Assessing Biochemical Individuality

David W. Rowland, PhD

Rowland Publications
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- Founded two schools of nutrition, the Canadian Nutrition Institute and the Edison Institute of Nutrition, some of whose graduates now run their own nutrition schools.

- Was the founding President of the Nutritional Consultants Organization of Canada (now IONC).

- Was Canada’s first Registered Nutritional Consultant.

- Created the Nutri-Body® method of nutritional assessment for identifying and supporting biochemical weaknesses.

- Formulated 38 food-based medicines that treat and prevent degenerative health conditions – including cardiovascular disease, cancer, diabetes, arthritis, cataracts, endocrine imbalances, digestive disturbances, prostate disorders, and viral infections.

- Holds Canadian and U.S. patents for a technique that enhances the kirlian energy field of vitamin-mineral tablets, and has patents pending for a unique formulation that enhances all of the body’s biochemical processes.

- Has written 22 booklets about health and nutrition, including: Young at Any Age, Endocrine Harmony, Digestion Inner Pathway to Health, Food Alone is Not Enough, One's Food is Another’s Poison, The Nutritional Bypass, and How to Give Nutritional Advice Legally.
Preface

Nutri-Body® Analysis is a method of nutritional assessment that enables nutritional practitioners to pin-point each person’s unique biochemical weaknesses. The scores in each category of the questionnaire are compared only to the person’s overall state of health and not to any textbook standards or statistical averages (which may be totally irrelevant to the particular client you are counselling).

This manual, Assessing Biochemical Individuality, is intended for use by health care practitioners. It provides the background information needed to interpret and make sound recommendations based on each client’s unique responses to the Nutri-Body® Questionnaire.

Copies of this manual and Nutri-Body® Questionnaires are available from:

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Each of Us is Unique

*Biochemical individuality* is the term that denotes how we all differ nutritionally. We do need the same food factors (e.g., protein, fats, minerals, vitamins, fibre, etc.) – but we do not all need them in the same proportions or from the same sources. Our ability to digest, absorb and assimilate nutrients varies widely from person to person. We have internal organs that differ in efficiency and in their need for specific nutritional support. Some of us have unusually high needs for one or more factors because of inborn metabolic weaknesses. Because of allergy or intolerance, many of us react adversely to foods on which others thrive. Some of us have stressful lifestyles that place high nutritional demands on our bodies.

That we all have differing nutritional needs is not a new idea. Hippocrates (circa 400 B.C.) is believed to have said, "One man's meat [i.e., food] is another man's poison." Yet, most modern approaches to nutrition ignore this wisdom of the ages. They preach a "one-size-fits-all" philosophy. Every such theory does have successful followers, but it also has many unspoken failures – people who tried it but failed to improve (or became worse).

There are many popular and often conflicting dietary beliefs in our culture. The high protein/low carbohydrate approaches conflict with those that stress low protein/high complex carbohydrates. Some recommend that 30% of total calories come from fats and oils; others as little as 10%. Some advocate poultry and fish in preference to red meat. Others insist on eliminating all flesh foods but include eggs and milk products. Yet others eliminate all animal products completely and consume only foods of plant origin. Even among the vegetarian diets there are significant differences. Some advocate combining grains/nuts/seeds with legumes to increase protein value; others do not. Some are based mainly on cooked grains; others on raw foods. Some promoters insist that you don't need vitamins or food supplements, that eating everything according to their plan will
give you everything you need. Others insist that such advice is incredibly naive, that it is impossible to get everything you need from food alone.

Many who promote a particular dietary program insist (often with religious fervour) that theirs is absolutely the only way to be healthy. What they are really saying is that their particular diet worked for them. Whether it will work for others, however, could be quite a different matter.

Some nutritional theories do recognize differences among certain groups of individuals. One of these bases its dietary recommendations on blood types, insisting that those with blood type "A," for example, should eat very differently from "O" types. Another makes different suggestions based on glandular dominance (e.g., pituitary, adrenal, thyroid). These more flexible approaches recognize that we are not all the same. They are definitely steps in the right direction, but they still oversimplify. Three, four, nine or even 16 categories are simply not enough to take into account the tremendous diversity of human nutritional needs.

What is the best approach for any particular client will not be found in a textbook or in a popular theory. The person’s body has the answers – if only you know what questions to ask it.

The nutritional needs of an individual do not conform to averages, categories or norms. If you truly want to do the best for your clients, then forget about all the "shoulds" and "should nots" you have ever read or been told about nutrition. Instead, look to the clues that the body provides.

Biochemical individuality is just a theory until we put it into practice. We need some way to find out each person’s unique nutritional status before we can know what specifically may be of benefit to that person. Nutri-Body® assessment, the subject of this manual, is the most reliable way to measure nutritional status. It can pinpoint nutritional inadequacies that other methods may miss.

Long before any disease presents itself, there are indications that things may not be working as well as they used to. These may merely be pesky little discomforts and inconveniences – things that we take for granted, not realizing that nutrition may be involved.

One can have a “clean” medical bill of health. There may be no abnormal medical tests, yet things do not feel quite right. Energy may be low, there may be mild aches or pains somewhere, thinking
appears "fuzzy," fingernails break easily, skin is dry, hair lustreless – and so on. All of these signs can relate to nutritional imbalances.

Researchers have found that certain changes take place in the body when it gets too little (or too much) of a given nutrient. By studying this "body language" one can determine deficiencies (or excesses) of specific vitamins, minerals, protein and other factors. By studying this "symptomatology" one interprets bodily signs to find underlying causes. It is especially helpful at finding subclinical conditions that do not show up on conventional laboratory tests.

Nutri-Body® appraisal involves your client in the evaluative process. It provides valuable information to help build and maintain health – and enables one to take corrective action before little problems become big problems. It may be used by itself or in addition to other forms of medical or nutritional testing.
Laboratory Tests

There are no totally reliable laboratory tests for determining nutritional status. Some blood tests, for example, may be indicators for advanced nutritional disease states. None of them, however, can detect the beginning stages of marginal deficiencies – the time when it would be ideal to correct small problems before they become large ones.

There are at least four reasons why it is not a good idea to use laboratory tests in your nutritional practice: (1) they are not very reliable, (2) they are expensive, (3) they treat the client as an object rather than as a participant, and (4) it may not be legal for you to use them. This last point is critical. Unless you are a physician or have a licence to operate a specimen collection centre, you may run afoul of regional laws if you take any specimens from the human body – including blood, urine, hair or saliva. [For more details consult How to Give Nutritional Advice Legally, by David Rowland.]

X-rays, ultrasound and CAT scans are excellent tools for finding out if a particular organ is physically damaged. They cannot tell, however, that an organ that appears normal may not be working well because of nutritional inadequacies.

Blood tests measure many things, but they cannot tell the whole story -- and sometimes they are downright misleading. Why? Because the blood constantly strives to maintain a state of normalcy, and will do so right up to the point of death. It will maintain this homeostasis even at the expense of other tissues in the body. Examples: (a) Blood calcium levels may be normal even during osteoporosis; the blood needs calcium so badly it may rob bones to get it. (b) Blood levels of vitamin B-12 may be normal, even when there is not enough in cerebrospinal fluid. (c) Some people, under stress, produce a "mauve factor" which binds vitamin B-6 and zinc, making them unavailable to the rest of the body, even though blood
levels may be normal. (d) A vitamin B-12 deficiency can result in misleadingly high blood levels of folic acid. (e) There can be enough of a thyroid hormone in the blood, but not enough getting to the tissues that need it; these hormones are not primarily transmitted through the bloodstream.

Urine tests measure what the body excretes. They are even less diagnostically useful than blood tests. Variations in fluid intake can greatly affect the concentration of urinary solutes. Many nutrients have variable rates of excretion throughout the day and are highly affected by the time elapsed since the last meal. If urine tests are done on specimens collected over a 24-hour period, they may be reliable for inferring the status of chromium, magnesium and niacin. They are unreliable for inferring the status of most other nutrients.

Hair analysis is reliable for measuring levels of toxic metals, such as aluminium, arsenic, cadmium, lead, mercury and nickel. For the beneficial minerals it is less dependable. Calcium, magnesium and zinc may be high in the hair but low in bodily tissues. Phosphorus, potassium and sodium in the hair may bear no relation to either dietary intake or bodily stores. Hair analysis cannot distinguish between toxic (hexavalent) chromium and nutritional (trivalent) chromium.

**Lab tests for nutritional status produce misleading accuracy.**

*Their measurements may be precise ... but irrelevant.*
Clinical Tests

Laboratory tests are expensive, time consuming, and of limited usefulness. They are more reliable for finding the final stages of advanced disease than they are at uncovering early or sub-clinical imbalances, the very kind which are most common. Lab tests also provide a “snapshot” of what a person’s biochemistry looked like on a particular day. They are not necessarily indicative of long term trends.

Because of the above limitations, clinical tests are usually much more useful for nutritional counselling. “Clinical” refers to those tests and observations of physical signs and symptoms that can be done in an office or clinic setting. Some of these tests can even be done at home, a motivational approach that enables clients to become full participants in their own health care.

Food Intake

Analyzing what a person eats may tell you little, if anything, about what actually reaches their bodily tissues. That is the underlying flaw of dietetics – the unwarranted assumption that whatever is on your plate gets utilized by your body.

Food intake questionnaires make too many oversimplifying assumptions. They ignore the widely different densities of nutrients found in the same foods grown in different locations or processed in different ways. They also ignore the wide variations in digestion and assimilation from person to person. What we take in may have little to do with what finally reaches our tissues. Also, they assume that we are all the same. Not so. Some people may need over 100 times more of a given nutrient than standard textbooks may suggest.
There is merit, however, in having clients recall the foods that they have eaten in the last 24 hours – or in telling you what would be for them typical breakfasts, lunches, dinners, snacks and beverages. This kind of dietary recall helps you identify both nutritional and psychological patterns regarding food choices. However, *detailed analysis of the nutrient content of foods that a person eats is not a reliable indicator of nutritional status.*

**Basal Temperature Test**

Blood tests for thyroid function are flawed. They measure only the thyroid hormone in the blood, which may have no relation to the amount of hormone that actually gets to the cells which need it. As a result of this laboratory limitation, most cases of hypothyroidism go undetected. Many of your clients are affected by this serious threat to their health. If thyroid function is ideal, then one does not get cancer, heart disease, hypoglycemia, allergies, or auto-immune disorders. There is a simple but reliable test that you can have your clients do for themselves. The basal temperature test (BTT) is an effective self-test for measuring thyroid function. It is far more reliable than any thyroid blood test. That is because the BTT measures the actual result of one critical thyroid activity, namely the maintenance of body temperature. Blood tests measure only the amount of thyroid hormone circulating in the bloodstream, which may or may not be typical of how much active hormone (T3) actually gets to the individual cells that need it.

