MERCURY

SOURCES OF MERCURY TOXICITY
- All fish, seafood and sea vegetables, especially larger ocean fish such as tuna, swordfish, shark and others.
- Vaccines preserved with thimerosal. This even includes some flu shots.
- Dental amalgams (silver amalgam fillings).
- Contaminated drinking water.
- Air pollution from burning coal.
- Seeds and vegetables treated with mercurial fungicides.
- Medications - diuretics, preparation H, contact lens solution and perhaps others.
- Chemistry sets, old thermometers and other older uses for mercury.
- All children are born with some mercury toxicity that is passed through the placenta from their mothers. Mercury can also be passed to children in breast milk.

DETECTION OF MERCURY TOXICITY
- Serum: not used much because mercury is cleared rapidly from the blood, making it difficult to detect chronic exposure.
- Urine challenge test with DMPS or DMSA. Used commonly by holistic physicians, this can detect some mercury, but misses a lot as well.
- Hair: Hair better for chronic exposure, though it will shows acute exposure if severe enough. Levels of mercury in hair are about 300 times higher than blood levels. May require several tests to be revealed, as with all the toxic metals.

HOW MERCURY AFFECTS HEALTH
- Genetic – birth defects, delayed development syndromes, autism and many others.
- Energy - mercury compounds inhibit the enzyme ATPase, which impairs energy production in all body cells.
- Nervous system - degeneration of nerve fibers occurs, particularly the peripheral sensory nerve fibers. In addition to sensory nerve damage, motor conduction speed was reduced in persons with high hair mercury levels. The most common sensory effects are paresthesia, pain in limbs, and visual and auditory disturbances. Motor nerve disturbances results in changes in gait, weakness, falling, slurred speech, and tremor. Other symptoms are headaches rashes and other neurological disorders.
- Endocrine system - mercury has been shown to concentrate in the thyroid and pituitary glands, interfering with their function. Impairment of adrenal gland activity also occurs.
- Kidneys - mercury can accumulate in the kidneys, where it may cause kidney damage.
- Psychological – associated with the “mad hatters”, mercury causes severe emotional difficulties in susceptible individuals including ADD, ADHD, autism, confusion, timidity, “craziness’ and possibly some schizoid behaviors. It is associated with copper toxicity. Mercury is a primitive “female” element.

SYMPTOMS OF MERCURY TOXICITY
- adrenal gland dysfunction
- kidney congestion
alopecia (hair loss)  kidney damage
anorexia  loss of self-control
ataxia  memory loss
birth defects  migraine headaches
blushing  mood swings
brain damage  nervousness
depression  numbness and tingling in arms and legs
dermatitis  pain in limbs
discouragement  dizziness
fatigue  salivation, excessive
hearing loss  schizophrenia
hyperactivity  thyroid dysfunction
immune system dysfunction  tremors, timidity
insomnia  vision loss - peripheral
weakness, muscle

ANTAGONISTS AND CHELATORS
selenium, zinc, magnesium, vitamin C, calcium and other vital minerals help remove mercury

HAIR ANALYSIS NOTES
• The ideal hair mercury level is below 0.02 mg%, lower than most labs suggest.
• Mercury present in excess in everyone today thanks to fish consumption, water contamination, air pollution, silver amalgam dental fillings and congenital mercury toxicity.
• Months or years are needed to remove most mercury from tissue storage sites. It may not be revealed on hair tests until it begins to come out of the body.
• Mercury toxicity is an indicator of copper imbalance. This may not be apparent on the first few hair mineral analyses.
• Chelating agents can powerfully reduce mercury, but have side effects that are dangerous in some people. These are not needed with development.

NICKEL

SOURCES OF NICKEL
rooibos tea or red tea  oysters
hydrogenated vegetable oils  tea
contaminated alcoholic beverages  herring
margarines and imitation whip cream  nickel plating on metallic objects
commercial peanut butter  cigarette smoking
vegetable shortening  manufacture of steel
nickel-plated jewelry  batteries, machine parts, wire,
unrefined grains and cereals  electrical parts

HOW NICKEL AFFECTS THE BODY
Kidneys - nickel has a tendency to accumulate in the kidneys.
Hormone, lipid and membrane metabolism - it is believed that nickel has some physiological role related to these functions.

Cancer – nickel associated with development of lung cancer, specifically, in those exposed to nickel vapors.

SYMPTOMS OF NICKEL TOXICITY
- kidney dysfunction
- heart attack
- cancer, oral, intestinal and lung
- skin problems
- nausea, vomiting
- hemorrhages
- malaise
- low blood pressure
- muscle tremors, tetany and paralysis

ANTAGONISTS AND CHELATORS
- vitamin C, other vital nutrients

HAIR ANALYSIS NOTES
- The ideal hair nickel level is probably below 0.05 mg%, lower than most labs suggest.
- Nickel toxicity is very common, but is usually not reflected on early hair tests.

Sauna therapy is helpful or even mandatory to reduce toxic metal levels to the lowest possible levels.
APPENDIX III. MOVEMENT PATTERNS ON A HAIR MINERAL ANALYSIS

Movement patterns are an advanced way to view a hair mineral analysis. Life is more than raising a family, or having a nice home. At a deeper level, life is about movement toward fulfilling certain goals and obligations that one has set out for this lifetime. This is an old metaphysical teaching. Hair analysis can help us to move people along their way by showing us how or where they are blocked or stuck. Here are some examples of this idea:

**Controlled and uncontrolled.** Controlled movement is more predictable. It is found more in slow oxidizers. Uncontrolled movement is more common in fast oxidizers whose glands are too active. They tend to be more impulsive, intense and volatile in their movement patterns.

**Effective and ineffective movement patterns.** Effective movement usually requires more energy. Ineffective movement occurs with lower levels of sodium and potassium, a lower sodium/potassium ratio, perhaps with a high level of calcium or perhaps high toxic metals.

**Moving forward with the brakes on.** This is associated with a calcium shell pattern.

**Fast forward movement.** This is indicated by a faster oxidation rate, in general. In contrast, slow oxidizers are moving slower.

**Inflammation.** This is like doing a wheelie with a car. One might call it spinning one’s wheels in place with little forward motion. It may accompany a three or four highs pattern.

**Stalled movement.** Associated with a transition from fast to slow oxidation due to a need to adjust. Patterns include fast oxidation with a low sodium/potassium ratio, sympathetic dominance, four highs and, to a degree, four lows pattern.

**Floating.** This is an unusual quality in which a person is stuck, not because of exhaustion, but rather due to an inability to find one’s way forward. It is seen with a four highs pattern, in some cases, or perhaps with stalled transition patterns, especially sympathetic dominance, in which a person needs more grounding.

**Stopped movement.** This is indicated by a very high calcium level or a calcium shell pattern.

**Reversed movement.** This is a movement away from health and toward illness. It is indicated by a low sodium/potassium ratio. The tendency is worse with a double low ratio pattern.

**Trapped.** Here a person is not sure in what direction to go. It occurs with a bowl pattern, in particular, but can occur with others, such as any of the stalled transition patterns.

**Open to possibilities.** This is associated with a hill. It indicates that a person has perhaps overcome a blockage of some sort, so that one is free to move on and open up to new horizons. A degree of uncoordination or disconnect, temporarily, in the mineral patterns of the body.

**Very temporary unstable movement.** This is associated with mixed oxidation.

**Stressed and unstable.** This is associated with a three highs or four highs patterns, which may be a slow, mixed or fast oxidizer.

**Determined or digging in one’s heels.** This is associated with double ratio patterns, and even more so a step down or a step up pattern. These may be called extreme effort patterns.

**Collapsed, and perhaps random or shattered.** This is seen with four lows and perhaps with three lows, at times. These can also be end-of-life patterns that may indicate a person is somewhat directionless and drifting toward the end of one’s lifetime.

**Conflicted.** Examples are passive-aggressive pattern and perhaps others such as a bowl pattern.

**Vampirism.** This interesting situation is one in which movement is mixed with the energy of another. One is moving forward, many times, but in a sideways direction because one is not using one’s own power, so to speak, but taking some of it from another person.
APPENDIX IV.

DETERMINATION OF OXIDATION TYPE BY MEANS OF TISSUE ELECTROLYTE RATIOS
by Lawrence Wilson, MD

Abstract. A method of determining oxidation types by means of hair tissue mineral ratios was evaluated by reviewing 55 patient files. Correlations were assessed between tissue calcium/potassium, sodium/magnesium, and sodium/potassium ratios, and nine signs and symptoms of oxidation type. Hair mineral ratios were found to be good predictors of signs and symptoms of oxidation type.

INTRODUCTION
In 1972, Dr. George Watson, PhD proposed that different individuals metabolize their food at different rates, and that deviations in the rate of oxidation can produce physical and mental illness.

He typed people, using various tests, into 'fast', 'slow', and 'sub' oxidizers (1,2). Watson further claimed that fast and slow oxidizers require different kinds of foods and supplementary nutrients, in order to balance their chemistry. By assessing the chemistry, and then giving the appropriate foods and nutrients for each 'type', positive changes were observed in behavior and general health (1,2).

Watson used determinations of serum dissolved CO2 and serum pH, odor tests, or a food preference questionnaire to determine fast and slow metabolic types. Research has been underway for the past decade to find simple, reliable methods to confirm Watson's work, and to improve upon his tests to precisely assess oxidation rate. This study is an evaluation of a method developed by Dr. Paul C. Eck of Phoenix, Arizona, to determine oxidation types utilizing mineral ratios in a sample of hair analyzed by atomic absorption spectroscopy.

