105 / 55-70	20 - 30
6 years	65 - 110	95-110 / 60-65	20 – 25
12 years	60 - 95	100-120 / 60 -75	14 - 22
Adolescent	55 - 85	110-135 / 65-85	12 - 18
Adult	70	120/70	12

Desiccated Thyroid and Eltroxin

3.

What is desiccated thyroid? What is the origin and what is the equivalent dose to Eltroxin?

Question submitted by:
Dr. D. Eustace
Saskatoon, Saskatchewan

Desiccated thyroid is derived from desiccated porcine thyroid gland and contains a variable mixture of thyroxine (T4), triiodothyrionine (T3) and thyroglobulin. As it is not a synthetic product, the quantity of the various compounds vary based on the preparation and when the batch was prepared. Thus it is very difficult to know reliably as to how much of the dose of thyroxine or T3 the patient is getting. The product mongraph in the CPS states that 60 mg of dessicated thyroid is equivalent to 0.1 mg thyroxine, 25 mcg t3 or 1 mg thyroglobulin. It is thus not a product which most mainstream thyroidologists tend to favor, though it seems to generate quite a following in circles who tend to favor "natural" products.

Answered by:
Dr. Hasnain Khandwala

Dosage of Atorvastatin for Acute Myocardial Infarction

4.

What dose of atorvastatin (Lipitor) should be initiated post acute myocardial infarction?

Question submitted by:
Dr. David Hankins
Westbank, BC

There are experts who recommend initial therapy with atorvastatin 80 mg daily after an acute myocardial infarction rather than gradual dose titration upward based on the suggestion of short-term benefits demonstrated in the Myocardial Ischemia Reduction with Aggresive Cholesterol Lowering (MIRACL) and Pravastatin or Atorvastatin Evaluation and Infection Trial–Thrombolysis in Myocardial Infarction (PROVE IT-TIMI) 22 trials. However, high dose statins come with a slight increase in adverse side effects, such as myalgia, liver function elevation, *etc.* If patient follow-up and compliance can be assured, I would recommend starting at a moderate dose of 20 mg to 40 mg daily and titrate up as needed to achieve:

- >=50% reduction of LDL or
- <2.0 mmol/L

Answered by:
Dr. Chi-Ming Chow

Worst Type of Hodgkin's Disease

5.

Which type of Hodgkin's disease generally has the worst prognosis?

Question submitted by:
Anonymous

Hodgkin's lymphoma (HL), previously called Hodgkin's disease, is a hematologic malignancy with several subtypes. HL represents a small but significant proportion of malignancies worldwide and has a bimodal age distribution. The etiology and pathogenesis of this disease remains unknown.

This disease has been divided into two major groups according to the World Health Organization, the rare nodular lymphocyte predominant, and classical HL. Classical HL contains four subtypes: nodular sclerosis, mixed cellularity, lymphocyte rich and lymphocyte deplete. Each subtype has its own clinical features, pathological characteristics and prognosis. Nodular lymphocyte predominant HL has a rather indolent course with a tendency for late relapses. Nodular sclerosis subtype is the most common, and usually presents with localized disease. The other subtypes are more rare; historically lymphocyte rich subtype has a better prognosis, whereas, mixed cellularity and lymphocyte deplete subtypes present with more advanced disease and worse prognosis. With modern chemotherapy, these differences have essentially vanished.

Prognosis currently depends on a number of factors. The Ann-Arbor staging system is still applicable, and prognostic models have been developed for both early and advanced stage disease.

Answered by:
Dr. Kang Howson-Jan and Dr. Cyrus Hsia

Anal Pap Testing

6.

What is the evidence, if any, for doing anal Pap testing on high-risk patients (*e.g.,* MSM) and what is the proper procedure?