Body temperature is directly related to thyroid activity. 37°C (98.6°F) is the ideal temperature at which all of the body's biochemical reactions function most efficiently. At temperatures above or below this norm, chemical messengers become misshapen and no longer precisely fit the receptor sites they are intended to activate. A shift in temperature of only a fraction of a degree can have a significant effect on the degree of "fit" between enzyme and substrate, neurotransmitter and receptor, hormone and target cell, antibody and foreign protein. The BTT requires taking underarm (axillary) temperature, first thing in the morning before arising, when the entire body is at
complete rest. Men, pre-pubescent and post-menopausal women can take this test at any time. To eliminate the temperature fluctuations that accompany one's cycle, menstruating women need to do the BTT on the second and third mornings after their flow starts.

To do the BTT, place a liquid-type clinical thermometer, well-shaken down, by the bedside upon retiring. Upon awakening and before stirring from bed, place the bulb of the thermometer under the armpit and hold it there for 10 minutes. Record the reading on two consecutive days. A range of from 36.6°C (97.8°F) to 36.8°C (98.2°F) suggests normal thyroid function. Temperatures below 36.6°C (97.8°F) indicate low thyroid function (hypothyroidism). Those above 36.8°C (98.2°F) indicate an overactive thyroid gland (hyperthyroidism).

For small children who are unable or unwilling to remain still for 10 minutes, the BTT can be done by taking the rectal temperature for two minutes. Normal rectal temperature is from 37.1°C (98.8°F) to 37.3°C (99.2°F).

The BTT, as described above, is the most stable, repeatable way to measure the effect of thyroid activity on body temperature. Under-the-tongue readings are readily affected by sub-clinical inflammations, such as chronic sinusitis. Daytime readings may be influenced subtly by physical activity, tension, stress and the amount and timing of food consumed. Readings taken at inappropriate times during the menstrual cycle may be misleading.

In the absence of starvation (which reduces body temperature) and acute fever (which raises it), the BTT is the most effective single measurement we have for finding thyroid dysfunction. If used alone, it is probably over 85 per cent reliable. If combined with symptom surveys, however, reliability approaches 100 per cent. In other words, if a person has both a low BTT reading and symptoms of low thyroid function, then hypothyroidism is almost certain – regardless of what any laboratory test may suggest.

A close approximation to the BTT can be made by taking oral temperature readings at least four times per day, between the hours of 10 AM and 5 PM. At the end of the day, average the readings. The average daytime temperature should be 37°C (98.6°F) or slightly above. If below 37°C (98.6°F), hypothyroidism is strongly suggested. Average temperatures that are consistently above 37.2°C (99.1°F) suggest either hyperthyroidism, fever caused by infection, or
in a menstruating woman may indicate that she is ovulating. Because oral temperatures taken during the day are not strictly indicative of basal metabolic rate, it is necessary to average a series of routine readings over several days in order to reduce the possibility of extraneous influences.

**Blood Pressure**

From a legal perspective, it may be risky for you to take blood pressure readings for your clients. It is, in most jurisdictions, considered to be a procedure whose sole purpose is to diagnose disease. Unless you are also a medical practitioner, you are not legally permitted to diagnose.

Blood pressure monitors, however, are now in the public domain. They are readily available for home use from pharmacies and department stores. If any of your clients tell you that they have been diagnosed with high blood pressure, it would be most responsible (and perfectly legal) for you to recommend that they buy and use a home monitor. By taking their own blood pressure routinely, your clients can discover for themselves which factors in their daily life (nutritional or psychological) may be contributing to their hypertension.

Most cases of high blood pressure are labelled by doctors as being “essential” hypertension, meaning “without apparent cause.” Most causes of essential hypertension, however, are either caused or aggravated by hidden allergies or sensitivities to common foods.

Anyone whose high blood pressure does not respond to conventional treatments can usually bring it down to normal range within five days or less by fasting. In the eliminating of all food, the problematic foods causing the hypertension have been avoided, allowing the body to normalize itself.

There are less drastic ways than a total fast to discover the food-hypertension connection. Some substances are more likely culprits than others (e.g., caffeine, sugar, tobacco, alcohol). These should be eliminated first. If blood pressure has not normalized itself within five days, then it is time to look for other offenders. That is where the home monitor comes in. Suggest that your client take BP
readings on rising, before each meal, and at one and two hour intervals after eating. Record the readings. If they increase significantly after certain meals, then look for common patterns in the foods eaten. Be prepared for some surprises. Many cases of hypertension are correlated with the consumption of oranges, wheat, and the nightshades (tomatoes, potatoes, peppers, eggplant, paprika, cayenne, chili, tobacco) – depending on one’s unique sensitivities. [For further details about food allergies consult One’s Food is Another’s Poison, by David Rowland.]

That home blood pressure monitor is also useful for measuring low adrenal function (hypoadrenia). To perform the postural (orthostatic) blood pressure test, have your client take her blood pressure at first while sitting down and then again immediately after standing up. Under normal circumstances, there should be an increase in the systolic (maximum) blood pressure reading of from 4 to 10 mm. Hg standing as compared to sitting. If this test does not produce an increase in blood pressure, or if results in a drop, then low adrenal function is highly suspect. This test works because it is the adrenal hormones that cause blood pressure to overcompensate temporarily for a quick change in body position from sitting to standing. Without adequate adrenal hormones, there will either be no change in blood pressure or a drop. The greater the drop, the more seriously underfunctioning the adrenal glands are likely to be.

**Nutri-Body® Assessment**

Nutri-Body® analysis is a systematic way of surveying a person’s unique array of symptoms to discover possible nutritional causes. It is a practical way of assessing nutritional status that relies on a unique method of measurement that is both approximate and reliable. It can detect deficiencies and imbalances long before they show up on laboratory tests.

Nutri-Body® assessment relies on questionnaires that ask each person about her bodily and emotional complaints. Each symptom listed on the questionnaire is one documented by scientific study or authoritative text to be related to a particular deficiency, excess or
imbalance. Some of these symptoms may also have other possible causes unrelated to nutrition. Therefore, the questionnaire must also be able to measure consistency. In other words, (a) the more often or more severe a particular symptom is, the more likely it is related to the nutrient in question, and (b) the more symptoms a person has that are related to a particular nutrient, the more likely it is that there is a genuine need for it.

Nutri-Body® analysis is the *most useful assessment tool available to nutritional practitioners*. It provides useful information by itself, or it can be used in conjunction with other methods of analysis. It lets the client participate in his assessment. It can be re-done at regular intervals (e.g., every six weeks) to measure progress and change.

*Nutri-Body® analysis is an approximate and reliable method of measurement. When it comes to health, it is far better to be approximately right than precisely wrong.*
The Nutri-Body® questionnaire takes about 25 to 40 minutes to complete. It asks some 750 questions about symptoms relating to nutritional imbalances. These questions are grouped by specific category, for ease in interpretation.

There is some repetition. Sometimes the same (or very similar) question appears in more than one category. This is for the purpose of enabling you to interpret the results by visually scanning the questionnaire. If the duplicate questions were eliminated, the only way you could analyze the results would be by computer.

In completing this kind of appraisal, the client is reminded of many bodily signs that may have been taken for granted for a long time – not realizing that nutrition could be at fault – and not thinking to mention them to a health care practitioner. This form of analysis helps you both to plan nutritional programs for your clients and to monitor their progress. Changes usually happen slowly. On a day-to-day basis one may not notice much difference at all. But if you repeat the same bodily appraisal at regular intervals (e.g., every six weeks), you may see dramatic changes through time.

All of the questions are based on what your client's body is experiencing right now, with the foods and supplements presently taken. If everything the person is doing nutritionally is just fine, then there will be very few (if any) questions that apply. On the other hand, if what she is doing does not meet her needs, the analysis will show it.

This is a non-judgmental analysis. It does not preach any "right" or "wrong" way to eat, nor does it promote any particular theory of nutrition, nor does it lump your client into any "category." It simply demonstrates the likely effects of present dietary habits and makes suggestions for constructive change.

Some bodily signs relating to specific nutrients may have other possible causes. Nevertheless, consistent patterns can be significant.
For example, there may be no significance to having only one of 10 possible bodily signs relating to a specific deficiency. If someone has six of them, however, it is much more likely that she is not getting enough of that nutrient for her particular needs.

**Drug Reactions**

Prescription drugs have side effects. If the client is taking medication, its possible side reactions (rather than faulty nutrition) could be the cause of significant bodily symptoms.

Pharmacists are experts about drugs and are usually happy to answer questions in this regard. Your local pharmacy may also be a source of some consumer books that are very helpful, such as *Understanding Canadian Prescription Drugs*, *About Your Medicines*, and *The Essential Guide to Prescription Drugs*.

Common side effects to drugs include: depression, hallucinations, confusion, memory loss, impaired thinking, dizziness, falling, skin rash, incontinence, parkinsonism, involuntary movements, diarrhea, constipation, fatigue, headache, numbness, blurred vision, joint pain, fainting, swelling of hands and face, nausea, insomnia, double vision, flushing, anxiety, rapid heartbeat, low blood count, jaundice, unsteadiness, appetite loss, agitation, fever, high or low blood pressure, acne, impotence, cataracts, slurred speech, weakness, heartburn, seizures, muscle rigidity, hair loss, urine retention, tremors and rage.

If high scores in certain areas of the survey are caused by drug side effects, then nutritional recommendations based on those scores may help to ameliorate the symptoms but to not eliminate the cause. This is a delicate matter for you to handle, from a legal perspective. Unless you are also a medical doctor, you must never advise a client to stop taking any prescription medication. You may, however, suggest that the client ask her pharmacist for a list of all possible adverse reactions to the medications she is taking. With this information, the client will be better prepared to consult her doctor for alternatives and to make her own informed choices. [For a full explanation of what you may and may not say legally, read *How to Give Nutritional Advice Legally*, by David Rowland.](#)
Scoring the Questionnaire

For each statement on the form that applies, place the number 1, 2 or 3 in the brackets beside it. Use 1 to indicate "sometimes" or "mild." Use 2 to indicate "often" or "moderate." Use 3 for "very often" or "severe." In other words, rank how each statement affects the person, on a scale of 1 to 3.

If a statement does not apply, skip over it. Do not agonize. "If in doubt, leave it out." If not sure if the statement applies, ignore it and go on to the next. There will be enough you are sure about to provide meaningful information.

At the end of each section, add all the number 1s 2s and 3s beside the statements and place this total in the brackets at the bottom. Then multiply this total by the number beside it, to yield the score for that section. Each of these "scores" is simply a weighted number used for comparing to the same person’s "scores" in other sections.