METHOD
A) Criteria for inclusion in the study. To be included in the study, each case had to meet 3 sets of criteria: 1) proper hair sampling, 2) proper laboratory technique, and 3) adequate information about the signs and symptoms of oxidation types. The criteria were the following:

1. HAIR SAMPLING: a) normal shampooing was allowed on the day of sampling. b) patients had to wash their hair four times after receiving a chemical permanent, before submitting a sample for analysis. c) hair creams, setting lotions, sprays, conditioners, etc. were allowed to be on the hair. d) hair was clipped from at least three sites from the back of the head and nape of the neck. The sample was cut as close as possible to the scalp, and any hair over 1 and one-half inches long was cut off the sample and discarded. e) clippings were combined until a half-gram sample was obtained.

2. LABORATORY TECHNIQUE: a) all tests were performed at a laboratory that does NOT wash the hair prior to analysis. b) preparation of hair for analysis was by digestion of a 300 mg sample in 2.0 ml of a 3:1 solution of nitric/perchloric acid, heated to 300 ºC overnight, and rehydrated with 6.0 ml of 0.9% HCl solution. 0.8 ml of this solution is then diluted to 4.0 ml with a 0.2% cesium chloride solution. c) analysis was performed on an atomic absorption instrument.
d) calibration of the instrument was by Fisher A. A. Standards. e) quality control consisted of testing each batch of samples against:
- a check sample from the Fisher A.A. Standards
- an in-house control hair sample
- a National Bureau of Standards Control
- a blank solution of the acids used in digestion

3) ADEQUATE PATIENT INFORMATION: At least four signs or symptoms of fast or slow oxidation had to be listed in the patient file, obtained at the time the sample was taken.

B) Method of determination of oxidation type from tissue mineral analysis. Two ratios are involved in Dr. Eck's determination of oxidation type (3): calcium/potassium and sodium/magnesium.

*Fast oxidation* is defined by Dr. Eck as a calcium/potassium ratio less than 4:1 and a sodium/magnesium ratio greater than 4.17:1. For this study, two varieties of fast oxidizers were determined and analyzed - fast with a normal or elevated sodium/potassium ratio, and fast with a low sodium/potassium ratio.

Dr. Eck found that the fast oxidizer with a low sodium/potassium ratio (Na/K < 2.5:1) behaves more like a slow oxidizer than a fast oxidizer, at times. It was decided to test this concept as part of the study.

*Slow oxidation* is defined as a calcium/potassium ratio greater than or equal to 4:1 and a sodium/magnesium ratio less than or equal to 4.17:1.

*Mixed oxidation* is a transition or unstable state which is defined as either a calcium/potassium ratio greater than 4:1 and a sodium/magnesium ratio greater than or equal to 4.17:1, OR a calcium/potassium ratio less than or equal to 4:1 and a sodium/magnesium ratio less than 4.17:1. These definitions are summarized in table 1.

**TABLE 1. MINERAL RATIOS FOR FAST, SLOW AND MIXED OXIDATION**

**FAST OXIDATION WITH NORMAL OR ELEVATED NA/K RATIO:**
calcium/potassium ratio LESS THAN 4:1,
sodium/magnesium ratio GREATER THAN 4.17:1,
sodium/potassium ratio GREATER THAN OR EQUAL TO 2.5:1.

**FAST OXIDATION WITH LOW NA/K RATIO:**
Calcium/potassium ratio LESS THAN 4:1,
sodium/magnesium ratio GREATER THAN 4.17:1,
sodium/potassium ratio LESS THAN 2.5:1.

**SLOW OXIDATION:**
Calcium/potassium ratio GREATER THAN OR EQUAL TO 4:1, and
sodium/magnesium ratio LESS THAN OR EQUAL TO 4.17:1.

**MIXED OXIDATION:**
Calcium/potassium ratio GREATER THAN OR EQUAL TO 4:1, and sodium/magnesium ratio GREATER THAN 4.17:1.

OR
Calcium/potassium ratio LESS THAN 4:1, and sodium/magnesium ratio LESS THAN OR EQUAL TO 4.17:1.

**C) Sign and Symptom Criteria for Determining Oxidation Type.**
George Watson found that certain food preferences, signs and symptoms are associated with each oxidation type. Since the blood and odor tests Watson used were not performed on the patients in this study, it was decided to use food preferences, signs and symptoms as a basis of comparison with the results of the tissue mineral analyses.

The 52-question oxidation test which Watson published (1) had not been given to these patients, but patients had been questioned about food habits, cravings, food preferences, and a variety of physical and emotional symptoms. Utilizing Watson's and Eck's research about oxidation types, nine indicators of oxidation type were chosen for this study:
- frequency of bowel movements
- oily or dry skin
- warmth of extremities
- food cravings
- blood pressure
- sweating
- typical moods
- energy level
- animal protein preference

Following is the rationale for each of the above indicators:

1. **Frequency of Bowel Movements.** Increased metabolic activity is associated with increased peristaltic activity and hence more frequent bowel movements in the fast oxidizer. More than one bowel movement per day was considered an indicator of fast oxidation. One or fewer movements per day indicated slow oxidation.

2. **Dry or Oily Skin and Hair.** Increased metabolic activity is associated with increased activity of the sebaceous glands of the skin and scalp, which in turn is associated with oily skin and hair in the fast oxidizer. Patients were asked to subjectively rate themselves as having a tendency to oily or dry hair and skin.

3. **Blood circulation.** Increased rate of metabolism in the fast oxidizer is associated with enhanced blood circulation, and correlates with a tendency to warmer hands and feet, even in cold weather. Patients were asked if they experienced cold extremities.

4. **Food cravings.** Food cravings can express the body's desire to balance chemistry. Fast oxidizers tend to crave fats, butter and red meat, foods which slow the metabolic rate. The slow oxidizer often craves sweets to combat hypoglycemia, and salt to replace salt lost through underactive adrenal gland activity (low aldosterone).

5. **Blood Pressure.** Fast oxidation is associated with increased vascular (sympathetic) tone, and sodium retention due to elevated aldosterone levels. These frequently result in a blood pressure over 120/80. Slow oxidizers tend to have blood pressures of 120/80 or lower. This is due to weaker vascular tone, and/or low sodium levels which causes a reduced blood volume and blood pressure.

6. **Sweating.** Enhanced metabolic activity increases generation of heat in body tissues. This is associated with increased sweating in the fast oxidizer. Slow oxidizers generally sweat
less. Patients were asked to rate themselves subjectively as to whether they sweat heavily or lightly.

7. Mood. In fast oxidation, all metabolic processes speed up, including mental functioning. This can result in a tendency to anxiety, nervousness, or jitteriness. Slower mental activity in the slow oxidizer, on the other hand, causes a tendency for sluggishness, lethargy, apathy, and depression.

8. Energy level. A fast oxidation rate, within certain limits, is associated with higher energy levels, than a slow oxidation rate. Fatigue and lethargy can be experienced by both types, but is more common in the slow oxidizer. Patients were asked to subjectively rate their energy level as high or low.

9. Animal Protein Preference. Fast oxidizers require more fat, and tend to prefer red meats to other meats, as they contain a higher percentage of fat. Slow oxidizers tend to prefer chicken, fish, or vegetarian proteins because these low-fat sources of protein speed up and normalize the slow oxidizers' metabolic rate.

PROCEDURE

Ninety-seven patient charts were reviewed. A 'signs and symptoms' worksheet was filled out for each patient. The totals for the slow and fast symptoms categories were added up and expressed as a ratio of fast characteristics to slow characteristics. A ratio greater than 1/1 indicates fast metabolism. Less than 1/1 indicates slow metabolism. Forty-two charts were discarded from the study because fewer than 4 signs or symptoms of oxidation type were listed for the patient.

Ratios of calcium/potassium, sodium/magnesium, and sodium/potassium were calculated for each hair analysis to determine fast, fast with low sodium/potassium ratio, slow, and mixed oxidation as defined in Table 1. The results of the hair analyses and the ratios of fast and slow symptoms for the 55 cases are listed in Table 2.

Correlation was then made to determine how much agreement existed between tissue mineral ratio indicators and sign and symptom indicators of fast and slow oxidation. Results are summarized in Table 3.

**TABLE 2. DATA FROM 55 PATIENTS**
The following abbreviations are used:
F = fast oxidizer
FI = fast oxidizer with a low sodium/potassium ratio
M = mixed oxidizer
S = slow oxidizer

<table>
<thead>
<tr>
<th>Signs and Symptoms Data Expressed as a Ratio of Fast/Slow Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 2/2</td>
</tr>
<tr>
<td>S 2/3</td>
</tr>
<tr>
<td>M 2/4</td>
</tr>
<tr>
<td>F 2/2</td>
</tr>
<tr>
<td>FI 3/2</td>
</tr>
<tr>
<td>S 0/5</td>
</tr>
<tr>
<td>FI 1/5</td>
</tr>
<tr>
<td>S 1/3</td>
</tr>
</tbody>
</table>
Analysis of the data by percentages:

1) OF THOSE WITH FAST OXIDIZER TISSUE ANALYSES:
   * 1 out of 3, or 33.3% demonstrated FAST OXIDIZER symptoms.
   * 2 out of 3, or 66.6% demonstrated AN EVEN MIXTURE OF SLOW AND FAST symptoms.
   * NONE demonstrated SLOW OXIDIZER symptoms.

