

The BASICS: Part 1 — “B is for Body”

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As the Director of the OMA Physician Health Program, I am often invited to speak to medical groups and other health professionals about coping with stress, work-life balance, and topics generally related to lifestyle choices that support good health and prevent such problems as burnout, depression and substance abuse.

I have gathered a fair bit of material about these topics from a variety of authors and experts, the scientific literature, personal experience, and mostly from the lessons learned and championed by the many doctors we have come to know in recovery from drug and alcohol dependence and other personal problems and conditions. However, I have never taken the time to commit these ideas to paper.

Like many physicians, my focus is usually upon solving the problems presented to me. Health promotion and disease prevention are really good ideas, but my professional energy now, just as it was when I practised family medicine, has been largely devoted to responding to the needs of the stressed and distressed.

Now, as the Physician Health Program enters its second decade of service, it's time to change that.

There are so many good ideas and practical suggestions available about stress management. Many were taught to us in medical school, most were taught to us by our parents and

grandparents. So why would it be useful to present these ideas to a medical audience at all?

The problem for many of us is that the experience of medical training, and practice, was and is one of learning to live with stress, rather than reducing it to manageable, healthy levels.

As a medical student and resident, the amount of control one has over lifestyle choice is limited due to the demands of training: there is only so much time available to acquire all of the requisite skill and knowledge to practise our profession. After that, there is a real possibility that doctors in practice will maintain the less healthy coping patterns learned in residency when faced with the complex demands of a patient population growing beyond our resources to respond as we would like.

Besides, a reminder about fundamental, “basic” common sense, self-care strategies is still a good thing.

In medicine, we are skilled at organizing large bodies of information into categories. Using a biological-

psychological-social-spiritual construct, I will do the same. Thinking about returning to fundamental principles, I have devised the acronym “BASICS.”

Each letter of the word introduces a category for discussion: “B” is for body, or physiological considerations; “A” stands for affect, attitude and matters psychological; “S” is for social, and refers to our personal relationships; “I” is for intellect, and the many ways we can use it to our advantage; “C” stands for community, and introduces a discussion about the nature and importance of healthy personal and professional groupings; the final “S” refers to the spiritual domain, perhaps the least discussed and the most alluring.

“B” is for Body

Homeostasis

“B” might also stand for biology, and the biology of stress is interesting.

Consider first the concept of homeostasis, the maintenance of the internal physiological environment

of an organism within healthy limits.

Homeostasis means that we eat when hungry, drink when thirsty, sleep when tired, and so on. Thus we are restored. This is the physiology of our regular patterns, routines and diurnal variations — the baseline biochemical “hum” of existence.

Homeostatic processes and mechanisms have been long studied and are well understood.

Allostasis

But what happens when we don't eat when hungry, or fail to sleep when tired?

A newer concept is that of allostasis.¹ The body adapts to potentially diverse and dangerous situations through the activation of neural, hormonal, or immunological mechanisms. Liberation of cortisol and adrenaline are just two such stress responses.

The problem is that the organism is fatigued and otherwise stressed by such an attempt to deal with “danger” (which might be only skipping meals on a very busy day).

Allostasis is the combined physiological and psychological adaptation to adversity and threats which creates wear and tear upon the organism. Allostatic responses are mediated by the brain and nervous system, but probably affect every cell and system within the body.

When allostatic challenges are few, the body has time to recover and return to a healthy homeostatic state. When the individual is challenged repeatedly, or when the allostatic systems remain turned on when no longer needed, the mediators of allostasis can produce a wear and tear on the body that has been termed “allostatic load.”

Examples of allostatic load include the accumulation of abdominal fat, the loss of bone minerals, and neuronal atrophy, to name only a few.² In short, when we are chronically stressed, the physiological changes that result render us less resilient, more susceptible to the diseases and disorders that we know through experience often occur in that context.

Physicians, despite what they might think of themselves, are not exempt from these physiological fundamentals.

So, working long hours, often facing demanding patient care situations, missing meals and losing sleep — the resident's and physician's all-too-often routine — causes lasting physiological changes in the body that predispose to all of the diseases, and especially those to which the individual is genetically susceptible, that we are trained to treat. How ironic!