When the entire questionnaire has been completed in this manner, go back and find the section that has the highest score. Suppose this highest number is "60", for sake of example. Every section which scored in the top third of this number (e.g., from 40 to 60) will be almost certainly due to nutritional imbalance of the factor involved. Every section which scored in the middle third (e.g., from 20 to 40) will be one that is probably due to nutritional imbalance of the factor involved. Every section which scored in the bottom third (e.g., from 0 to 20) will only possibly be due to the nutritional factor in that section. In other words, some of the lower scores may have causes other than faulty nutrition.

This form of weighted scoring is a very reliable method of approximate measurement. It focuses your attention on what is most important. If the most significant balances are corrected, then all of the others will tend to correct themselves.

The simplicity of the Nutri-Body® questionnaire makes it cost and time effective. You can evaluate it in a few minutes, without the expense or delay of having to have it processed by computer.

You can give the Nutri-Body™ questionnaire to your client at his first visit and have him fill it out and bring it back to the second
appointment. It can also be repeated at regular intervals, as a confirming measure of progress.

The more you know about your client’s unique nutritional status, the more help you can be to that person. Nutri-Body™ analysis can give you valuable information either completely on its own or as a complement to other types of analysis that you may do.

When the most significant imbalances are corrected, lesser ones tend to correct themselves.

It is very important to stratify the scores into top third, middle third and bottom third. You want to concentrate your efforts where they will yield the most results. You don’t want to overload the client’s body with nutritional support that is not needed. You don’t want to overwhelm the client with a program that is too arduous or unnecessarily expensive to follow.

The most effective strategy is to completely ignore all scores that fall into the bottom third. Don’t even mention them to the client. These are the scores that may have causes other than faulty nutrition, or be what statisticians call “chance” occurrences.

Concentrate most of your efforts on those scores in the top third – and pay some attention to those in the middle third. Doing so will yield the greatest results in the shortest time. Impress upon your client that those in the top third are the most significant and require the greatest attention on her part. Make it clear that those in the middle third are also important if she is willing and able to “go the distance.” If, however, she has limited funds and still wants meaningful results, then she needs to do whatever is required to help her body correct those imbalances in the top third scores.
The Sections

Each section on the Nutri-Body® questionnaire relates to a specific nutritional imbalance, as follows:

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<th>Water</th>
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<th>Vitamin B-2</th>
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<tbody>
<tr>
<td>A</td>
<td>Fibre</td>
<td>G</td>
<td>Niacin/Niacinamide</td>
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<td>A</td>
<td>Essential Fatty Acids</td>
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<td>Protein</td>
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<td>Low Stomach Acid</td>
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<td>High Stomach Acid</td>
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The relative scores in each of the sections give an approximate ranking of the importance of each possible imbalance.

Intermediate Nutrients

There are no unique symptoms relating to deficiencies of intermediate nutrients. Thus, they have necessarily been omitted from this questionnaire. Intermediate nutrients are the ones the body makes itself, internally, if it gets enough of the primary nutrients.

Examples of intermediate nutrients include co-enzyme Q10, DHEA, gamma linolenic acid (GLA), L-carnitine, glutathione, melatonin, glucosamine, lipoic acid, phosphatidylserine, and S-adenosylmethionine (SAM). Although supplements of these substances may have beneficial therapeutic effects in the short term, to know when to use them is a matter of judgment rather than measurement. In the long term, however, if all primary nutrients (i.e., the ones that must come from external sources) are supplied in ample amounts, then supplementing with the intermediates is usually unnecessary.

Nutri-Body® analysis is an aid to your judgment, not a substitute for it. The numbers assigned to each score imply an order of importance. They are giving you likelihoods, not absolutes.
Interpreting the Results

**Macronutrients (A)**

A.1 to A.4 list the deficiency symptoms of those nutrients our bodies require in substantial amounts. A.5 to A.8 lists those concerns for which certain individual amino acids (components of protein) may be beneficial as supplements, taken between meals, on an empty stomach.

**A.1 Water**

This section lists early warning signs of dehydration. Many people are dehydrated and don’t know it, either because they don’t drink enough water or because they take diuretics or consume excess amounts of caffeine and/or alcohol. Water is the medium in which all biochemical reactions take place in the body. It is the means by which the body flushes itself of excess toxins. It is required in abundance for the health of the kidneys.

Ideally, one needs to consume from two to three litres of purified water daily. Some of this could be in the form of herbal, caffeine-free teas or diluted, unsweetened juices. If, however, caffeinated or alcoholic beverages are consumed, then the amount of purified water needs to be increased accordingly. Drinking an appropriate amount of liquid may bring on the urge to urinate every two hours or so during the day - a healthy but not necessarily convenient frequency.

**A.2 Fibre**

Most western diets lack sufficient fibre. The human colon is convoluted in shape and works best when it is full of water and indigestible plant fibre. A high score in this section suggests that one needs to increase one’s daily intake of 100% whole grains, legumes, vegetables, nuts, seeds, and fruit.
Finely powdered **psyllium hulls** make an excellent fibre supplement – one rounded tablespoon mixed in a large glassful of water, once or twice daily, as needed. Psyllium is a bowel normalizer. It helps to speed up transit time if too slow (e.g., constipation), or slow it down if too fast (e.g., diarrhea).

Many people are constipated without realizing it. Having a "regular" bowel movement every day does not give the whole picture. What one passes today could be from a meal eaten three days ago. To find out for sure, have your client eat some beets. Time how long it takes for the red stain to completely disappear from subsequent bowel movements. If it takes longer than 24 hr., he is constipated.

Stubborn, chronic constipation may be caused or aggravated by low thyroid conditions (section J.6) or low stomach acid (B.1).

No one can be truly healthy with a stagnant colon. Toxins and putrefactive byproducts are reabsorbed into the body and contribute to many disease processes. Colon cleansing with a specially formulated **herbal fibre blend** is highly recommended – e.g., one that combines psyllium, pectin, peppermint, acidophilus, garlic, guar gum, papaya, dandelion, red raspberry, elder bark, red clover, senna, ginger, buchu, cascara sagrada, burdock, buckthorn, yellow dock, rhubarb, cinnamon, barberry and plantain.

### A.3 Essential Fatty Acids

Essential fatty acids (EFAs) are required to build cell membranes and hormones. They are an incredibly important part of one’s immune system. They have no substitute. If the diet does not provide enough, the body cannot make do with anything else.

The safest dietary sources of EFAs are butter, olive oil, peanut oil, and avocado oil – plus the naturally occurring fats in fish, eggs and poultry – plus the naturally occurring oils in fresh, raw almonds, walnuts, sunflower seeds and pecans. Avoid polyunsaturated vegetable oils (e.g., safflower, sunflower, soy, corn, sesame). Regardless of how naturally these oils may have been processed, they are chemically unstable and can break down in the body to produce excess levels of free radicals, which are causative factors in heart disease and cancer. Especially avoid deep fried foods and rancid fats and oils of all kinds.
Organic flaxseed oil makes an excellent EFA supplement – especially if it is sealed in dark gelatin capsules so that it is never exposed to the air. One to three capsules daily are all that most people may require.

A.4 Protein
All of the conditions in this section can be caused by insufficient protein. Every tissue in the body is made from protein. Without protein, the body cannot make hormones, enzymes or antibodies. The immune system may suffer. Protein is also necessary to regulate fluid pressures and the proper alkalinity of the blood. There is no substitute for protein. The body cannot make it from anything else.

If one is eating generous amounts of protein daily but still has a high score in this section, it may be because of faulty digestion. If that is the case, then her score under Section B.1 (underactive stomach) would likely also be high.

Since there is no substitute for protein, the safest approach is to err slightly on the side of too much. The most concentrated sources of protein are animal source foods (e.g., eggs, yogurt, fish, poultry.)

Plant sources are not as concentrated and need to be combined to yield the high quality protein your body requires every day. Legumes (e.g., soy, beans, peas, peanuts, lentils) must be combined with nuts, grains or seeds at every meal. (E.g., beans + rice, lentils + rice, tofu + noodles, soy milk + oatmeal, pea + barley soup, chickpeas + sesame seeds, refried beans + tortilla, peas + corn). Plant proteins not combined in this way are largely wasted to the body.

The most cost-effective way to get protein is from food. Protein supplements are expensive. Convalescents, athletes and bodybuilders, however, may benefit from such supplements. So may those on limited, elimination-type diets who are trying to track down hidden food allergies. The most efficient supplementary source of protein is pre-digested (hydrolyzed) lactalbumin. It is most helpful if the protein supplement also includes indigestible fibre, since pure protein tends to be constipating.

A high score in the protein section – regardless of what kind of diet is being followed – strongly suggests the need either to increase protein intake or the body's ability to utilize protein, or both.
A.5  **Lysine**
Those eating a lot of grains may not be getting enough lysine for full protein utilization. Adding more legumes (beans, lentils, chickpeas) can increase dietary lysine, provided one’s digestive system is up to the task.

Lysine as a supplement is available in 500 mg. capsules from U.S. sources. May be taken with meals if the purpose is to enhance the protein quality of the diet. For therapeutic purposes Lysine is best taken between meals on an empty stomach.

A.6  **Methionine**
Methionine is low in legumes, peanuts and soybeans. Good dietary sources are eggs, yogurt, fish, chicken, liver, pumpkin seeds and sesame seeds. Methionine is also a powerful detoxifying agent and is included in the *Arterial Cleansing Formula* (page 50) and the *Heavy Metal Detox Formula* (page 51).

A.7  **Phenylalanine**
Phenylalanine is usually well supplied from diets that are adequate in protein. Some individuals, however, may have an unusually high requirement for phenylalanine or may otherwise benefit from taking extra. Supplements of phenylalanine are available in 500 mg. capsules (from U.S. sources). Best taken between meals, on an empty stomach.

A.8  **Tryptophan**
Tryptophan is low in legumes, corn and rice. Abundant in turkey and milk. Available in supplement form as L-5 Hydroxy-Tryptophan, in 50 mg. capsules. Best taken between meals.
Digestive Imbalances (B)

High scores in this area deserve special attention. If digestion is not optimal, the body cannot fully utilize nutrients from both food and supplements. Any support you can give that will bring down scores in this area will also tend to bring down scores in other areas. [For full explanations of digestive weaknesses, see Digestion: Inner Pathway to Health, by David Rowland.]

B.1 Low Stomach Acid

A high score in this section suggests that the stomach is not producing enough hydrochloric acid (HCl) and enzymes to digest foods properly. Such underactivity is often accompanied by constipation and poor mineral absorption.