2) OF THOSE WITH FAST OXIDIZER ANALYSES WITH LOW NA/K RATIOS:
   * 2 out of 7, or 28.6% demonstrated FAST OXIDIZER symptoms.
   * NONE demonstrated AN EVEN MIXTURE OF SYMPTOMS.
   * 5 out of 7, or 71.4% demonstrated SLOW OXIDIZER SYMPTOMS.

3) OF THOSE WITH SLOW OXIDIZER TISSUE ANALYSES:
   * 1 out of 38, or 2.6% demonstrated FAST OXIDIZER symptoms.
   * 2 out of 38, or 5.3% demonstrated AN EVEN MIXTURE OF FAST AND SLOW symptoms.
   * 35 out of 38, or 92.1% demonstrated SLOW OXIDIZER symptoms.

4) OF THOSE WITH MIXED OXIDIZER TISSUE ANALYSES:
   * 2 out of 7, or 28.6% demonstrated FAST OXIDIZER symptoms.
   * 1 out of 7, or 14.3% demonstrated AN EVEN MIXTURE OF FAST AND SLOW OXIDIZER SYMPTOMS.
   * 4 out of 7, or 57.1% demonstrated SLOW OXIDIZER symptoms.
TABLE 3. SUMMARY OF PERCENTAGE CORRELATIONS.

<table>
<thead>
<tr>
<th>HAIR ANALYSIS</th>
<th>CORRELATION WITH SIGNS AND SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>fast</td>
</tr>
<tr>
<td>fast oxidizer</td>
<td>33.3%</td>
</tr>
<tr>
<td>fast with low Na/K</td>
<td>28.6%</td>
</tr>
<tr>
<td>slow oxidizer</td>
<td>2.6%</td>
</tr>
<tr>
<td>mixed oxidizer</td>
<td>28.6%</td>
</tr>
</tbody>
</table>

DISCUSSION

Slow oxidizer tissue mineral ratios were an excellent predictor of slow oxidizer signs and symptoms. Fast oxidizer mineral ratios with low sodium-to-potassium ratios were also a good predictor of slow oxidizer signs and symptoms. Fast oxidizer mineral ratios correlated best with fast or a mixture of fast and slow signs and symptoms. Possibly, this mixed correlation is due to the presence in the study of individuals called 'temporary fast oxidizers' or 'slow under stress'.

These people have fast oxidizer mineral ratios but don’t manifest signs and symptoms typical of fast metabolism. The physiological basis for temporary fast oxidation has been elaborated (4). Patients in this category, on retesting their tissue mineral levels after several months of corrective therapy, change to mixed or slow oxidation. Mixed oxidizer mineral ratios correlated best with slow oxidizer signs and symptoms. Most mixed oxidizer hair analyses resolve within 3 months of corrective therapy to slow or fast oxidation.

The percentages of correlation between mixed oxidizer tests, and slow and fast oxidizer symptoms (57% and 28%), approximately matches the ratio of slow to fast oxidizers in the general population (3-4:1). The correlation of the unstable mixed oxidizer tests with slow and fast oxidizer symptoms probably reflects the direction in which the mixed oxidizer tissue tests will resolve.

CONCLUSION

Results of this study support the concept that oxidation type may be determined by calculation of calcium/potassium, sodium/magnesium, and sodium/potassium ratios in an unwashed hair sample analyzed by atomic absorption spectroscopy. Future studies will evaluate the efficacy of nutritional therapy using hair mineral ratios as a basis for diet and supplement regimens.

References
APPENDIX V.

EFFECT OF WASHING ON THE TRACE ELEMENT CONTENT OF HUMAN HAIR

by Dr. Raymond F. LeRoy, MSc.

(first published in the Journal of Orthomolecular Medicine, Vol., 1, #2, 1986)

ABSTRACT. Three individual studies were undertaken to determine the effects of washing a human head hair sample in water, before analyzing for 15 minerals by atomic absorption. Calcium, magnesium, sodium, and potassium levels were most affected by washing. Longer washing time produced more mineral loss. Sectioning the hair before washing produced slightly lower average mineral loss. Percentage of washout for each mineral was erratic in both cut and uncut samples. Samples from females lost more mineral than samples from males.

METHODS AND MATERIALS

Study A. A single sample of about 8.0 grams of human hair was divided into three equal portions. Portion 1 was left unwashed. Portion 2 was washed in distilled water for 10 minutes. Portion 3 was washed in distilled water for 30 minutes. Portions 2 and 3 were shaken, for the times indicated, on a variable speed mechanical shaker at 30 strokes per minute.

After washing, the two washed samples were decanted and rinsed twice in 500 ml of distilled water in a Gooch Type, glazed porcelain crucible with perforated bottoms, rinsed twice again in flowing deionized water for one minute and placed in a drying oven for 3 hours at 110 degrees C. The washed samples were removed from the oven, lightly covered and allowed to equilibrate overnight. The following day all three samples were cut into 1.0mm lengths or less, using surgical dissection scissors.

Study B. Ten randomly-selected samples which had previously been analyzed in the unwashed condition were chosen for study B. Each sample was divided into two equal portions and cut into 1 mm or less lengths, BEFORE WASHING. The samples were then washed for 10 minutes in flowing deionized water, drained and dried for three hours at 110 degrees C. The samples were removed from the oven and lightly covered and allowed to equilibrate overnight.

Study C. Ten randomly-selected, uncut samples which had previously been analyzed in the unwashed condition were used. Each sample was washed and dried exactly as in study B, but the samples were NOT CUT. Following the washing and drying procedures, the samples were cut into 1.0 mm lengths, or less, and then analyzed.

ANALYSIS PROCEDURE

A. Weighing Out:

Study A. Two 300 mg portions were weighed out of the unwashed sample. Five 300 mg portions were weighed from the 10-minute wash sample. Five 300 mg portions were weighed from the 30- minute wash sample.

Study B and C. One 300 mg portion was weighed out from each sample in Study B and Study C.
B. Digestion:
All of the digestion tubes are acid washed in 10% HCl before use. To each tube in the study was added 2.0 ml of a 3:1 solution of nitric acid/perchloric acid (Baker Instra-analyzed) and tubes were placed under a hood for 30 minutes. The tubes were successively heated at 95 degrees C. for thirty minutes and 210 degrees C. overnight.

C. Trace Element Sample:
Following digestion, the tubes were re-hydrated with 6.0 ml of 0.9% HCl solution and vortexed. This is the trace element sample (Cu, Fe, Mn, Ni, Pb, P, Cd, Al).

D. Macro-element Sample:
0.8 ml of the trace element sample was diluted to 4.0 ml with a 0.2% cesium chloride solution. Cesium chloride is added to reduce the ionization effect of a nitrous oxide flame.

E. Phosphorus Determination:
0.4 ml of the trace element solution was added to 1.0 ml of a vanadomolybdophosphoric acid reagent and read in a Gilford 300N Spectrophotometer, equipped with a flow-through curette, at 400 nm.

F. Mercury Determination:
10.0 mg of hair was dissolved in 0.3 ml of nitric acid in a 16 x 125 tube (Baker Instra-analyzed) and diluted to 10.0 ml with 0.9% HCl solution. The cold vapor method using sodium borohydride (Aldrich) at 253.6 nm. was employed.

INSTRUMENTATION AND EQUIPMENT
All determinations except phosphorus were made on a Perkin-Elmer 5000 Atomic Absorption unit equipped with an AS 50 Auto Sampler, a Data System 10 computer, a PR-100 printer, and a MHS 10 borohydride generation system. Phosphorus determination was performed on a Gilford 300N Spectrophotometer (see above).

CALIBRATION AND QUALITY CONTROL
Calibration of the instrument was achieved using Fisher Atomic Absorption Standards. Quality control encompasses four separate preparations:

• A check sample is prepared from the Fisher A.A. Standards at a concentration about equal to the average patient results.
• An in-house hair control is prepared in the laboratory and is repeatedly analyzed until enough data is accumulated to extract a mean and one standard deviation.
• A National Bureau of Standards bovine liver preparation is used as a control.
• A blank solution of the acids used in digestion.

All of the above preparations are analyzed for every mineral, every time a batch is run. This data is collected and available. All mechanical pipetting equipment is checked monthly for accuracy, as is the electronic balance used in weighing the samples.
DATA

Study A. In Table 1, data from the samples - 2 unwashed, 5 washed for 10 minutes, and 5 washed for 30 minutes - are averaged for each category. Individual variation was less than 5% for all elements. Therefore, I believe this to be a valid method of reporting.

<table>
<thead>
<tr>
<th>element</th>
<th>unwashed</th>
<th>10 min. wash</th>
<th>30 min. wash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Fe</td>
<td>3.4</td>
<td>3.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Mn</td>
<td>.09</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>Ni</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Pb</td>
<td>2.2</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Cd</td>
<td>.06</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td>Ca</td>
<td>62</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Mg</td>
<td>9</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Na</td>
<td>38</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>K</td>
<td>17</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Zn</td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Al</td>
<td>4.2</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Hg</td>
<td>.06</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>P</td>
<td>9.8</td>
<td>9.7</td>
<td>9.7</td>
</tr>
<tr>
<td>Cr</td>
<td>.12</td>
<td>.14</td>
<td>.12</td>
</tr>
</tbody>
</table>

All results are in mg%.

Study B. Results of Study B are reported in Table 2. Only Calcium, sodium, and potassium are reported in study B and study C, these being the only elements which appear to be affected by the one-minute washing. The percent variation of the other elements (Cu, Fe, Mn, Pb, Ni, Cd, Mg, Cr, Al, P, Zn, Hg) was 3% or less and is considered instrumentational. Copies of the full reports are available.