Question submitted by:

Dr. Janice Pan
Winnipeg, Manitoba

Among men or women who engage in anal-receptive intercourse, there is an increased incidence of squamous cancer and anal intraepithelial neoplasia. Human papilloma virus (HPV) has been implicated in the pathogenesis of anal cancer. Analogous to Papanicolaou smears, Critchlow showed that cytological specimens of the anal canal are sensitive to detect dysplasia.[1]

The anal PAP test is carried out by using a Dacron swab to collect a specimen from the anal canal. The swab is inserted into the anal canal about 5 cm and rotated for 1 minute.[2]

Reference

1. Critchlow CW, Surawicz CM, Holmes KK, et al. Prospective Study of High Grade Anal Squamous Intraepithelial Neoplasia in a Cohort of Homosexual Men: Influence of HIV Infection, Immunosuppression and Human Papillomavirus Infection. AIDS. 1995 Nov;9(11):1255-62.
2. <http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Critchlow%20CW%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVAbstractPlus>

Answered by:
Dr. Jerry McGrath

Ticks and Lyme Disease

7.

Are ticks coming North? If so, how fast? How do we extract them? How often do they carry or transmit lyme disase? Are they "reportable?"

Question submitted by:
Dr. Christine Johns
Ottawa, Ontario

It is very likely that with increasing average temperatures, various areas of Canada will begin to see more Lyme-infected ticks migrating from neighbouring areas of the USA. We do, of course, already have several species of ticks well established in Canada, and tick bites are not rare. It is impossible to know how rapidly the complex tick and mammalian ecosystem, which supports Lyme Disease, will spread northward, and to which geographic areas. In many areas of Canada, Lyme-infected ticks have been described without human cases being detected. This is not surprising, as humans are not the preferred target of these tick species and tick infection rates must reach relatively high rates in areas with human habitation before human disease becomes common. Ticks should be removed carefully, making sure to remove the head parts as well as the body. The best is to use fine tweezers, taking care not to squeeze or crush the body. Various irritant chemicals may increase infection risk by causing the tick to "inject" infected fluids.

Answered by:
Dr. Michael Libman

Ovarian Cysts in Post-Menopausal Women

8.

What is the management of ovarian cysts (OCs) that are present for more than one year in a post-menopausal (PM) woman?

Question submitted by:
Dr. Veronique Prud'homme
Roberval, Quebec

Up to 20% of post-menopausal women have asymptomatic OCs found incidentally on imaging investigations ordered for other reasons. Many of these cysts remain stable and do not need to be removed. OCs that are uniocular, up to 5 cms in diameter, and associated with a normal CA125, are at very low risk of malignancy and can be left alone. More complex OCs with multiple septae, solid components, and papillations should be referred, as should cysts associated with an elevated CA125 level. If the cysts remain stable and asymptomatic for more than a year, they may be left alone. OCs that are symptomatic, causing pelvic pain or pressure symptoms should be removed for symptom relief if not contra-indicated. Up to 50% of Stage 1 ovarian cancers have a normal CA125 level, while several benign conditions such as PID and endometriosis have CA125 levels in the hundreds, thus it is very important to educate patients about the limitations of this test when ordering it for evaluation of OCs.

Answered by:
Dr. Cathy Popadiuk

Is Conjugated Quadrivalent Meningococcal Vaccine Worthwhile?

9. Is conjugated quadrivalent meningococcal vaccine recommended in all children under the age of two? If not, why is it worth the expense?

Question submitted by:
Dr. Steve Choi
Oakville, Ontario

It appears unlikely that the new conjugated quadrivalent meningococcal vaccine will replace routine conjugated monovalent meningococcal type C vaccine in provincial vaccination programs anytime soon. Unless there is a substantial shift in Canadian epidemiology, type C remains the greatly predominant serotype of preventable disease here. The opinions of the Canadian advisory committees are pretty clear: conjugated quadrivalent meningococcal vaccine has a role for travellers and other special situations, but not for universal use at this time. This is in contrast to the United States, where serogroup Y is relatively common, widespread type C vaccination was never adopted, and where universal use of conjugated quadrivalent meningococcal vaccine is currently recommended. That said, the vaccine appears to be safe and effective, although expensive. There remain some lingering doubts about a very rare association with Guillain-Barré syndrome.

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Answered by:
Dr. Michael Libman