It is important not to combine sugars with proteins, nor sugars with fats, at the same meal. (Examples: steak and pie, orange juice and eggs.) That is because sugars are digested in the intestine. If eaten alone they pass through the stomach in minutes. Proteins and fats, however, need to stay in the stomach for 2 1/2 to 4 hours. If sugars and proteins/fats are eaten at the same time, the stomach either holds on to the entire mass too long or releases it too soon, causing putrefaction, gas and bloating. A young person with ample hydrochloric acid may get away with unwise food combinations, because HCl neutralizes the byproducts of putrefaction. The older we get, however, the less HCl our stomachs produce and the more we need to be careful how we combine our foods.

Consuming fruits, juices and other sweets one half hour before a meal (as an appetizer) or on an empty stomach, three hours after a meal (as a snack) is sometimes all that is necessary to clear up digestive disturbances. If not, then a broad spectrum digestive aid is needed – one containing betaine hydrochloride (HCl), pepsin and papain (see page 54). A formula such as this can be taken as needed with meals. Start with one tablet per meal and gradually increase until there is no more digestive discomfort. Larger, heavier meals usually require more tablets than lighter ones. (Soups/salads may require none.) A little experimentation is often very helpful. Too
much HCl can cause a burning sensation. If that happens, back off by one tablet.

**B.2 High Stomach Acid**
Eliminate coffee, tea, colas, alcohol, tobacco and concentrated sugars/sweets of all kinds. Increase dietary fibre and dietary protein. Eat frequent small meals throughout the day. Raw cabbage juice is very healing for stomach ulcers, as is vitamin A (40,000 IU daily).

**B.3 Liver/Gall Bladder**
These signs indicate that there is not enough bile getting into the duodenum when it is needed. Bile is needed to break down large fat globs into tiny droplets, so that the fat-splitting enzymes from the pancreas can work on them. Without enough bile, fats and minerals combine in the gut to form insoluble soaps – often causing constipation and mineral deficiencies. Bile also has a sterilizing effect on putrefaction in the gut.

The symptoms in this section can be corrected by taking supplementary digestive enzymes containing **bile** and **pancreatin** (*see page 54*) with each meal that contains any significant amount of fat. If your gall bladder has been removed, then this form of supplementation will be most beneficial.

Gallstones can also create the symptoms in this section. Many people have gallstones without knowing it. These are stones of solidified cholesterol that plug the gall bladder and prevent bile from flowing as needed. To get rid of gallstones, see "gall bladder flush" on page 40 of this manual.

**B.4 Intestinal Malabsorption**
A high score in this section usually means that one’s body does not absorb sufficient fat-soluble vitamins (e.g., A, D, E) even when intake is high. B-12 and folic acid are often poorly absorbed as well.

Hidden food sensitivities can both cause and aggravate intestinal malabsorption. Lactose and gluten intolerances are the usual suspects, although almost any food could
be involved, depending on one's unique biochemistry. The most likely culprits, however, are (a) milk products (milk, cheese, cottage cheese, ice cream, yogurt) (b) cereal grains (wheat, rye, oats, barley), (c) refined and concentrated sugars (white sugar, brown sugar, raw sugar, sucrose, maple syrup, honey, molasses, corn syrup), and/or (d) the nightshades (tomatoes, potatoes, peppers, paprika, eggplant, cayenne, tobacco). Whenever food sensitivities are involved, complete relief is not possible until all of the offending foods are identified and eliminated from the diet completely. [See “Tracking Down the Culprits” in One’s Food is Another’s Poison.]

B.5 Lactic Bacteria

Lactic bacteria are important to intestinal immunity. They also improve digestion by stimulating intestinal peristalsis and hindering the proliferation of harmful microorganisms. Lactic bacteria are provided in the diet by fermented foods (e.g., yogurt, kefir, cultured buttermilk, sauerkraut, pickles, olives, tempeh, miso).

Lactobacillus acidophilus is the most important and most stable of the lactic bacteria in the gut. It is survives in both acid and alkaline environments and has the potential to inhibit at least 26 different kinds of harmful bacteria. L. acidophilus capsules can replace beneficial intestinal flora that have been displaced or destroyed by antibiotics, candida (yeast) infections or diarrhea.

Excesses (C)

This area focuses on the signs of overdoing a number of dietary and lifestyle stressors. All of these factors add unnecessary stress to the body - some people’s bodies are better able to handle this stress than others.

C.1 Sugar

These are the signs of consuming too much dietary sugar, regardless of one’s ability to metabolize it. (Those who have difficulty
metabolizing sugar tend also to score high on Section K.4, Hypoglycemia.) The human body was designed to consume only foods from nature, in which concentrated sugars are relatively scarce. Sugar goes by many names: white sugar, brown sugar, raw sugar, maple sugar, maple syrup, corn syrup, honey, molasses, sucrose, glucose, dextrose, fructose, levulose, lactose, etc. None of these are important to a healthy diet. Some may be tolerated only as a rare, occasional treat, depending on each person’s unique biochemistry.

C.2 Sodium (Salt)
Decrease use of table salt, salted foods, MSG and antacids. Increase dietary potassium. Use a salt substitute containing a 60:40 ratio of potassium to sodium.

C.3 Caffeine
Avoid coffee, black tea, chocolate and cola drinks. The Stress Formula (page 51) can help to reduce caffeine cravings by helping the body to normalize its blood sugar levels.

C.4 Chlorine
Avoid drinking chlorinated water or bathing or swimming in it. Use reverse osmosis or otherwise purified water for drinking and cooking.

C.5 Fluoride
Avoid fluoridated drinking water, fluoridated toothpastes and dental fluoride treatments. Drink and cook only with reverse osmosis or otherwise purified water.

C.6 Nicotine
Stop smoking. The Stress Formula (page 51) can reduce cravings by helping the body to normalize its blood sugar levels. Vitamin C to bowel tolerance helps rid bodily tissues rid of nicotine.
Note: On rare occasion, someone who doesn’t smoke will receive a high score in the “nicotine” category. If this should happen, treat it as a statistical anomaly – either occurring by “chance” or by similarity of symptoms to those of other causes.

Macro Minerals (D)

This area focuses on the deficiency signs of minerals that our bodies require in relatively large amounts. Balance in mineral intake is very important. Deficiencies of some minerals may create excesses of others, and vice-versa.

D.1 Calcium
Calcium and magnesium deficiency states are closely related. Magnesium is needed to keep calcium in solution, so that it can be readily utilized by the body. Food sources of calcium include yogurt, cheese, milk, soybeans/tofu, sardines, salmon, peanuts, walnuts, sunflower seeds, dried beans, green vegetables, almonds, beef liver. Supplementary range: 400 to 1,200 mg. daily.

D.2 Magnesium
Food sources: figs, lemons, grapefruit, yellow corn, almonds, nuts, seeds, dark green vegetables, apples, raw wheat germ, soybeans, seafood, bran. Supplementary range: 500 to 800 mg. daily.

D.3 Potassium
Potassium is required daily in very large amounts. Fortunately, it is readily available from a wide variety of foods, especially those that are natural and unprocessed. Food sources: bananas, apricots, citrus fruits, cantaloupe, tomatoes, watercress, green leafy vegetables, mint leaves, sunflower seeds, potatoes, dates, figs, peaches, peanuts, raisins, fish, seafood, whole grains. Supplementary range: 400 to 700 mg. daily.
**D.4 Iron**
Food sources: liver, kidney, heart, red meat, dried peaches, egg yolk, oysters, nuts, beans, asparagus, oatmeal, fish, poultry. Supplementary range: 18 to 22 mg. daily. Organic forms of iron (e.g., ferrous fumarate, ferrous gluconate) are non-constipating and readily utilized by the body.

**D.5 Manganese**
Food sources: nuts, green leafy vegetables, peas, beets, egg yolks, whole-grains, bananas, bran, celery, legumes, liver, pineapple. Supplementary range: 15 to 22 mg. daily.

**D.6 Zinc**
Food sources: steak, lamb chops, wheat germ, brewer's yeast, pumpkin seeds, sunflower seeds, eggs, ground mustard, liver, mushrooms, oysters, seafood, soybeans/tofu. Supplementary range: 25 to 95 mg. daily. Lower levels are required for sexual maturation in males, for growth in youngsters of both sexes, and for general adult maintenance. Higher levels are required to provide specific support for the male prostate.

**D.7 Sulphur**
Food sources: eggs, garlic, meat, poultry, fish, legumes, soybeans/tofu. Supplement sources: L-cysteine, L-methionine, and methyl-sulfonyl-methane (MSM). Cysteine and methionine are ingredients in the Arterial Cleansing Formula (page 52) and the Heavy Metal Detox Formula (page 53).

**D.8 Silicon**
The earth’s most abundant mineral but not well provided in most diets. Food sources: unrefined grains, cereals, root vegetables. Supplementary range: 20 to 22 mg. daily.
Phosphorus

The Nutri-Body® questionnaire does not have a separate category for Phosphorus. This is for three reasons. (1) Phosphorus deficiency is exceedingly rare, given its overabundance in our food supply. (2) A phosphorus deficiency tends to correct itself when the levels of other minerals are brought back into balance. (3) The symptoms of phosphorus deficiency are confusingly similar to a number of other categories on the questionnaire, and include: fragile bones and teeth, fatigue, weakness, loss of appetite, joint pain and stiffness, confusion, low energy, and susceptibility to infections. To include Phosphorus as a separate category would thus result in too many false positives – i.e., people being assessed with a phosphorus deficiency when in fact they don’t have one.

Micro Minerals (E)

This area focuses on the deficiency signs of those minerals our bodies require in smaller but significant amounts.

E.1 Iodine
Food sources: seafood, kelp, dulse. Supplementary range: 0.5 to 1.5 mg. daily.

E.2 Chromium
Food sources: meat, shellfish, clams, brewer's yeast, whole grain cereals. Supplementary range: 220 to 333 mcg. daily.

E.3 Selenium
Food sources: garlic, wheat germ, bran, tuna, onions, tomatoes, broccoli, brewer's yeast. Supplementary range: 200 to 330 mcg. daily.
Fat-Soluble Vitamins (F)

F.1 Vitamin A
There are two dietary forms of vitamin A. Preformed vitamin A (retinol) is fat soluble and is found in animal products, such as fish liver oils, liver, eggs, butter, cheese and milk. Beta carotene is a water-soluble precursor to vitamin A that is found in plant foods, such as apricots, carrots, spinach, sweet potatoes, pumpkin, dandelion greens, collards, Swiss chard, oat flakes, cantaloupe and other green and yellow fruits and vegetables. Diabetics and those with low thyroid function may have difficulty converting beta carotene into retinol; therefore they need to get most of their vitamin A from retinol. (The healthy human liver converts three I.U. of beta carotene into one I.U. of retinol.) Beta carotene also has antioxidant properties above and beyond its ability to provide vitamin A. Supplementary range for retinol: 10,000 to 35,000 I.U. daily. Supplementary range for beta carotene, if no retinol is taken: 30,000 to 180,000 I.U. Supplementary range for beta carotene if taken in addition to retinol: 3,000 I.U. to 30,000 I.U.