Three samples from study B have been deleted. They were found to be two horses and a dog. As they did not fit our criteria they were dropped.

TABLE 2. RESULTS OF STUDY B. SAMPLES CUT TO 1 MM BEFORE WASHING

| CALCULUM: |          |          |          |          |
| SAMPLE #  | UNWASHED | WASHED   | % CHANGE | SEX/AGE  |
| 1         | 23        | 15       | 35       | F/43     |
| 2         | 118       | 94       | 20       | M/34     |
| 3         | 82        | 70       | 15       | F/25     |
| 4         | 82        | 70       | 15       | F/34     |
| 5         | 91        | 80       | 12       | M/39     |
| 6         | 30        | 27       | 10       | M/53     |
| 7         | 11        | 10       | unchanged| M/51     |

<p>| SODIUM:   |          |          |          |          |
| SAMPLE #  | UNWASHED | WASHED   | % CHANGE | SEX/AGE  |
| 1         | 10        | 5        | 50       | F/43     |
| 2         | 7         | 4        | 43       | M/34     |</p>
<table>
<thead>
<tr>
<th>SAMPLE #</th>
<th>UNWASHED</th>
<th>WASHED</th>
<th>% CHANGE</th>
<th>SEX/AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
<td>75</td>
<td>F/43</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>1</td>
<td>75</td>
<td>M/39</td>
</tr>
<tr>
<td>3</td>
<td>26</td>
<td>22</td>
<td>8</td>
<td>M/53</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>8</td>
<td>unchanged</td>
<td>M/51</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>7</td>
<td>unchanged</td>
<td>F/34</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>3</td>
<td>unchanged</td>
<td>F/25</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>3</td>
<td>unchanged</td>
<td>M/34</td>
</tr>
</tbody>
</table>

**TABLE 3. RESULTS OF STUDY C. SAMPLES LEFT UNCUT BEFORE WASHING.**

**CALCIUM:**

<table>
<thead>
<tr>
<th>SAMPLE #</th>
<th>UNWASHED</th>
<th>WASHED</th>
<th>% CHANGE</th>
<th>SEX/AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>282</td>
<td>95</td>
<td>66</td>
<td>F/27</td>
</tr>
<tr>
<td>2</td>
<td>195</td>
<td>69</td>
<td>66</td>
<td>F/50</td>
</tr>
<tr>
<td>3</td>
<td>97</td>
<td>64</td>
<td>34</td>
<td>F/29</td>
</tr>
<tr>
<td>4</td>
<td>242</td>
<td>164</td>
<td>32</td>
<td>-/</td>
</tr>
<tr>
<td>5</td>
<td>269</td>
<td>196</td>
<td>27</td>
<td>M/56</td>
</tr>
<tr>
<td>6</td>
<td>39</td>
<td>29</td>
<td>26</td>
<td>M/67</td>
</tr>
<tr>
<td>7</td>
<td>80</td>
<td>64</td>
<td>20</td>
<td>M/29</td>
</tr>
<tr>
<td>8</td>
<td>37</td>
<td>31</td>
<td>16</td>
<td>M/38</td>
</tr>
<tr>
<td>9</td>
<td>88</td>
<td>83</td>
<td>6</td>
<td>M/9</td>
</tr>
<tr>
<td>10</td>
<td>15</td>
<td>16</td>
<td>unchanged</td>
<td>M/41</td>
</tr>
</tbody>
</table>

**SODIUM:**

<table>
<thead>
<tr>
<th>SAMPLE #</th>
<th>UNWASHED</th>
<th>WASHED</th>
<th>% CHANGE</th>
<th>SEX/AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>18</td>
<td>60</td>
<td>M/56</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>13</td>
<td>48</td>
<td>F/29</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>4</td>
<td>33</td>
<td>F/50</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>8</td>
<td>27</td>
<td>M/9</td>
</tr>
<tr>
<td>5</td>
<td>34</td>
<td>30</td>
<td>13</td>
<td>M/38</td>
</tr>
<tr>
<td>6</td>
<td>23</td>
<td>20</td>
<td>13</td>
<td>M/67</td>
</tr>
<tr>
<td>7</td>
<td>26</td>
<td>24</td>
<td>8</td>
<td>-/</td>
</tr>
<tr>
<td>8</td>
<td>18</td>
<td>19</td>
<td>unchanged</td>
<td>M/41</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4</td>
<td>unchanged</td>
<td>F/27</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>3</td>
<td>unchanged</td>
<td>M/29</td>
</tr>
</tbody>
</table>
**POTASSIUM:**

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>UNWASHED</th>
<th>WASHED</th>
<th>% LOSS</th>
<th>SEX/AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
<td>75</td>
<td>F/27</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>2</td>
<td>71</td>
<td>F/29</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>18</td>
<td>42</td>
<td>M/56</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>5</td>
<td>29</td>
<td>M/9</td>
</tr>
<tr>
<td>5</td>
<td>48</td>
<td>39</td>
<td>19</td>
<td>M/67</td>
</tr>
<tr>
<td>6</td>
<td>48</td>
<td>40</td>
<td>17</td>
<td>M/38</td>
</tr>
<tr>
<td>7</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>M/41</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>4</td>
<td>unchanged</td>
<td>F/ -</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>3</td>
<td>unchanged</td>
<td>M/29</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>1</td>
<td>unchanged</td>
<td>F/50</td>
</tr>
</tbody>
</table>

**RESULTS**

In Study A, significant change occurred in potassium, sodium, calcium, and magnesium, and to a lesser extent iron, manganese, and nickel levels. Extended washing time resulted in more mineral loss.

In Studies B and C, there was variable loss of calcium, sodium, and potassium from sample to sample, with no constant pattern. Overall, there was more loss in the samples which were not sectioned before washing (Study C). For each mineral studied in both Study B and C, hair samples from women lost more minerals due to washing than samples from men. This may be due to the fact that women’s hair is more porous. The results are summarized in tables 4 and 5.

**TABLE 4. RANGE OF MINERAL LOSS IN STUDY B AND STUDY C.**

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Range of loss</th>
<th>Study B (cut)</th>
<th>Range of loss</th>
<th>Study C (uncut)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALCIUM</td>
<td>0 - 35%</td>
<td>0 - 35%</td>
<td>0 - 66%</td>
<td></td>
</tr>
<tr>
<td>SODIUM</td>
<td>29 - 50%</td>
<td>0 - 66%</td>
<td>0 - 66%</td>
<td></td>
</tr>
<tr>
<td>POTASSIUM</td>
<td>0 - 75%</td>
<td>0 - 75%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 5. AVERAGE LOSS FROM MALE AND FEMALE SAMPLES**

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Loss in females</th>
<th>Loss in males</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STUDY B.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CALCIUM</td>
<td>21.6%</td>
<td>10.5%</td>
</tr>
<tr>
<td>SODIUM</td>
<td>35.3%</td>
<td>31.75%</td>
</tr>
<tr>
<td>POTASSIUM</td>
<td>25%</td>
<td>20.75%</td>
</tr>
<tr>
<td><strong>STUDY C.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CALCIUM</td>
<td>49.5%</td>
<td>15.83%</td>
</tr>
<tr>
<td>SODIUM</td>
<td>22.25%</td>
<td>18.83%</td>
</tr>
<tr>
<td>POTASSIUM</td>
<td>36.5%</td>
<td>19.83%</td>
</tr>
</tbody>
</table>

**DISCUSSION**

**Contamination Versus Endogenous Minerals.** Contamination of a laboratory sample is a constant worry for all laboratory workers, particularly when the sample is exposed to the environment as is human head hair. The most often-quoted reference for washing is that
reported by G. S. Kennington in Science Magazine (3) on his study of the effects of soaking antelope hair in a solution of radioactive 22Na (1 uc/ml) for ten days.

While Dr. Kennington shows with this study that hair can be contaminated with 22Na and cleaned with repeated washings of distilled water, and that 24Na is removed under the same conditions, he does not characterize nor differentiate a sodium contamination from the endogenous sodium. The industry has assumed the contamination, which this study does not support.

His comment at the end of the paper, referring to ionic radius and charge, are undoubtedly correct as the residual elements following an eighty-minute wash in distilled water would be the insoluble ones. However, as the body requires soluble inorganic forms, these forms should invariably be present in the tissues formed by that body. Hair is no exception, and Study A would appear to support this observation.

**Percentage of Loss and Chemical Solubility.** Based on the cation solubilities of their compounds, five major solubility groups can be defined, from the least soluble to the most soluble:
1) Lead - (least soluble)  
2) Copper, cadmium, mercury  
3) Aluminum, chromium, iron, zinc, nickel, and manganese  
4) Calcium and magnesium  
5) Sodium and potassium - (most soluble)

By comparing the 30-minute wash results of Study A with the five solubility groups, a definite correlation between washout and solubility group can be seen. Likewise, Study B and Study C show the same pattern for calcium, sodium, and potassium in varying degrees. In short, degree of washout correlates well with chemical solubility. We can speculate that washout probably has less to do with physiology or external contamination of the hair, and more to do with chemical solubility of the elements involved.

**Cutting The Hair Before Analysis.** Studies B and C were undertaken to compare the effect of sectioning the hair before and after washing. One minute was chosen as the shortest practical time unit for washing, without making the wash procedure too labor intensive. The data presented in table 2 and 3 show erratic results. While these results may be due to incomplete washing, they may also indicate the individual biochemistry of the samples used. Overall, no consistent percentage of loss was apparent for any of the three minerals during washing in either study. Sectioned samples showed overall slightly lower average percentage of mineral loss during washing. In Study B, the calcium results for samples 3 and 4 are the exceptions.