Nutrition

If we are to address the “basics,” then let's start with perhaps the most basic of them all: diet and nutrition.

The food we eat is our physiological fuel. Feed ourselves properly, according to sound nutritional principles, and we feel well and perform at our best. But, just as running high-performance engines on low-octane fuel can result in reduced performance and engine damage, eating poorly drains energy and, over time, can cause health problems. Again, all doctors know this already.

The notion of “sound nutritional principles” is constantly evolving. Documents such as *Canada's Food Guide to Healthy Eating* and the *American Heart Association (AHA) Dietary Guidelines* are available and offer useful suggestions.^{3,4}

I note that the AHA considers reducing risk factors for coronary artery disease through diet. Specifically, high blood cholesterol, high blood pressure, and excess body weight are targeted — all markers of allostatic load. Therefore, healthy eating can modify these risks, decrease allostatic burden, and increase resilience and our ability to cope with stress.

Basic recommendations in these guidelines include eating a diet rich in vegetables and fruits, whole grains and high-fibre foods. Foods that are metabolized slowly into glucose (low glycemic) are preferred compared to those that release glucose rapidly, such as sweets and processed carbohydrates (high glycemic).

It is suggested that fish be consumed at least twice a week, and that dairy and meat products are of the low-fat, lean variety. Choose and prepare foods with little or no salt. Limit saturated fats and trans-fats, which come from foods prepared with partially hydrogenated vegetable oils.

For me, I guess this means that eating the ubiquitous fatty, sugary Danish pastry with the red or yellow goeey stuff on it during all those years of medical training wasn't such a good idea. But, combined with a couple of sugared cups of coffee (not the decaf variety), they provided energy bursts that replaced breakfast and lunch and kept me going through the demanding days of residency. It took me years to recognize that the intermittent fatigue, irritability and poor concentration I experienced were as much due to plunges into hypoglycemia as any other factor.

Here, then, are a few practical ideas about matching sound nutritional principles to the reality and routines of a modern medical day:

- Eat breakfast — even if you round at 0700! Your mother was right — it is an important meal. There is no sense in starting the day without quality fuel in the tank, relying instead upon the “supercharged” effect of caffeine, fat and sugar in your morning “double double.” Consider low-fat yogurt, high-fibre cereals, fruit, some cottage cheese, or even, yes, eggs from time to time.
- Eat smaller portions more often — every three to four hours during the day. Keeping blood sugar and insulin levels steady is preferable to the peak and trough effect of occasional eating of large meals. It's probably a good idea to have a healthy snack mid-morning (especially if breakfast is very early), late afternoon or in the evening before bed. Consider fruit, vegetable sticks, cheese, whole grain bread, crackers or cereal. It's easy to throw an apple and an individually wrapped piece of cheese into your bag in the morning and take it with you to the office or hospital. Be especially certain to do this if

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expecting a long, stressful day with the possibility of having to work through lunch or supper.

- Choose the fruit and yogurt at rounds. Avoid the muffins.
- If it's white and fluffy (likely high glycemic) or greasy (saturated and trans-fats), avoid it.
- Choose the salad bar at the hospital cafeteria more often.
- Choose the burgers and fries less often.
- Maintain hydration with water and juices rather than coffee or sugared beverages. About two to three litres per day is required, depending on gender, body size and activity.
- Avoid heavy eating before sleep.
- If on-call and sleep is not so likely, be sure to have an overnight snack. Bring something with you to the hospital in order to avoid the vending machine with the tempting junk food when the cafeteria is closed.

In general, all the authorities agree: variety is good, fad diets are not so good. The jury is still out on routine use of multi-vitamins, which should not be seen as a good alternative to regular, healthy eating. And, mercifully, even the foods that are not on the "A" list of good nutrition are fine, once in a while.

Toxins

In addition to optimizing our ingestion of foods that are good for us, we also need to consider those substances that aren't. Food guides and recommendations usually make reference to caffeine and alcohol in this category.

This next statement might sound unusual coming from the perspective of the Physician Health Program, but alcohol is not evil! Most who use alcohol do so safely and responsibly.