F.2 Vitamin D
Sources: sunlight, cod liver oil, egg yolks, liver, herring, sardines, salmon, tuna, organ meats. Supplementary range: 400 to 2,000 IU daily.

F.3 Vitamin E
There are very few specific deficiency signs for this nutrient. It helps to protect tissues against oxidative damage, and that can benefit the whole body. Food sources: wheat germ, soybeans, broccoli, brussels sprouts, leafy greens, spinach, whole wheat, whole grain cereals, eggs, liver, organ meats, oatmeal, peanuts. Supplementary range: 400 to 800 IU daily
Water-Soluble Vitamins (G)

G.1 Vitamin B-1
Also called thiamine. Food sources: brewer's yeast, brown rice, rice bran, whole wheat, wheat bran, milk, oatmeal, peanuts, fish, meat, nuts, organ meats, poultry, wheat germ, sunflower seeds. Supplementary range: 50 to 100 mg. daily.

G.2 Vitamin B-2
Also called riboflavin. Food sources: liver, kidney, milk, cheese, brewer's yeast, leafy green vegetables, fish, eggs, almonds, nuts, poultry, wheat germ, brussels sprouts. Supplementary range: 50 to 100 mg. daily.

G.3 Niacin, Niacinamide
These are two forms of what is sometimes known as vitamin B-3. Food sources: liver, lean meat, whole wheat, brewer's yeast, kidney, wheat germ, fish, eggs, roasted peanuts, chicken/turkey breast, avocados, dates, figs, prunes, seafood, rhubarb, milk products. Supplementary range: 50 to 350 mg. daily.

G.4 Pantothenic Acid
Food sources: meat, eggs, whole grains, wheat germ, bran, kidney, liver, heart, green vegetables, brewer's yeast, nuts, chicken, legumes, salmon, mushrooms, elderberries, oranges. Supplementary range: 50 to 1,400 mg. daily.

G.5 Vitamin B-6
Also known as pyridoxine. Food sources: brewer's yeast, wheat bran, wheat germ, liver, kidney, heart, cantaloupe, cabbage, milk, eggs, beef, green leafy vegetables, whole grains. Supplementary range: 50 to 110 mg. daily.
G.6 **Biotin**  
Food sources: nuts, fruits, brewer's yeast, beef liver, organ meats, egg yolk, milk, kidney, brown rice, wheat germ, legumes, soybeans, lentils, mungbean sprouts, whole grains. Supplementary range: 120 to 220 mcg. daily.

G.7 **Vitamin B-12**  
Also known as cobalamin. Food sources: liver, kidney, muscle meats, fish, cheese, milk products, eggs. There are no reliable vegetarian sources of this vitamin. Supplementary range: 300 to 5,000 mcg. daily. Because this vitamin is poorly absorbed from the intestinal tract, B-12 injections are sometimes required.

G.8 **Folic Acid**  
Food sources: dark green leafy vegetables, carrots, torula yeast, cantaloupe, apricots, pumpkin, avocado, beans, whole wheat, dark rye flour, milk products, organ meats, oysters, salmon, tuna, liver, brewer's yeast, dates. Supplementary range: 1 to 2.2 mg. Because folic acid can mask an underlying vitamin B-12 deficiency, it is wise to supplement with both of these nutrients at the same time.

G.9 **Vitamin C**  
Also known as ascorbic acid or ascorbate. Food sources: citrus fruits, berries, green and leafy vegetables, tomatoes, cabbage, cauliflower, broccoli, potatoes, sweet potatoes, cantaloupe, green peppers, papaya. Supplementary range: 1,000 to 10,000 mg. daily.
Other Nutrients (H)

H.1 Choline
Choline is a lipotropic factor. Food sources: brewer's yeast, fish, liver, brain, heart, legumes, soybeans, peanuts, wheat germ, egg yolks, green leafy vegetables, whole grains. Supplementary range: 120 to 440 mg. daily.

H.2 Bioflavonoids
A broad family of biologically active, crystalline compounds found in plants with antioxidant activity that supports and enhances the action of vitamin C. Includes lemon bioflavonoids, rutin, hesperidin, anthocyanidins. Food sources: fruits, berries, vegetables, nuts, seeds, grains, legumes. Supplementary range: 100 to 880 mg. daily.

Toxic Metals (I)

I.1 Aluminum
Aluminum does not belong in the human body, not in any amount. Avoid aluminum cooking vessels, foods or beverages in aluminum cans, aluminum foil and aluminum (alum) containing substances, such as baking powder, buffered aspirin, antacids, antiperspirants, processed cheese. Heavy Metal Detox formula (page 53) can help the body to rid itself of excess aluminum.

I.2 Cadmium
Cadmium is an environmental poison. Avoid exposure to solder, automobile exhaust and cigarette smoke. Heavy Metal Detox formula (page 53) can help the body to rid itself of cadmium.
I.3 Copper Excess
Avoid drinking water that passes through copper pipes or is heated by copper elements in electric kettles. Supplementing with any minerals that may be deficient (e.g., calcium, magnesium, zinc) can help to displace excess copper.

I.4 Lead
Lead does not belong in the human body. Avoid exposure to exhaust fumes, cigarette smoke, solder, and food in tins with solder seals. Heavy Metal Detox formula (page 53) can help the body to rid itself of excess lead. Supplementing with calcium and magnesium (if they are deficient) can help to displace lead in the bones. Lead can be reduced in the digestive tract by foods rich in pectin (e.g., apples, oranges, bananas, cherries, grapes, pineapple, tomatoes, peaches, raspberries, avocado, raisins, carob, sunflower seeds.) Apples are the richest source of pectin, and from three to six daily are needed to have a significant lead-reducing effect.

I.5 Mercury
Mercury is an environmental poison. Have old, leaky mercury-silver amalgam dental fillings replaced with gold or composite fillings – by a dentist who specializes in this kind of reconstruction. Heavy Metal Detox formula (page 53) is very effective.

Glandular Imbalances (J)

J.1 Adrenals, Underactive
Reduce concentrated sugars and sweets of all kinds. Nutrients that the adrenal glands especially require include vitamin C, pantothenic acid, potassium, vitamin E and choline. Supplementary adrenal concentrate, from 50 to 660 mg. daily provides extra support above and beyond vitamins and minerals. See also Stress Formula (page 51) and Adrenal Support Formula (page 55).
J.2 Adrenals, Overactive
Same recommendations as for # G.1 above.

J.3 Gonads
FEMALE: Nutrients that support female glandular function include vitamin E, vitamin B-6, vitamin C and adrenal and pituitary glandular concentrates. See Female Multiglandular (page 54).
MALE: Nutrients that support male glandular function include vitamin E, vitamin C, zinc, prostate and testes concentrates, and the amino acids, alanine, glycine and glutamic acid. See Men's Formula (page 53).

J.4 Kidney/Bladder
Drink 2+ litres of purified water daily – preferably by reverse osmosis. Keep the bowels moving (see section A.2 above). Nutrients that support kidney function include vitamin B-6, pantothenic acid, beta carotene, magnesium, potassium and kidney concentrate (20 to 40 mg. daily).

J.5 Pancreas
If you have a high score in this section, it would be good to get a medical diagnosis to find out if diabetes may be involved. In any event, eliminate alcohol and all concentrated sugars and sweets of all kinds. Nutrients that support pancreas function include zinc, chromium and manganese. Also see Insulin Resistance formula (page 57).

J.6 Thyroid, Underactive
Nutrients that support thyroid function include iodine, selenium, cysteine and the B-complex vitamins. The Thyroid Support Formula (page 56) is a nutritional breakthrough that supports the entire thyroid metabolism. It is especially helpful for those cases
where blood tests show adequate levels of thyroid T-4 hormone but the person has all the signs of low thyroid function, because not enough T-3 hormone is getting to the tissues that need it. [The Basal Temperature Test (page 7) is a reliable self-test that can confirm the presence of hypothyroidism.]

**J.7 Thyroid, Overactive**
Supplement with B-Complex vitamins and a multi-glandular formula (page 54). Usually supplementary iodine is beneficial to this condition, but there are a few rare cases where iodine actually worsens symptoms.

**J.8 Pituitary**
Nutrients that support pituitary function include vitamin E, the B-complex vitamins, manganese, and pituitary concentrate (from 20 to 60mg. daily).

**J.9 Thymus**
Nutrients that support thymus function include vitamins A, C, E, zinc, iodine, and thymus concentrate (from 20 to 120 mg. daily). See also Immune Formula (page 56).

**Metabolic/Systemic Imbalances (K)**

**K.1 Allergies**
The symptoms in this section are all possible reactions to hidden food allergies. A high score most probably means that allergies are involved, but it cannot tell which foods are causing the problem. They will be different for each person, because of biochemical individuality. Common offenders are milk products, wheat, chocolate, egg, orange, peanut, potato, sugar, seafood, tomato, pork and beef. Almost any food can cause a response in a sensitive
person, and the foods craved most are usually the culprits. _All_ suspect foods need to be eliminated at the same time in order to ensure results. If you are sensitive to a food, even one molecule of it can be too much. Unless you eliminate offending foods completely, no amount of supplementation may bring complete relief.

Short fasts help the body to clear itself of residues of offending foods. The **Cleansing Fast** (page 41) is very effective for this purpose.

Weak digestion may allow undigested protein molecules to enter the bloodstream, thus causing untoward reactions. The **Digestive Enzyme Formula** (page 54) can help correct this kind of weakness.

Allergies overwork the adrenal glands. When the adrenals are supported, many allergic responses diminish or disappear. See **Stress Formula** (page 51) or **Adrenal Support Formula** (page 55). [For further details about hidden food allergies, see _One’s Food is Another’s Poison_, by David Rowland.]

### K.2 Nervous System

Symptoms of this nature often subside in response to supplementation with **calcium**, **magnesium** and **potassium** -- and the **B-complex vitamins** (at least 50 mg. of each of the major B-vitamins). These kinds of imbalances may also respond to nutritional support for **Hypoglycemia** (section K.4), **Allergies** (K.1) or **Circulation** (K.3).