**Variation in Male and Female Hair Mineral Loss.** Study B and C both showed that samples from women lost more minerals during washing than samples from men. This finding supports studies which indicate that female hair is more porous than male hair. The increased porosity could account for a more rapid loss of mineral from hair cut from women. While more studies are necessary, Study B and C indicate that sex may be another important variable that must be taken into account if hair is washed.
CONCLUSIONS

There is no doubt that washing a sample removes quantities of certain minerals, specifically calcium, sodium, and potassium. Studies A, B and C indicate that the pattern of mineral removal most closely correlates with the chemical solubility of the elements tested.

Some have judged that these losses constitute "contamination". I believe, as Robbins (5) has stated, that we are dealing with highly soluble compounds of calcium, sodium, and potassium, which are required by our body chemistry, and that these losses come from an integral part of the hair fiber.

These studies also indicate that the more washing that is done, the more minerals are removed. Also, the percentage of mineral loss is erratic and variable from sample to sample. In addition, samples from women lose more minerals than samples from men, overall.

Based on the studies presented, I believe that washing of the hair before analysis should be discontinued as a common practice, until we can positively state where mineral contamination stops and where endogenous minerals begin.

ACKNOWLEDGMENTS

Funding for these studies was provided by Analytical Research Laboratories, Phoenix, Arizona.

REFERENCES

1. Corridor, J.P., Head Hair Samples as Indicators of Environmental Pollution, J. Environmental Research, 1974;8:12-16.

Raymond F. LeRoy is the retired chief chemist at Accutrace Laboratories, Inc. Address all inquiries to Accutrace Laboratories, Inc., 2225 W. Alice Avenue, P. O. Box 37964, Phoenix, Arizona 85069-7964, www.arltma.com, 1-800-528-4067.
APPENDIX VI.
OTHER HEALING TECHNIQUES

Warning and disclaimer: No claims are made for any procedures described here. Nor are these procedures intended as treatments or prescriptions for any disease or condition. The following are presented for educational purposes only.

USES FOR A SINGLE REDDISH INFRARED ‘HEAT LAMP’

A single reddish, 250-watt ‘heat bulb’ is an extremely helpful device to have around the home for anyone who is following a development program. The cost of the bulb is about $12.00 at a hardware store. Caution: Be careful not to burn yourself and be sure to use a socket that can handle 250 watts. Just a few of the many uses for this lamp include:

- Shining it on the head area as close as you can comfortably tolerate it for nasal polyps, sinus congestion or infection, headaches, ear aches, possibly eye problems, possibly toothaches, scalp eruptions, and neck tension. WARNING: Do not look at the lamp at close range. Always close your eyes if you must shine it at your head area. Always limit the time shining the lamp at your head to five minutes or less per session. You may repeat the treatment up to once every hour for a few days for an acute condition.
- Clients have reported relief from severe low back pain, and even pain due to cancer.
- A client cleared up toenail fungus on all of his toes after all other remedies had failed. He simply moved his toes as close as he could to a red heat lamp that was placed near his feet each day while he did his daily sauna. It took six months, but the toenails are now clear.
- Even babies can benefit who cannot use a sauna. One can shine the lamp on the abdomen for about ten minutes, preferably while the baby is lying comfortably in your lap or on a table. It can help colic, constipation, anxiety, irritability and other problems. Do not shine the light near a baby’s eyes or at a baby’s head at all.
- Skin rashes, blemishes, acne and other skin conditions may or may not respond. Teenage or adult acne often responds beautifully, often in a few days to even one or two treatments for 5-15 minutes per day. It may come back, of course, if other causes are not addressed. Other conditions such as rosacea or some skin cancers may become irritated by the light.
- It can also be tried on pain in the elbows, knees, hands, or anywhere else during a program.

BATHS, GENERAL INFORMATION

Some baths cause problems during development programs because 1) they are very yin, and 2) one absorbs plenty of toxic metals and toxic chemicals from most bath water. For this reason, do not use baths more than once or at most twice weekly, ever.

PARTIAL BATHS

During development program, toxins will be released and infections cleared from all parts of the body. This can cause temporary symptoms such as aches, swelling, redness,
tightness or others. A very useful technique to move the toxins and infections out faster is the use of a partial bath just on the affected part of the body, such as a hand, a knee or a shoulder. Two basic types of partial baths are:

1) **Cold water only.** This is best for severe inflammation, with heat, pain, redness and swelling in most cases. One simply places the body part in a bucket of cold water for half an hour or so. If one cannot place it in the water, then one runs a cold shower on a shoulder, for example, or the back of the neck. Try not to get the water anywhere else so you do not become chilled. This partial bath can be repeated several times daily and is very safe for most people.

2) **Alternating hot and cold water.** This is even more powerful and is part of the old ‘water-cure’ system of healing. One alternately dips the body part in the hottest water one can stand comfortably for about 1-2 minutes. Then one dips it into the coldest water one can tolerate for about 3-4 minutes, usually. Repeat the process for 30-60 minutes or even longer. This is all there is to it. One can run the water in the bathtub or use two buckets, one with ice cubes in it if needed, while the other must be heated up periodically with more hot water in order to stay hot. This partial bath may also be repeated several times daily to relieve any type of inflammation, pain, itching, swelling or other healing reaction on a part of the body.

**HYDROGEN PEROXIDE BATHS AND OTHER USES FOR 35% FOOD GRADE PEROXIDE**

Hydrogen peroxide is one of the simplest, most powerful and safest disinfectants available. Its cost is also low and it is quite easy to use, although the 35% food grade peroxide will cause a slight burn if it spills full strength on the skin. Also, keep it away from the eyes or other sensitive areas of the body. Peroxide is used in some cities to purify drinking water and is widely used in industry to purify chemicals and many other items. Uses for it include:

- **Baths** – place about 1/2 of a cup of peroxide in a warm bath and sit in the bath for half an hour. Submerge as much of the body as possible in it. This can kill off some superficial infections. It is also an oxygenating bath and has other unusual properties that are health-promoting for most people.
- **Teeth** – Brushing with a few drops of 35% peroxide or dipping the toothbrush in peroxide and then brushing helps whiten the teeth, reduces bad breath and is an excellent disinfectant as well. The taste is not too good, however.
- **Cuts and bruises** – Peroxide from the drugstore (3% solution) is excellent for all cuts and bruises. It stings for a moment but will disinfect wounds of all kinds with no toxic effects and complete safety.
- **Hot tubs and pools** – To purify a hot tub, instead of chlorine, bromine and other poisons, add about a cup or so of 35% peroxide to the water about once a week. To check the peroxide level, buy dip sticks for peroxide, which are available on the internet. The safe level is about 200-250 ppm of peroxide. You may also need to add a pH balancing product to the spa water. The water may not look as clean and clear using peroxide, but it will be safer for bathing than any chlorine, silver or bromine treatment. Pools will require a lot more peroxide, and instructions are on the internet.

**EPSOM SALT BATH**

This bath is very relaxing for aching or tight muscles, muscle spasms or nervous tension.
Epsom salts contain a combination of magnesium and sulfur. Magnesium is often deficient in modern diets and one can absorb a significant amount in a bath. The procedure is as follows:

- Purchase 4 pounds of Epsom salts at the drugstore.
- As you fill a bathtub, stir in 3 to 4 pounds of Epsom salts. They should dissolve easily.
- The bath water may be warm or hot, but not uncomfortably so, as the intent is to relax.
- Submerge as much of the body as possible in the bath.
- Stay in the water for 20 to 30 minutes. There is no need to shower off after the bath, though it is okay if desired.

**SALT AND SODA BATH**

This is primarily an alkalinizing and mineralizing bath. It is soothing to the skin, as well, in most cases. It can help balance the body’s energy meridians, as well. While usually comfortable, the salt can sting the skin a little in some individuals. This bath will remove certain toxins and even help with infections, in some cases. It may help if one is experiencing a toxic metal elimination on a development program. The procedure is as follows:

- At the supermarket or drug store, purchase about two pounds of baking soda. Also purchase four pounds of sea salt. Any type of sea salt will do.
- As you fill your bathtub, add about 2 pounds of baking soda and 3 or 4 pounds of sea salt. The bath water should be fairly hot for best results.
- Stay in the water for 20 to 30 minutes. A shower may be helpful if you feel itchy or sticky from the salt. However, it is not necessary to take a shower afterwards.

**HOT BATHS**

A hot bath is a simple and often effective aid for fighting colds and other infections. Heating the core of the body with a bath that is as hot as one can comfortably tolerate is a form of fever therapy that enhances the immune response and weakens or even kills some microorganisms. The procedure can also help release toxins by inducing sweating. If the idea is to sweat, one can combine the hot bath with a cup of very hot tea, especially a warming tea such as ginger or regular tea, but not a sweetened tea.

**THE GENITAL BATH**

This hydrotherapy procedure is often effective for alleviating vaginal, prostate, bladder, uterine and other pelvic organ difficulties. Bladder and vaginal infections in women often respond very well to this procedure. Men can use it as well for urinary and penile difficulties. The genital bath is probably effective because the cold water causes a reaction that greatly enhances the blood flow to the lower abdominal and genital area. The procedure is as follows:

- Sit on the side of a bathtub tub facing into the tub. Alternatively, sit on a stool placed in the bathtub. One can wear a shirt, as the water will be directed only at the genital area.
- Splash cold water on the genital area only, using a wash rag or a flexible shower attachment.
- Continue the procedure for 10 minutes, and repeat it three or more times per day.