Guidelines are available that refer to low-risk use of alcohol, but here are some general principles for doctors to consider: Over the course of a week, have no more than about 12 standard drinks (a standard drink being one bottle of beer, one and a half oz. of liquor, 5 oz. of wine).⁵

- Women metabolize alcohol differ-

ently than men and should drink a little less.

- Daily drinking should usually be avoided.
- Best to limit the number of standard drinks consumed to two or three per drinking occasion.
- Drinking specifically to relax or to aid sleep is not such a good idea.
- Alcoholism runs in families. Be careful if there is a strong family history of alcohol-related problems.
- Don't drink while working, or on-call. The best alcohol serum level for a doctor at work is zero!

Caffeine is a mild stimulant well-known to medical professionals. In medical school, I always picked up my first cup of the day on the way to the morning lecture and appreciated the boost in concentration I felt.

Coffee is ubiquitous in the medical world, as in many others. It's there in the lounges, wards, and always at rounds. And, of course, caffeine is present in tea and other beverages and foods, sometimes naturally, sometimes as an additive. So, it's hard to avoid.

While caffeine use has been associated with palpitations, bone loss, breast tenderness, infertility, and other conditions, the good news appears to be that used in moderation, few but the most sensitive will ever suffer any adverse effects. Moderation means about 300 mg. of caffeine or less per day. This is the equivalent of about three regular size cups of coffee. It is probably best to discontinue caffeine use in the afternoon and evening if sleep is a problem, though.

I'd like to include a word about tobacco use. One would think that this would not be necessary for a medical audience, and indeed, when compared to the general population, only a small proportion of doctors smoke. But we have had calls from some doctors who began smoking during medical training, or after, and many of the doctors who have problems with substance abuse and dependence are smokers.

There is no amount of tobacco use that is safe. If a smoker, keep trying to quit. And if not a smoker — don't start!

Sleep

I doubt there is any other issue that stresses physicians and residents more than sleep — or the lack of it.

In “Staying Human During Residency Training,” Peterkin cites insufficient sleep as number one in the list of “Top Ten” stressors for residents.⁶ Many doctors are required to be on-call as part of their professional duties, sometimes as often as every three or four nights in these times of pressure on physician numbers. A night on-call likely represents no more than three or four hours sleep — and many carry on with regular work the next day!

Studies of sleep deprivation in residents and trainees confirm what we all know and have experienced. Sleep loss is associated with increased irritability, anger, depression, sensitivity to criticism, decline in cognitive performance, including the ability to solve problems and learn new skills, daytime drowsiness (nodding off), and more.^{7,8}

Losing sleep impairs psychomotor function. In fact, it has been shown that four hours of sleep loss results in the kind of impairment usually associated with a breath alcohol level above the legal limit for driving in most jurisdictions.⁹ In short, being sleep deprived hurts — us, and potentially those we serve.

Consider that human beings need about seven to eight hours of sleep per night. How many of us achieve that even if not on-call? Long hours of work, complex patient and professional problems, and home and family demands all create night-time thoughts that seem to whirl endlessly in our minds once the head hits the pillow. (I’ve heard this referred to as “monkey mind.”) And, don’t forget that our natural diurnal rhythms would have us sleep some time in the afternoon as well. Who gets to do that?

The truth is, our physiology demands sleep — in the right amounts and at the right time. There is no overcoming that basic need no matter how long we have trained, how often we lose sleep, or how impor-

tant we are. There is no such thing as conditioning our physiology to adapt to less sleep in a healthy, homeostatic way.

Chronic sleep deprivation only adds to our allostatic load. Chronic sleep loss reduces resiliency, adds to risk of illness, or even causes illness, depending on individual circumstances and genetic predisposition.