### K.3 Circulation

All of the bodily signs in this section can be caused by atherosclerosis, or narrowing of the arteries. This condition can be treated most successfully by nutritional means. It is important to restrict exposure to tobacco, polyunsaturated oils and rancid fats, chlorinated water, food preservatives, toxic chemicals, radiation, caffeine, refined and concentrated sugars of all kinds – and to supplement with the **Arterial Cleansing Formula** (page 52). [For details of how atherosclerosis can be reversed, see _The Nutritional Bypass_, by David Rowland.]
K.4  Hypoglycemia
Also called low blood sugar. Sugar, caffeine, tobacco and alcohol all cause blood sugar to rise immediately, but also to plummet to new low levels shortly afterward, in sensitive people. With this condition it is essential to restrict one's intake of refined and concentrated sugars of all kinds, coffee, tea, chocolate, colas and alcohol. In some cases it may also be helpful to eat four or five small meals throughout the day rather than the traditional three large ones. Supplementation needs to include vitamin C, the B-complex vitamins (especially pantothenic acid), chromium and zinc. The Stress Formula (page 51) is most beneficial in helping to restore blood sugar balance.

K.5  Intestinal Parasites
A high score in this section is suggestive of intestinal infestation by protozoans (amoeba, giardia, trichomonas) or helminths (roundworms, pinworms, hookworms, tapeworms). Suggested supplements: garlic, Lactobacillus acidophilus, grapefruit seed extract, pumpkin seed, worm seed, black walnut hulls.

K.6  Premenstrual Syndrome
The surge of female hormones renders many women hypoglycemic for part of their monthly cycle. (See section K.4 on hypoglycemia.) For women who get enough magnesium, vitamins A, C, B-1, B-2, B-6, niacinamide and pantothenic acid, PMS is not usually a problem. Supplementation with the Stress Formula (page 51), Flaxseed Oil and the Female Multiglandular (page 54) is usually very effective.

K.7  Candidiasis
Candida albicans is a fungus that is a normal inhabitant of the intestinal tract. Sometimes, however, it proliferates beyond the immune system's capacity to keep it under control and permeates other tissues of the body, where it does not belong. To treat this
condition it is necessary to restrict one's intake of refined and concentrated sugars of all kinds, baked goods, alcohol, yeast, fermented foods, mushrooms, cheese, vinegar, milk, dried fruit, malted cereals and beverages, and processed, pickled or smoked meats. Avoid antibiotics, cortisone and oral contraceptives, if at all possible. A *homeopathic* dilution of candida albicans, 30C (taken 10 drops under the tongue, three times daily) can help to stimulate the immune system to cut back on the candida overgrowth. *Lactobacillus acidophilus* capsules (up to eight per day) can help to restore the beneficial flora necessary to keep candida in check. Herbs with anti-fungal properties (e.g., *garlic*, *grapefruit seed extract*) can help to reduce the candida population in the gut.

Candida can never be completely eliminated from the gut, but it can be reduced to normal levels. If candida gets into the bloodstream, acidophilus and herbs are not usually able to reach it. *Oil of Oregano*, however, has potent anti-parasite, anti-fungal, and anti-microbial properties. Just one or two drops under the tongue, two or three times daily, can eradicate systemic candidiasis within a few short weeks.
Detoxifying

Every successful nutritional program necessarily includes two fundamental aspects: (1) detoxifying, and (2) rebuilding. Detoxifying, or internal cleansing, is the subject of this chapter. Rebuilding is discussed in the following chapters, “Dietary Guidelines” and “Recommending Supplements.”

Bodily cells both take in nutrients and discard wastes. If waste byproducts are not eliminated, they accumulate and prevent cells from receiving needed nourishment. The best diet and supplements in the world cannot help cells that are strangling in their own waste.

Reduce Internal Pollution

We typically overload our bodies by ingesting substances that were never meant to be consumed. Coffee, tea, alcohol, refined sugars, refined flour, tobacco smoke, soft drinks, drugs, chocolate, artificial colourings, preservatives, artificial flavourings, airborne pollutants – these provide little or no direct nourishment. Mostly what they do is create an overload of toxins for the body to eliminate. Even healthy food can create a toxic overload if we eat too much of it. An obvious first step to cleansing the body is to stop ingesting so many toxins.

Exercise

Regular aerobic or cardiovascular exercise stimulates lymphatic drainage. Lymph vessels are the "sewage system" of the body. Lymph fluid is the intermediary between blood and bodily cells, in which nutrients are exchanged and wastes carried off. There is more
lymph in the body than blood, but it must circulate without benefit of a heart or pump. Exercise gives the lymph nodes and vessels the "massage" they need to keep them working efficiently.

**Water**

Water provides the medium in which all biochemical reactions take place in the body. Water is needed to eliminate wastes through the kidneys and colon. Most of us do not drink enough pure water. It is a good habit to consume from two to three litres of purified water daily. A home reverse osmosis unit can ensure the purity of most drinking water.

**Healthy Colon**

The human colon is convoluted in shape. It works best when it is full of fibre. Fibre is the indigestible outer covering of plant cells. It provides no nutrients but acts like a "broom" to clean out the intestines.

Regardless of whether one follows an omnivorous or a vegetarian diet, it is wise to consume at least 60% of one’s food from plant sources (e.g., vegetables, whole grains, legumes, nuts, seeds, fruit). Animal products do not provide any fibre to the colon at all. Finely powdered psyllium is a highly effective fibre supplement.

**Mini-Fasting**

Fasting means not eating for brief periods, in order to help the body get on with its "housecleaning." By taking a short vacation from eating, the load on digestive organs is eased. This enables the liver to catch up on its blood cleansing functions.

One can, on a weekly or monthly basis, take a complete rest from food – ideally a 24 hour period in which one does not have to be very active. For this one day a minimum of two litres of purified water is to be consumed. Suggest to your client: “During this mini-
fast, if you feel tired, rest. If you feel sleepy, sleep. If you feel lightheaded, weak or hungry, then drink more water. You are completely in charge. If at any time you wish to end the fast, do so.”

The first meal upon breaking the fast should consist of fresh, raw vegetables or fruit. About two or three hours after this mini-meal, other kinds of foods can be re-introduced.

Insulin-dependent diabetics should not fast. To do so might cause their blood sugar levels to drop too dramatically. Just about everyone else can fast safely for short periods, including most hypoglycemics. (It is usually only the ingestion of concentrated carbohydrates that causes a hypoglycemic's blood sugar to drop. If nothing is consumed, then blood sugar levels tend to remain stable.)

Cleansing Fast

This is a fast to cleanse kidneys, liver and bowels -- the major eliminative organs. It may be repeated two or three times per year.

FIRST THREE DAYS: Mix 1 1/2 cups of freshly squeezed lemon juice with two litres of pure water. A little honey may be added for palatability, if desired. This is the only source of fluid and food for the day, so sip it slowly throughout the day. At least once each day, in a large glass of water, take a heaping tablespoonful of an herbal-fibre blend (containing psyllium, pectin, guar gum, peppermint leaf, garlic, papaya, dandelion root, buchu leaf, burdock root, yellow dock root, rhubarb root, cinnamon bark, barberry bark, plantain leaf).

FOURTH & FIFTH DAYS: Stop the lemon-water but continue the herbal-fibre mixture. Drink as much as wanted of the following: pure water, tomato juice, carrot juice, dilute grape juice, or other vegetable or fruit juices (except citrus).


EIGHTH DAY: Add lightly steamed vegetables to allowed foods. Continue herbal-fibre mixture.

NINTH DAY: Add raw unsalted nuts and/or seeds. Continue herbal-fibre mixture.
TENTH DAY FORWARD: Gradually return to a sound, healthful diet. Discontinue herbal-fibre mixture.

Note: 2 litres is the minimum amount of liquid each day. More may be consumed, if desired. If fresh lemons are not available, use pure, concentrated lemon juice in equivalent amounts. Use of supplements during this fast is discretionary. Vitamin C is usually of benefit at this time; other supplements may or not be.

Gall Bladder Flush

This is a time tested technique for safely removing gallstones from the gall bladder. Some clients find it easy to do. Others may find it harsh. It has a very high success rate with no known reports of injury.

For at least two weeks prior to starting this cleanse, take 2 Flaxseed Oil capsules and at least 400 IU of vitamin E for at least two weeks prior to cleanse. On the day of the cleanse, take no drug or supplements that are not essential.

- On the First Day, eat a zero fat breakfast and zero fat lunch (e.g., fruit, vegetables, whole grains, protein supplements).
- Eat nothing after 2 PM.
- Mix 3 tablespoons of Epsom salts into 3 cups of water and put in refrigerator.
- At 6 PM, drink ¾ cup of cold Epsom salt solution.
- At 8 PM, drink another ¾ cup of cold Epsom salt solution.
- At 9:45 PM, pour ½ cup (4 oz.) of olive oil into a glass. Squeeze a whole grapefruit into the glass. Mix until watery.
- At 10 PM, drink the olive oil mixture.
- Lie down immediately, lay still for 20 minutes or so, then go to sleep.
- On the morning of the Second Day (after 6 AM), take another ¾ cup of the Epsom salt solution.
- Two hours later, take the rest of the Epsom salt solution.
- Two hours after that, start to eat again. Start with fruit juice and/or fruit. Eat a light lunch. By supper time you will be feeling your usual self again.
By the end of the second day, stones should appear in the toilet bowl, mixed with feces. There may be a hundred tiny ones, a few larger ones, some fragments or perhaps only sludge. Colours range from pea green to emerald green to very dark green (almost black). Cleanse can be repeated every three weeks or so, until gallstones stop coming out (sometimes there may be over 1,000 tiny stones).

There is a theoretical risk to this procedure, although it has never actually happened in thousands of cases. A large stone might get stuck in the bile duct. If this were to happen, it would have to be removed surgically. The gall bladder itself could be saved, however -- provided that one insists on it and trusts the surgeon to obey her wishes.

Most gallstones are solidified cholesterol. The procedure makes them very soft and then squeezes them down the bile duct. Stones as large as 3/4 inch in diameter have been safely passed in this manner, without surgery. If you would like some reassurance, consult a naturopath, holistic medical doctor or nutritional practitioner who recommends this procedure regularly.
Dietary Guidelines

In some cultures, people thrive on vegetarian or near-vegetarian diets. These people are extremely healthy, with little or no degenerative disease. This fact has led many enthusiasts to proclaim that the only healthy diet is a vegetarian diet.

There are other cultures, equally disease-free, who live almost entirely on animal foods. These include the Inuit; the Masai, Sambaru and Nuer of Africa; the Kazaks of Central Asia; the Todas of India; and the Tierra del Fuegans of South America.

The common thread to both dietary extremes is what they leave out. Both groups get plenty of exercise and eat only natural foods – no refined sugar, no refined flour, no soft drinks, no artificial fats, no artificial colourings, flavourings or preservatives. If we were to exercise heavily and skip the processed foods, then we would probably be as healthy as they are – no matter what else we eat.