The genital bath can be repeated for as long as necessary with no ill effects.
LIVER-GALL BLADDER FLUSH

The liver-gall bladder flush is a way to force the gall bladder to empty and thus remove gallstones without surgery. It may also accelerate healing of the liver and gallbladder by reducing the amount of stones in the gall bladder. It is not, however, a substitute for a complete development program to restore the normal activity of the liver and gall bladder.

A liver flush or two may help at the beginning of a nutritional program or if one is having gall bladder problems. I am not aware of complications or damage from this procedure, although occasionally someone remains nauseated for several days afterwards. The procedure is:

- For 6 days, eat well, take your nutritional supplements and take 30 drops of phosphoric acid in a glass of water three times daily. Briefly brush your teeth afterwards to remove any acid residue. The drops can be purchased inexpensively via the internet at www.tuberose.com or 877-988-2376 or 352-797-8000 or perhaps elsewhere under the name “Phos-drops”. Instead of the drops, some procedures recommend drinking as much apple juice as possible. However, this is very sugary and will upset blood sugar badly in some people, so I would not recommend this method.
- Also take about 200 mg of magnesium (chelate, citrate or other quality product) three times a day, one tablet with each meal. The phosphoric acid and magnesium help soften stones and help dilate the bile ducts.
- At noon on the sixth day, eat a normal lunch, with the phosphoric acid drops and magnesium. Two hours after lunch, do a 1-quart coffee enema using 2 tablespoons of coffee, along with 2 tablespoons or 1/4 cup of Epsom salts in the enema. Retain this enema for 15 minutes.
- At suppertime, have a normal dinner with supplements, and be sure to have fat with the dinner, such as 2 tablespoons of butter on vegetables or some real whipped cream. At bedtime, take one of the following:
  a) 1/3 cup of olive oil followed by some lemon or other juice if the taste is objectionable.
  b) 1/3 cup of olive oil blended with 1/3 cup of orange, grapefruit or diluted lemon juice.
  c) 4 tablespoons of olive oil followed by 1 tablespoon of fruit juice every 15 minutes until one has take 1/3 cup of olive oil. The olive oil will cause the gall bladder to contract strongly, expelling gall stones.
- Immediately upon finishing the oil, lie down on the right side with the right knee drawn up toward the chin for half an hour. This is to assist emptying of the oil out of the stomach.
- If ill during the night, one may take another strong coffee enema with Epsom salts.
- In the morning, if nauseous try to remain in bed until it passes. Upon arising, take another coffee enema with Epsom salts. If nausea continues after the procedure, eat lightly and skip your supplements for a day or two.
- Do not repeat liver flushes more than once or twice a month. They are not that helpful.

Notes and warnings: You may see some small gall stones in the stool. You will often also see softer cholesterol stones and possibly other debris that was stored in the gall bladder, including even worms and other parasites. Those with gall bladder pain may not experience relief. This may lead you to believe the procedure did not work. This is not true. Most likely, the pain is due to other gall bladder problems, such as parasitic infection, inflammation, imbalance in the gall bladder meridian or other causes. The same problem occurs with gall bladder surgery that does not truly address the cause of the liver-gallbladder pain. Following a development program will usually cause the pain to subside eventually.
**For nausea.** The release of bile causes nausea in a few cases. If nausea occurs during this procedure, it indicates stimulation of the gall bladder. Finish the procedure. If vomiting occurs, just continue and do not add more than the planned amount of olive oil.

**OTHER DETOXIFICATION METHODS**

**Salt water gargle and sinus flush.** This is a very effective way to stop some infections of the nasal passages, throat and sinuses that is very safe and simple to do. The procedure is:

- Mix one-half teaspoon of sea salt (Hain is a good brand) in six ounces of distilled water.
- For throat and bronchial conditions, gargle with this mixture four or five times daily.
- For nasal or sinus-related conditions, sniff or snort the mixture into each nostril at least three to six times daily.
- Continue for several days or as needed. The procedure is very safe.

**Castor oils packs.** These are helpful for liver detoxification, and are soothing. They were recommended by Edgar Cayce and others. You will need a bottle of castor oil. It is sold in drug stores. Some people prefer organic castor oil, but any type should work. Pour some castor oil onto a piece of 12” by 12” flannel or other thicker cloth. The cloth should be saturated, but not dripping. Then follow either of the two procedures below. The first one is a little better:

- At bedtime, place the oil-saturated piece of flannel on your abdomen. Cover it with a plastic bag to keep the oil from soiling your bedclothes. Wrap an ace bandage around your waist and around the pack several times to hold the pack on to your abdomen firmly. Go to bed this way and keep the pack on all night long. **OR**
- During the day, lay down on your back in bed. Place the oil-saturated cloth on your abdomen, especially over the liver area. Cover it completely with a large plastic bag. Then place a heating pad on top of the plastic bag and turn it on high. Remain laying down with the pack on your abdomen for 3 hours.

**Cleanup.** When you remove the pack from your abdomen, place the pack in a glass or plastic container and cover it tightly. You can reuse the pack many times. Just add a little castor oil when it starts to dry out. Wipe off any castor oil that is on your abdomen with a damp rag or perhaps a paper towel.

**Hot tubs,** if heated to over 103 F. cause some detoxification. Serious problems with hot tubs include: 1) one always absorbs chemicals from the water unless it is distilled or reverse osmosis water. 2) Toxic chemicals, even silver, must be added to the water and these are absorbed as well. Never use chlorine or bromine, if possible, as these are quite toxic, 3) hot tubs are breeding grounds for bacteria and viruses, even if the tub is sanitized, unless you use hydrogen peroxide at about 200-250 parts per million, which will work. 4) you can never really clean the pipes that are inside the tub, so germs build up there that cannot be seen or cleaned out.

Because of these problems, here are rules for hot tubs: Strictly avoid all public hot tubs at hotels, health clubs, and elsewhere as they are often breeding grounds for serious infections and loaded with toxic chemicals. Home hot tubs are better, but you will still absorb chemicals in the
water unless you use reverse osmosis or distilled water and unless the tub is purified with hydrogen peroxide, which works well.

**Other detoxification methods.** These are discussed in Chapter 5. Please totally avoid ionic foot baths, in particular, as they do damage to the etheric or subtle human bodies.

**THE COCA PULSE TEST FOR FOOD REACTIONS** (Neuro-Lingual Test)

*Theory of the Coca pulse test:* Arthur F. Coca, MD, a renowned allergist, noted that upon eating a food to which one is sensitive, the pulse generally increases several beats per minute. The exact mechanism is not clear, but the reaction is most likely a sympathetic nervous system response to the allergic food. The test is easy to do at home with no special apparatus needed. It is not 100% foolproof. However, in my experience, no food allergy testing system is foolproof. This test may not be valid if you are taking a drug that controls your heart rate, such as a calcium-channel blocker or a beta-blocker. Also, do not do this test immediately after exercising or if you are very stressed for any reason. Here is the procedure:

- Sit down calmly and take a few deep breaths to help you relax.
- When you feel relaxed, establish your baseline pulse by counting your heart beat for at least a full minute or two. Preferably record your resting pulse rate on a piece of paper.
- Put a sample of **one** food item or **one** food supplement in your mouth, on your tongue. You may chew it if desired, but refrain from swallowing it. You need to taste it for approximately one-half minute. Test only one food ingredient at a time. For example, testing just chicken is much better than testing a chicken enchilada.
- Retake your pulse while the food or the supplement remains in your mouth. An increase of 4 or more beats per minute is considered the result of a stressful reaction to the food. For 0 Blood Type people, an increase of 3 beats or more is considered a positive reaction. The greater the stress response of your body, the higher the heart rate will tend to be.
- After taking your pulse, discard the tested food. Do not swallow it.
- If you wish to test another food, rinse out your mouth with purified water and be sure you are relaxed. Also, before repeating the procedure with another food or supplement, be sure your resting pulse has returned to the baseline level. You may have to wait 2-5 minutes for your pulse to return to its resting level.

**APPLIED KINESIOLOGY OR MUSCLE TESTING**

This is a method of sensing the body’s electrical reaction to a substance placed in its main energy meridian that runs down the center of the body. The strength of a muscle is tested with and without the substance in the energy field to note if the muscle gets weaker in its presence. Muscle testing can be useful, at times, for which reason I have included it here. Please note, however, that it is a fairly superficial, symptomatic approach compared with development science. It is also dependent too much on the skill of the practitioner. Therefore, its use is strictly limited, and for most purposes I do not recommend it for nutritional testing.

*Good uses for kinesiology.* The method may be helpful for 1) testing drinking water in some cases, and 2) very sensitive people to test supplements, foods or even skin care or other products. *Muscle testing supplements used in a development program may not confirm the recommendations based on the hair mineral analysis.* Reasons for this include:

- The practitioner or the client’s energy system can be ‘blocked’ or ‘reversed’.
The practitioner or the client may be tired, thirsty, tense, ungrounded, or even just distracted.

The practitioner may be receiving signals based on the time of day. Hair analysis, in contrast, offers a long-term view of what a person needs that is usually much more accurate over the long haul, even if it is not correct on a particular day or time.

The practitioner cannot easily measure the combination effects of the supplements. The reason is that even though one can hold them all at once, their physiological effects are far more complex than this inside the body.

Development programs are often designed to break a stagnant pattern in the body, such as four lows. This can temporarily add stress, so it may not test well, though it works.