Here are some suggestions for healthy, restorative sleep for doctors:

- Listen to your body’s rhythms. There are times when falling asleep is easier because it’s natural to do so. Plan bed-time and naps accordingly. To the best of your ability, don’t let anything else interfere with this schedule. (I know one family doctor in a small town who has lunch at home followed by a brief nap before returning to the office. He’s done that for years and swears by it!)
- “Close shop” sufficiently early in the evenings to give your mind a chance to wind down. This means avoid work-related e-mails, calls, journal reading, paperwork and so on for a few hours before retiring.
- Engage in other, relaxing activities in that time leading to bed that signals sleep is coming. You know what works for you: some TV, listening to or playing music, taking walks, reading a novel or other non-work related material, that sort of thing.
- Avoid alcohol, caffeine, excessive fluid ingestion or a heavy meal too soon before retiring, but a light snack can help prevent overnight hunger.
- Arrange your sleeping quarters according to your preferences considering light level, quiet, temperature, and so on. (I’ve found a mask and ear plugs work wonders.)
- Light exercise helps promote good sleep, but exercise should be avoided just before retiring.
- Develop a bedtime “ritual,” or routine pattern of behaviours, even post-call, that facilitates the onset of sleep.
- If at all possible, grab a quick nap (about 45 minutes) during the day

prior to an overnight shift or call.

- Be sure to get extra sleep on days off. This is the way to achieve sleep homeostasis, that is to repay the “sleep debt.”
- Generally, avoid sedative drugs for sleep, unless for short periods and as prescribed. This includes over-the-counter preparations. Never prescribe sedative hypnotics for yourself.

Of course, there will be nights when sleep is difficult. Most authorities suggest getting out of bed and doing something else for awhile, rather than lying there ruminating about not sleeping. After that, try repeating the usual pre-sleep ritual, then returning to bed. Remember, an occasional experience of insomnia, while unpleasant, will do no harm.

If sleep remains disturbed in any way, medical evaluation, sometimes including sleep studies, is indicated.

Exercise

It’s common knowledge that regular, moderate exercise benefits health in many ways. Benefits include better sleep, improved sense of energy, reduction in physical and emotional tension, fewer feelings of depression and anxiety, lowered risk of many physical illnesses, including cardiovascular disease, and much, much more. In short, thinking physiologically, exercise can contribute significantly to the reduction of our allostatic burden, creating resilience and good health — immediately and in the future.

As doctors, we know this. So why don’t we all exercise regularly?

Not enough time — patients and family come first. Not enough energy — the long work day leaves little reserve for much else, let alone exercise. Not enough motivation — the inertia of a sedentary existence just can’t be overcome. Not enough expertise — we aren’t already the best at running, rowing, dancing, or whatever.

There are ways to overcome these barriers to an active lifestyle. Perhaps, moderate exercise can be built in to everyday routines. Consider walking,

jogging or biking to work. Using the stairs at the hospital is another strategy. If there is a gym, pool or workout room where you work or live, try an exercise routine for 15 or 20 minutes only. You're probably paying for the facility anyway!

Think about recreational activities you really like and which may have been abandoned. Skiing, golf, dancing, playing squash or tennis are just a few examples. Find some friends to join you. Take some lessons. Have fun!

Join a doctors' hockey team or dragon boat crew. Hold occasional journal club meetings in association with a physical activity, such as yoga or swimming. Build dedicated physical activity, such as group walking, into professional meetings.

Some find joining a gym or fitness facility, and using the services of a professional trainer, motivating.

The trick is to start small. Commit to a few minutes two or three times a week. Give yourself permission to be slow and inept at first. Understand that there might be a little discomfort, very soon offset by the many, immediate benefits. Then, gradually build on those initial gains. Before you know it, you'll be the beneficiary of an active lifestyle you won't want to part with.

I'll offer the usual caveat before concluding this discussion: consult your personal physician before engaging in vigorous physical exercise — that is, if you have a personal physician.

Personal medical care

PHP experience is that the majority of those who call with personal problems don't have a family doctor, or won't involve them in their care.

A PHP survey (unpublished data) of 800 Ontario physicians revealed that approximately half of the respondents did not have a family physician.

What do these doctors do about personal medical care? Do they conduct their own periodic health exams? Check their own cholesterol levels? Perform their own Pap smears? Treat their own illnesses?

A fundamental of self-care is that we have a personal physician and use him or her as others would. Don't let being a doctor get in the way of this basic need.

Taken together, these are a few of the most important considerations regarding our physical health. And, while attending to them all is at once daunting and tempting to the perfectionist doctor, it helps to remember that even small changes towards better physical self-care can result in noticeable benefit. OMR

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