Each individual needs to find the diet that works best for her. In counselling others, do not limit yourself to textbooks or popular theories. Especially avoid preaching that “one-size-fits-all.” It does not matter how many people may thrive on a particular diet, it could be most unhealthy for the person sitting in front of you. Each body is unique. Use Nutri-Body Analysis to tell you how well this person is doing on her present eating plan. Then, suggest modifications based on imbalances that the analysis reveals.

Therapeutic diet and maintenance diets are very different. There are, for example, a number of low protein, low fat diets that are used therapeutically in treating arterial disease. These diets do not, however, provide enough protein and fat to keep the immune system strong. Following such a diet for too long could increase one's risk of developing cancer. The diet that helps to correct disease is not necessarily capable of keeping one healthy once the disease has been overcome.

The following guidelines will help one to plan a healthy, long term diet. They are based on the soundest of principles and include many diverse approaches.
1. Drink two or more litres of purified water daily.

2. Consume four cups of vegetables daily, preferably raw or lightly steamed. At least two cups of these should be green vegetables (e.g., spinach, lettuce, celery, green peppers, green beans, etc.)

3. Eliminate all refined sugars, refined flours, alcohol, coffee, tea, chocolate, tobacco, and processed or ground meats.

4. Do not combine concentrated sugars with proteins/fats at the same meal.

5. Ideal fat sources are butter, olive oil, peanut oil, fish oils and/or the naturally occurring fats in poultry, lean meats and/or raw nuts, seeds or avocado. Avoid polyunsaturated oils (e.g., safflower, soy, sesame, corn, etc.) Avoid deep fried foods and rancid fats.

6. Consume fermented foods regularly (e.g., yogurt, sauerkraut, tofu, miso, kefir).

7. Consume high quality protein at most meals (e.g., eggs, fish, poultry, raw milk cheese, and/or balanced legume-grain/seed/nut combinations).

8. Wherever possible, choose organic foods over their commercial counterparts.

9. Aim for the following proportions:

<table>
<thead>
<tr>
<th></th>
<th>by calories</th>
<th>by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>20-35%</td>
<td>25-40%</td>
</tr>
<tr>
<td>Fat</td>
<td>20-30%</td>
<td>15-20%</td>
</tr>
<tr>
<td>Complex Carbohydrate</td>
<td>35-55%</td>
<td>40-65%</td>
</tr>
<tr>
<td>Simple Carbohydrate</td>
<td>0-10%</td>
<td>0-15%</td>
</tr>
<tr>
<td>Refined Carbohydrate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fibre</td>
<td></td>
<td>at least 33 grams daily</td>
</tr>
</tbody>
</table>

"Complex" carbohydrates refers to natural, unrefined starches (e.g., whole grains, vegetables, legumes). "Simple" carbohydrates
refer to natural, unsweetened fruits and fruit juices. "Refined" carbohydrates refer to any food containing white flour or concentrated sugars (e.g., white sugar, brown sugar, raw sugar, corn syrup, molasses, honey, sucrose, glucose, fructose, dextrose, maltodextrin).

To be successful in counselling others, you need to speak to them where they are at. Some people are willing to leap off the high diving board before getting wet, so to speak. Others prefer to tip-toe in at the shallow end. If you don’t show the former some results quickly, you may lose them as clients. If you overwhelm the latter, they won’t be able to stick with your program.

The more quickly your clients get onto a full nutritional program, the sooner they will get results. That is because of the complex interactions among nutrients. Every link in the nutritional “chain” needs to be strong. How fast you can get each client to nutritional completeness, however, depends both on her receptivity and your skills at presentation.

Ask your clients leading questions to find out how receptive they are to making major changes. Ask how important it is to them to get results fairly quickly. Ask if there are any foods or beverages that they absolutely refuse to give up (often a clue to hidden allergies). Sometimes you may wish to give clients a small assignment at the first session (such as eliminating one class of food and/or taking one particular supplement). Depending on how well they do with it, at the second session you will have a much better idea of the pace at which you need to proceed.
Recommending Supplements

There are a few genetically strong individuals who eat whatever they like, never take supplements, yet rarely get ill. The vast majority of people, however - especially those who want to build wellness rather than simply avoid disease - need to supplement their diets with concentrated nutrients of some kind or other. [For a full discussion of why supplements are necessary, read *Food Alone is Not Enough*, by David Rowland.]

Your clients are counting on you to help them build or rebuild their health. You owe it to them (and to yourself) to recommend only the highest quality supplements that you know will deliver the results they need.

Nutritional Completeness

The most effective supplements are those that are formulated on the broad spectrum principle. These are products that combine up to 30 different nutrients into a single tablet. Not only do they support all of the links in the nutritional “chain,” they make it far easier for your clients to stick to their supplement program.

Example: There is a broad spectrum vitamin-mineral supplement that provides all of the ingredients in the Basic Formula (page 48) in five homogenous tablets. Psychologically, it is far easier to take five tablets daily from one bottle than it is to take 22 daily from 13 bottles (which is what one would have to do to match the same nutrient complex from conventional, fragmented supplements). Also, the multi-bottle approach is fraught with gaps because different bottles run out at different times, and the client usually waits until several have run out before replacing them.

You want to make sure that your clients get all of the nutrients they need for optimum health. You don’t want them to overload their bodies, overwhelm their minds, or overtax their finances by
taking more supplements than they need. You can accomplish this balance by (1) concentrating most of your efforts on the top third scores on the Advanced Nutri-Body® Analysis, (2) giving as much attention as you feel is warranted to the middle third scores, (3) totally ignoring the bottom third scores, and (4) recommending supplements that are formulated according to broad spectrum principles.

One approach that works very well is to select, for each individual, a broad spectrum vitamin-mineral supplement most appropriate to her Nutri-Body® scores, plus a broad spectrum digestive enzyme supplement (if required), and possibly a multiple glandular formula. Use this as a beginning program, even if there may still be some gaps you have not yet fully addressed. As the deepest weaknesses are strengthened, minor weaknesses tend to get stronger also. At the end of six weeks, have your client repeat the Nutri-Body® analysis. If there are any significant imbalances still remaining, you can add appropriate supplements for them at that time.

Cleansing Reactions

In the process of cleansing and rebuilding, some people may experience discomfort – such as headaches, nausea, indigestion, diarrhea or fatigue. Usually these symptoms pass in 5 to 10 days or so. They happen because toxins are temporarily being dumped faster than the body can eliminate them. Drinking more pure water and cleansing the colon (section A.2) usually helps this adjustment period to pass more quickly.

During long term healing, the body may at some time appear to relive an acute condition it had years ago – especially if the original condition had been suppressed with drugs. This healing reaction usually lasts only three or four days and is not usually accompanied by any elevation in temperature. What it means is that weak organs in the body are becoming stronger and are at last able to throw off the toxic burden that they have been carrying around for years.
Examples of Effective Supplements

The most effective supplements are those that support all of the links in the nutritional chain, leaving nothing to chance and not overdoing any single factor. Giving the body broad spectrum supplements of this nature is like treating it to a "smorgasbord," where it can pick and choose the nutrients it needs at any given time.

Nutrients work together synergistically. One may, for example, need six different ones. But those six may require nine others in order to be utilized effectively. If all are in the same formula, guesswork is eliminated.

The following are examples of holistic, broad spectrum supplements that are incredibly effective. Because of their completeness, people with different needs can benefit from the same formula. One person may respond to some ingredients, others to different ingredient combinations.

There are necessary differences among these various formulas. By comparing their ingredient lists to each profile you have discovered through Nutri-Body® analysis, you will find one or more suited to your clients’ needs. The quantity listed beside each nutrient is its suggested daily intake (unless otherwise specified). To achieve the total balance recommended, it is necessary either to piece together several fragmented supplements or to take homogeneous tablets/capsules specifically formulated to provide these nutrients in these same proportions.
**Basic Formula**
A broad spectrum vitamin-mineral formula that covers all the bases.

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A</td>
<td>10,000 IU</td>
</tr>
<tr>
<td>Vitamin D-3</td>
<td>800 IU</td>
</tr>
<tr>
<td>Vitamin E (d-alpha)</td>
<td>400 IU</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>1,500 mg</td>
</tr>
<tr>
<td>Vitamin B-1 (thiamine)</td>
<td>50 mg</td>
</tr>
<tr>
<td>Vitamin B-2 (riboflavin)</td>
<td>50 mg</td>
</tr>
<tr>
<td>Niacinamide</td>
<td>50 mg</td>
</tr>
<tr>
<td>Pantothenic Acid</td>
<td>100 mg</td>
</tr>
<tr>
<td>Vitamin B-6 (pyridoxine)</td>
<td>50 mg</td>
</tr>
<tr>
<td>Folic Acid</td>
<td>1 mg</td>
</tr>
<tr>
<td>Vitamin B-12</td>
<td>330 mcg</td>
</tr>
<tr>
<td>Biotin</td>
<td>120 mcg</td>
</tr>
<tr>
<td>Choline</td>
<td>120 mg</td>
</tr>
<tr>
<td>Inositol</td>
<td>50 mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>800 mg</td>
</tr>
<tr>
<td>Magnesium</td>
<td>500 mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>400 mg</td>
</tr>
<tr>
<td>Iron</td>
<td>22 mg</td>
</tr>
<tr>
<td>Manganese</td>
<td>15 mg</td>
</tr>
<tr>
<td>Zinc</td>
<td>25 mg</td>
</tr>
<tr>
<td>Silicon</td>
<td>20 mg</td>
</tr>
<tr>
<td>Iodine</td>
<td>0.5 mg</td>
</tr>
<tr>
<td>Chromium</td>
<td>220 mcg</td>
</tr>
<tr>
<td>Selenium</td>
<td>200 mcg</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>22 mcg</td>
</tr>
<tr>
<td>Vanadium</td>
<td>10 mcg</td>
</tr>
<tr>
<td>Lemon Bioflavonoids</td>
<td>100 mg</td>
</tr>
<tr>
<td>Betaine Hydrochloride</td>
<td>20 mg</td>
</tr>
</tbody>
</table>
**Stress Formula**

This is the Basic Formula enhanced with adrenal support and larger amounts of those nutrients needed by those with hypoglycemia, allergies, PMS or other stress-related syndromes.