Kinesiology may produce only black and white, or good or bad readings unless perhaps one is very skilled. This is not always appropriate in healing, when an intervention or supplement may have both positive and negative effects on a person.

Development programs depend heavily on supplement combinations. Testing all the complex combinations is basically impossible.

The basic muscle testing procedure: Warning: Muscle testing may not be that accurate, especially if you don’t practice often and check yourself and the client frequently for reversals and other problems. It will also not work nearly as well if the operator or the subject are too tired, hungry, thirsty or stressed.

Step 1. Checking for reversals and blocks.

- Sit comfortably. Have one arm hanging loosely downward by your side. Raise either arm straight out, but slightly forward, with the wrist slightly higher than your shoulder and the elbow locked. The hand should hang loosely from your wrist.
- Have an assistant place two fingers lightly on the top of your upraised arm, just above the wrist. When your assistant says “resist”, have him or her apply downward pressure with the two fingers, while you try to resist the downward pressure. You should be able to do this fairly easily.
- Now twist in an outward direction your other arm and wrist, the one that is not raised. Hold this position vigorously, as hard as you can.
- At the same time, have your assistant again apply downward pressure on your upraised arm. The arm should go weak, meaning you should not be able to resist the pressure.
- If this occurs, you are ready to test foods, water or other items.
- If the arm does not test weak, you are blocked or reversed. Do not continue the procedure. You must rest a few minutes, drink some water, perhaps eat something and try again later.

Step 2. Actual testing. This requires some practice to become proficient.

- Assume the position for testing, as described above with one arm raised.
- Hold a food or other product to the middle of your chest. This places it in a main central acupuncture meridian in a way that cuts through the energy field of the body.
- Test the arm strength, exactly as described above. For confirmation, you may test with nothing in the energy field afterwards, or with something that you know if it is healthful or definitely unhealthful for you.
- If you are testing many items, check for reversals or blocks every 15 minutes or more, repeating step one above. You may switch arms for comfort.
APPENDIX VII.  THE CHINA STUDY: A BOOK REVIEW

The China Study (2006) caused quite a stir, at least among those interested in vegetarian diets. I found this book objectionable on many grounds, and will just touch upon a few of them. The most important, from a scientific viewpoint, are many simple factual errors. These should alert the reader as to the general competence of the author. For example:

- “Simple carbohydrates are found in foods like white bread… crackers and chips made with white flour.” (p. 98). Bread, crackers and chips are not simple carbohydrates. They are complex carbohydrates. Simple carbohydrates are sugars.
- “Most Americans consume voluminous amounts of simple, refined carbohydrates and paltry amounts of complex carbohydrates.” (p. 98). In fact, Americans eat huge quantities of complex carbohydrates such as breads, cakes, pies, potatoes, chips and so forth.
- “There are virtually no nutrients in animal-based foods that are not better provided by plants.” (p. 213). This is horribly incorrect. Zinc is practically impossible to obtain from vegetable products unless one lives on pumpkin and sunflower seeds. Vitamins A and D, sulfur-containing amino acids, certain fatty acids, alpha-lipoic acid and quite a few others are also much easier to obtain from animal quality foods.
- “Animal protein has the tendency to block the production of supercharged vitamin D.” (p. 180) This is not supported scientifically anywhere that I know of.
- About vitamin D - “This “vitamin” is not a nutrient that we need to consume. Our body can make all that we need simply by being in sunlight fifteen to thirty minutes every couple of days.” (p. 179). This statement ignores all the newer research on vitamin D indicating that sunlight is not sufficient, even if one spends a few hours daily in the sunshine.
- “Nutrition that is truly beneficial for one chronic disease will support health across the board.” (p. 237). In fact, a food such as orange juice that is helpful for one malady (vitamin C deficiency) commonly causes other imbalance (it is very high in sugar and very yin).
- “The recommendations coming from the published literature are so simple that I can state them in one sentence: eat a whole-food, plant-based diet, while minimizing the consumption of refined foods, added salt and added fats.” (p. 242). This is completely incorrect, since there are literally millions of pages of scientific literature that come to different conclusions. If he were right, all doctors would recommend a vegetarian diet, but they do not, in part because plenty of evidence supports the idea that a mixed diet is best.
- “Vitamin supplements are not a panacea for good health.” (P. 228). If this means living on pills, of course it is not a panacea. But the author here is discouraging people from using supplements. This is horrible advice.
- “Nutrition can substantially control the adverse effects of noxious chemicals.” (p. 235) This is not correct. It can help a little, but the statement is absolutely wrong. One must avoid all toxic exposures as much as possible, and one must detoxify the body with supplements and other methods such as saunas or one will not remove most toxic chemicals and toxic metals. Food alone, in my extensive experience, will not do it.
- “Good nutrition creates health in all areas of our existence. All parts are interconnected.” (p. 238) I wish it were that easy. Especially on a vegetarian diet, it does not create health in any area that I have noticed with my clients, and many other doctors have found the same thing. One must also live a healthful lifestyle, detoxify the body, and perhaps do other therapies such as chiropractic or others to create health in more areas of life.
Another severe flaw in the book is to compare the needs of Chinese peasants with those of Americans. Chinese and other Orientals seem to need less B-complex and zinc, for which reason they have been vegetarian-oriented people for thousands of years. Caucasians, however, have never been vegetarians, and do not do nearly as well on this diet.

One-sided arguments. Another flaw in this book is that the author himself states that he is a big fan of a vegetarian diet. He spends most of the book proving his case by presenting only one side of the story. This is fine as a vegetarian manifesto. However, the author portrays himself and the book as ‘objective’ and ‘scientific’, when it is anything but that. The author does not even admit that there is another side to the story, and repeatedly derides well-respected physicians who favor animal protein diets.

For example, a wonderful book that presents both sides of the story is Nutrition And Physical Degeneration by Weston Price, DDS. Dr. Price investigated not one race, but all races on planet earth. He found that meat-eating produced far better health, especially inter-generationally, something that Dr. Campbell did not investigate at all. However, this may be said to be the most important criteria for health – how healthy will the babies be? In other words, even if you feel better on a vegetarian regimen, how will your grandchildren fare on this diet? The answer among the vegetarians was, not well at all. He found that vegetarian diets led to more birth defects. This should not be surprising because zinc and selenium, for example, are critical to prevent birth defects, and are lower in many vegetarian diets. All vegetarians should take zinc and selenium supplements, but they often do not work as well as eating some animal protein, which has many other nutrients as well. A more balanced view of vegetarian diets must include the following:

Benefits of vegetarian diets. They tend to be higher in fiber and generally higher in fresh fruits and vegetables. They also tend to be higher in some vitamins, such as vitamin C and E. They tend to be lower in fat, which may be helpful for a few people today, but harmful for many others. They are also lower in iron, which is also helpful for some, particularly older men, but harmful for others. They are also lower in some pesticides and hormones injected into animals. This is a definite benefit, but not important if one eats only organic food, as suggested.

This must be balanced with the problems with vegetarian diets. They are much higher in copper and in carbohydrates, in most cases. Most people already have too much copper and most eat too many carbohydrates. Even worse, they tend to be very low in zinc, vitamin D and B-complex vitamins that most people desperately require more of. They are also usually much lower in sulfur-bearing amino acids such as taurine, cysteine and methionine. These are essential for liver detoxification and many other functions in the body. Meat also contains other nutrients that our bodies require such as L-carnitine, alpha-lipoic acid and many others.

Extremely yin and low in etheric energy. Another serious problem with vegetarian diets is they are very yin in Chinese medical terminology. I realize this is a more esoteric concept. It means they are more expanded and centrifugal in nature. This is okay, except that it further unbalances most people today whose bodies are already too yin. Another serious problem from a mental development standpoint is that most vegetarian food is very low in etheric energy. This is a subtle life energy that has nothing to do with food enzymes or cooking of food. It is a quality of animals, basically, so vegetables contain very little of it. Yet it is helpful for the mental development of human beings. One need only look to the vegetarian nations of the world to realize that the people there are not more developed, but much less so than those in nations such as America who eat more meat. For all these reasons, The China Study was a great disappointment, as a physician looking for unbiased scientific reporting.
APPENDIX V. REFERENCES

Books specifically about hair mineral analysis:


**Books – General topics related to development science**

Koch, W, *The Survival Factor in Neoplastic and Viral Diseases*, 1961. (and all his other works)
1978.
(and all other works)