- Vitamin A: 12,000 IU
- Vitamin D: 800 IU
- Vitamin E (d-alpha): 600 IU
- Vitamin C: 2,200 mg
- Vitamin B-1 (thiamine): 100 mg
- Vitamin B-2 (riboflavin): 100 mg
- Niacinamide: 100 mg
- Pantothenic Acid: 1,330 mg
- Vitamin B-6 (pyridoxine): 100 mg
- Folic Acid: 1.2 mg
- Vitamin B-12: 600 mcg
- Biotin: 220 mcg
- Choline: 220 mg
- Inositol: 100 mg
- Calcium: 800 mg
- Magnesium: 500 mg
- Potassium: 400 mg
- Iron: 22 mg
- Manganese: 22 mg
- Zinc: 33 mg
- Silicon: 22 mg
- Iodine: 1.2 mg
- Chromium: 330 mcg
- Selenium: 220 mcg
- Molybdenum: 22 mcg
- Vanadium: 12 mcg
- Adrenal concentrate: 44 mg
- Lemon Bioflavonoids: 100 mg
- Betaine Hydrochloride: 44 mg
**Arterial Cleansing Formula**

Provides all of the nutrients necessary to stimulate the body’s own processes to clear away arterial plaque and restore circulation. Ideal for the initial cleansing period (one month for every 10 years of age). For maintenance, may be used in half these amounts – or combined half-and-half with the Basic Formula or Stress Formula.

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A</td>
<td>22,000 IU</td>
</tr>
<tr>
<td>Beta Carotene (pro-vitamin A)</td>
<td>3,300 IU</td>
</tr>
<tr>
<td>Vitamin D-3</td>
<td>400 IU</td>
</tr>
<tr>
<td>Vitamin E (d-alpha)</td>
<td>600 IU</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>4,400 mg</td>
</tr>
<tr>
<td>Vitamin B-1 (thiamine)</td>
<td>66 mg</td>
</tr>
<tr>
<td>Vitamin B-2 (riboflavin)</td>
<td>55 mg</td>
</tr>
<tr>
<td>Niacin</td>
<td>44 mg</td>
</tr>
<tr>
<td>Niacinamide</td>
<td>22 mg</td>
</tr>
<tr>
<td>Pantothenic Acid</td>
<td>550 mg</td>
</tr>
<tr>
<td>Vitamin B-6 (pyridoxine)</td>
<td>110 mg</td>
</tr>
<tr>
<td>Folic Acid</td>
<td>2.2 mg</td>
</tr>
<tr>
<td>Vitamin B-12</td>
<td>550 mcg</td>
</tr>
<tr>
<td>Biotin</td>
<td>122 mcg</td>
</tr>
<tr>
<td>Choline</td>
<td>440 mg</td>
</tr>
<tr>
<td>Inositol</td>
<td>55 mg</td>
</tr>
<tr>
<td>dl-Methionine</td>
<td>550 mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>444 mg</td>
</tr>
<tr>
<td>Magnesium</td>
<td>555 mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>444 mg</td>
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<tr>
<td>Manganese</td>
<td>22 mg</td>
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<tr>
<td>Zinc</td>
<td>33 mg</td>
</tr>
<tr>
<td>Silicon</td>
<td>22 mg</td>
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<tr>
<td>Iodine</td>
<td>0.88 mg</td>
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<tr>
<td>Chromium</td>
<td>333 mcg</td>
</tr>
<tr>
<td>Selenium</td>
<td>330 mcg</td>
</tr>
<tr>
<td>l-Cysteine Hydrochloride</td>
<td>880 mg</td>
</tr>
<tr>
<td>Lemon Bioflavonoids</td>
<td>440 mg</td>
</tr>
<tr>
<td>Betaine Hydrochloride</td>
<td>220 mg</td>
</tr>
<tr>
<td>Thymus concentrate</td>
<td>55 mg</td>
</tr>
<tr>
<td>Spleen concentrate</td>
<td>55 mg</td>
</tr>
<tr>
<td>Adrenal concentrate</td>
<td>55 mg</td>
</tr>
</tbody>
</table>
**Heavy Metal Detox Formula**
This formula is to be taken for 22 days – followed by 30 days on the Arterial Cleansing Formula. This cycle can be repeated twice more, for a total of three 22 day periods on Detox, interspersed with three 30 day periods on Arterial Cleansing.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A</td>
<td>22,000 IU</td>
</tr>
<tr>
<td>Beta Carotene</td>
<td>22,000 IU</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>4,400 mg</td>
</tr>
<tr>
<td>Vitamin B-1 (thiamine)</td>
<td>330 mg</td>
</tr>
<tr>
<td>Niacin</td>
<td>330 mg</td>
</tr>
<tr>
<td>Magnesium</td>
<td>440 mg</td>
</tr>
<tr>
<td>Selenium</td>
<td>330 mcg</td>
</tr>
<tr>
<td>Zinc</td>
<td>22 mg</td>
</tr>
<tr>
<td>dL-Methionine</td>
<td>440 mg</td>
</tr>
<tr>
<td>l-Cysteine Hydrochloride</td>
<td>440 mg</td>
</tr>
<tr>
<td>Glutathione</td>
<td>55 mg</td>
</tr>
<tr>
<td>Malic Acid</td>
<td>3,300 mg</td>
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<tr>
<td>Pectin</td>
<td>440 mg</td>
</tr>
</tbody>
</table>

**Men’s Formula**
This formula provides specific support for the male organs. To be used in addition to a broad-spectrum vitamin-mineral formula.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin E</td>
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</tr>
<tr>
<td>Vitamin B-12</td>
<td>1,000 mcg</td>
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<tr>
<td>Folic Acid</td>
<td>1.0 mg</td>
</tr>
<tr>
<td>Choline</td>
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<tr>
<td>dL-Methionine</td>
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<tr>
<td>Zinc</td>
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<tr>
<td>N,N-Dimethylglycine</td>
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</tr>
<tr>
<td>Alanine</td>
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</tr>
<tr>
<td>Glycine</td>
<td>30 mg</td>
</tr>
<tr>
<td>Glutamic Acid</td>
<td>30 mg</td>
</tr>
<tr>
<td>Prostate concentrate</td>
<td>88 mg</td>
</tr>
</tbody>
</table>
**Female Multiglandular**

A broad spectrum combination of glandular concentrates to support the entire female endocrine system

- Adrenal: 100 mg
- Brain: 20 mg
- Heart: 40 mg
- Hypothalamus: 20 mg
- Kidney: 40 mg
- Liver: 70 mg
- Mammary: 30 mg
- Ovary: 40 mg
- Pineal: 40 mg
- Pituitary: 30 mg
- Spleen: 20 mg
- Thymus: 20 mg

**Digestive Enzyme Formula**

This broad spectrum formula improves stomach acidity and provides supplementary enzymes to digest proteins, fats and starches. The *quantities given are for a single tablet*, to be taken at a meal requiring this kind of assistance. Heavier meals may require two or three such tablets. Those with very weak digestion may require four tablets per meal.

- Betaine Hydrochloride: 88 mg
- Pepsin 1:10,000: 188 mg
- Pancreatin 8X: 27.5 mg
- Bile: 88 mg
- Papain 12M: 122 mg
- Bromelain: 44 mg
- Peppermint leaf: 66 mg
Calcium-Magnesium-Potassium

Calcium, magnesium, and potassium are three electrolyte minerals needed by the body in balance, to help regulate heartbeat and osmotic fluid pressures in the body. To provide the electrical charges necessary for these functions, the mineral compounds consumed need to be in an inorganic form (i.e., without carbon, bonded by ionic valence). Our natural diets contain both inorganic and organic mineral compounds (i.e., those containing carbon and bonded by co-valence).

The following is an ideal supplement to add if a particular broad spectrum formula does not appear to be providing enough of any one of them. The amounts suggested are for a single tablet, to be taken from one to four daily.

- Calcium: 220 mg
- Magnesium: 144 mg
- Potassium: 110 mg
- Silicon: 6 mg
- Trace Minerals: 13 mg
- Vitamin A: 330 IU
- Vitamin D: 55 IU
- Betaine Hydrochloride: 44 mg

Adrenal Support Formula

Includes all of the nutritional factors required by the adrenal glands.

- Pantothentic Acid: 600 mg
- Vitamin C: 675 mg
- Vitamin B-12: 1,000 mcg
- Potassium: 150 mg
- Adrenal concentrate: 330 mg
**Immune Formula**
Ideal nutritional support to help the body ward off bacterial and viral infections.

- Vitamin A: 20,000 IU
- Vitamin C: 3,000 mg
- dl-Methionine: 120 mg
- Thymus concentrate: 28 mg
- Spleen concentrate: 28 mg
- Adrenal concentrate: 28 mg

**Thyroid Support Formula**
The following formula both supports the thyroid gland to produce T-4 hormone and facilitates the conversion of T-4 to T-3 in bodily tissues. Many people have used this formula to wean themselves off prescription thyroid medication. For best results, take in divided amounts *between meals*, on an empty stomach.

- Vitamin E (d-alpha): 250 IU
- Vitamin C: 220 mg
- Vitamin B-2 (riboflavin): 16 mg
- Niacin: 16 mg
- Vitamin B-6 (pyridoxine): 20 mg
- Vitamin B-12: 250 mcg
- Biotin: 20 mg
- Iodine: 300 mcg
- Selenium: 250 mcg
- Lemon Bioflavonoids: 32 mg
- L-Tyrosine: 275 mg
- L-Cysteine hydrochloride: 500 mg
- Pituitary concentrate: 24 mg
**Insulin Resistance Formula**

This is a unique formulation that reduces insulin resistance, thereby enabling cells to make more efficient use of glucose. It is of particular benefit to Type II (non-insulin-dependent) – and also provides some benefit to Type I diabetes.

- Magnesium 220 mg
- Trimethylglycine 330 mg
- *Vaccinium corymbosum* 440 mg
- Zinc 33 mg
- Alpha-Lipoic Acid 220 mg
- *Gymnema sylvestre* 120 mg
- Manganese 16 mg
- Chromium 220 mcg
- Vanadium 300 mcg

**Taking Supplements**

The best way to take most food supplements is in divided amounts with meals. The nutrients in the formula enhance the utilization of the nutrients in the food, and vice-versa. Simply divide the total number of tablets/capsules and take half with breakfast, half with supper – or one third with breakfast, one third with lunch and one third with supper. The body can make more efficient use of supplements taken at intervals rather than all at once.

The one exception to the supplements-with-meals guideline is supplements containing amino acids for therapeutic purposes. These are best taken between meals, on an empty stomach, when there are no other amino acids present.

If taking more than 2,000 mg of vitamin C per day, one’s urine should turn a bright yellow. If this does not happen, it means that the tablets are not being digested and absorbed properly. To correct this problem, take the Digestive Enzyme Formula above with vitamin and mineral supplements.
References

**Biochemical Individuality**, Roger J. Williams, PhD. University of Texas Press, 1979.


**Doctor's Book of Vitamin Therapy**, H. Rosenberg, MD and A. N. Felzamen, PhD. Putnam, 1974.


**Hypothyroidism: The Unsuspected Illness**, Broda O. Barnes, PhD, MD. Crowell Co., 1976.


Nutrition and Physical Fitness, G. Briggs, PhD and D. Calloway, PhD. Saunders College, 1979.