**Medical Journal Articles:**

Abraham, JL, Trace elements in hair, Lancet, 1982 Sep 4;2(8297):554–555..
Ashraf, MH, Fosmire, CJ, Effects of marginal zinc deficiency on subclinical lead toxicity in the rat neonate, Penn State U., Univ. Park, PA 16802. #4481.
Assarlan, GS, Oberleas, D, Effect of washing procedures on trace element content of hair, Clin Chem., 1977;23(9):1771-1772.
Barbosa AC, Silva SR, Dorea JG. Concentration of mercury in hair of indigenous mothers and infants from the Amazon basin. Arch Environ Contam Toxicol. 1998 Jan; 34(1):100-5.
Baumslag, N, Trace metal content of maternal and neonate hair. Arch Environ Health, October 1974;29.
Birke, G, Studies on humans exposed to methymercury through fish consumption, Arch Environ Health, 1972;25.
Boischio AAP, Cernichiar E. Longitudinal hair mercury concentration in riverside mothers along the Upper Madeira river (Brazil). Environ Res. 1998 May; 77(2):79-83.
Brimhall, JW, Mineral analysis by hair, Dig Chiro Econ., 1976, 19(1):50-
Carvalho, F, Lead and cadmium concentrations in the hair of fishermen from the Subae River Basin, Brazil, Environ Res., 1984;33:300-306.
Centers for Disease Control and Prevention (CDC), Dr. Mark Geier, Vaccine Safety Datalink data study. Children are 27 times more likely to develop autism after exposure to three thimerosal-containing vaccines (TCVs) than those who receive thimerosal-free versions, Press release from National Autism Association, February 9.
Chatergie, DD et al, Arsenic in ground water in six districts of West Bengal, India: the biggest arsenic calamity in the world. Arsenic concentration in drinking water, hair, nails, urine, skin-scale and liver tissue of affected people. Analyst, 1995;Mar;120(3):917-24.
Chen, X, Relation of selenium deficiency to the occurrence of Keshan disease. Keshan Disease Research Group of the Chinese Academy of Medical Sciences, Beijing.
Clarke, AN, Preparation of hair for lead analysis, Arch Environ Health, 1974;28, May 1974.
Clarkson, TW, Metal concentration in blood, urine, hair and other tissues as indicators of metal accumulation in the body, Dept. of Radiation Biology and Biophysics, University of Rochester School of Medicine, Rochester, NY.
Corridan, JP, Head hair samples as indicators of environmental pollution, Environ Res. 1974;8:12-16.
Cranton, EM, Critique of the American Medical Association's Published Position on Hair Analysis, J Holistic Med, 1986;8 (1).
Dine, MS, What is the best test for iron deficiency? Letter to Editor, Pediatrics, 1983;72(6).
Dogbreveru, U et al., Zinc Levels of Plasma, Erythrocyte, Hair and Urine in Homozygote Beta-Thalassemia, Acta Haematologica, 1979;62(1).

Dorea, JG, The influence of hair color on the concentration of zinc and copper in boys hair, May 1983, American Institute of Nutrition.


Eck, A new approach to hair analysis, (seminar), De Paul University, Chicago, IL May 22-23, 1982.


Eck, PC, Introduction to copper toxicity, Anal Res Labs.

Eck, PC, Watts, DL, Hair analysis, Amer Chiro., 1983;Mar/Apr.


Feng Q, Suzuki Y, Hisashige A. Trace element contents in hair of residents from Harbin (China), Medan (Indonesia), and Tokushima (Japan). Biol Trace Elem Res. 1997 Winter; 59(1-3):75-86.


Fernandez-Britto, JE et al, Coronary atherosclerosis and chemical trace elements in the hair. A canonical correlation study of autopsy subjects, using and atherometric system and the X-ray fluorescence analysis, Zentralbl Pathol. 1993;139.


Foo SC, Khoo NY, Heng A, Chua LH, Chia SE, Ong CN, Ngim CH, Jeyaratnam J. Metals in hair as biological indices for exposure. Int Arch Occup Environ Hlth. 1993; 65:S83-S86.
Furman, AF, Hair analysis –the test that helps balance body chemistry, reprint by Micro-Trace Minerals Laboratory, 1980.
Gardner, LI, Potassium loss and adrenal exhaustion, J Lab Clin Med., 1950;35:592.
Gill, US et al., Results of Multiyear International Inter-laboratory Comparison Program for Mercury in Human Hair, J Arch of Environ Contam Toxic., 2002;43(4) November, 2002


Hambridge KM. Hair analysis: proven and problematic applications. Postgraduate Medicine, 1982; 72(5):79-81, 84, 87-8.


Hammer, DI, Trace metals in hair are easier to study, JAMA, 1971;215(3):384.


Held, NA, Zinc Status of Women: Laboratory Assessment and Related Dietary Factors, University of Washington, Seattle, WA  98195. #4484.
Howe, M, Selenium in the Blood of South Dakotans, Arch Environ Health, 1979 Nov-Dec;34(6):444-8
Imaes, D., Pate, B.: Spatial Distribution of Copper in Individual Human Hairs, J. Forsenic Sci. 1976, 21.- 127-149.
Katz, SA, The use of hair as a biopsy material for trace elements in the body, Amer Lab.,1979;Feb:44-52.
Kazemi-Bajestania, SMR, Serum copper and zinc concentrations are lower in Iranian patients with angiographically defined coronary artery disease than in subjects with a normal angiogram, J Trace Elem Med Biol, 2007;21(1):22-28
Kollmer WE. Cadmium in induced hair of the rat and its relation to the level in the diet and in the major organs during long-term exposure to cadmium in the subtoxic and toxic range. J Trace Elem Macrominerals Health Dis. 1991 Sep; 5(3):165-71.
Kopito, L, et al., Sodium, Potassium, Calcium and Magnesium in Hair from Neonates with Cystic Fibrosis and in Amniotic Fluid from Mothers of such Children, Pediatrics. 1972.
Lane, BC, Common Foods That Appear to Contribute to Accommodative Weakness, Elevation of Intraocular Pressure and Development of Myopia. 4th International Conference on Myopia, October, 1982.
Lane, BC, Mercury in seafood may cause cataracts, Medical World News, 1982, December 20.
Lane, BC, Seafood as a new risk factor in cataract and glutathione peroxidase deficiency, Vision Care Section American Public Health Assn. "Vision and Aging", Session #1082, Montreal, Canada.
Malter, RF, Psychological implications of the new nutritional science, 1984?
Malter, RF, Some problems with measurement and statistics applied to hair analysis, Northwest Suburban Child Development Clinic, Inc., Arlington Heights, Il., 1988?
Mariani, A, Mercury levels in food and its intake in high-risk population groups, Bibithca Nutr Dieta, 29:32-38.
Marlow, M, Increased lead burdens and trace-mineral status in mentally retarded children, J Special Educ., 1982;16(1).
Medeiros DM, Pellum LK. Elevation of hair cadmium, lead, and zinc in adult black female hypertensives, Bull Environ Contam Toxicol, 1984;32:525-532.
Medeiros DM. Trace human hair (Letter), Lancet, 1982;8296:608.
Medeiros, DM, Blood Pressure in Young Adults as Influenced by Copper and Zinc Intake, Biol Trace Elem Res., 1983;5(3)165-174.
Medeiros, DM, Copper and Sodium Concentration in Rat Hair As Related to Dietary Intake, Nutr Res., 1983;3:923-928.

Moore, MR et al., Contribution of lead in drinking water to blood lead, Lancet, 1977;2:661-662.
Muir, M, Current Controversies in the Diagnosis and Treatment of Heavy Metal Toxicity, Alter Complement Ther., June 1997.
National Research Council (NRC), Recommended Dietary Allowances, Washington, DC, National Academy of Sciences, 1989, etc.
Nordberg, G, Whole-body and hair retention of cadmium in mice, Arch Environ Health, 1972;24.


Petering, HG et al., Trace metal content of hair: Cadmium and lead content of human hair in relation to age and sex, Arch Environ Health 1973; 27:327-330.


Potering, HG, Yeager, DW, Witherup, S0, Trace metal content of hair. I. Zinc and copper content of hair in relation to age and sex, Arch Environ Health 1971;23: 202.
Read, MS, Malnutrition, hunger and behavior. II. Hunger, school feeding programs and behavior, J Amer Diet Assn., 1973;63:386-381.


Reeves, RD, Jolley, KW, Buck-Ley, PD, Lead in Human Hair: Relation to Age, Sex, and Environmental Factors, Bull Environ Contam Toxicol., 1975,14:579-587.


Rossi, LC, Mercury and selenium distribution in a defined area and in its population, Arch Environ Health., 1976;31(3):160–165.


Schauss, AG A review of 137 cases of ADD-Hyperactivity. Also, Twelve rules for establishing good eating patterns in 3-7 year olds: The formative years, Also, Twelve changes of the twentieth century that affect dietary habits in modernized countries, Presentations at the Conference on Nutrition and Behavior, John Radcliffe hospital, Oxford University, England, July, 1985, in Nutrition And Antisocial Behavior, Brian Shuppan: Tokyo, 1986.
Schauss, AG, New findings on nutrition and its application in the behavioral sciences, Controlled hair mineral analysis study of violent and sociopathic prisoners, presentation, First International Conference on Nutritional Therapy in Medicine, 6/26/1983.
Schmitt, WH, Molybdenum for candida albicans patients and other problems, Dig Chiro Econ., 1989, Jan/Feb.:56-63.
Schoenthaler, SJ, et al. The Effect of Vitamin-Mineral Supplementation on the Intelligence of
Shi CY, Lane AT, Clarkson TW. Uptake of mercury by the hair of methylmercury-treated newborn mice. Environ Res. 1990 Apr; 51(2):170-81.
Smith, BL, Analysis of hair element levels by age, sex, race, and hair color. Unpublished paper.
Smith, BL, Cardiovascular risk as related to an element pattern in hair, Trace Elem Med, 1987;4(3):131-133.
Stoch, MD and SMythe, PM, Does undernutrition during infancy inhibit brain growth and subsequent intellectual development?, Arch Disease Child., 1963;38:546-552.
Strain, WH, Hair analysis for the observation of magnesium deficiency or excess, in 
Strain, WH, et. al., Analysis of zinc levels in hair for the diagnosis of zinc deficiency in man, J Lab Clin Med., 1966;68(2):244–249
Strain, WH, Pories, A.,Hill, O., Trace element nutriture and metabolism through head hair


Thatcher, R, et al., Effects of low levels of cadmium and lead on cognitive functioning in children, Arch Environ Health 1982;37(3):159-66.


Thatcher, RW, Intelligence and lead toxins in rural children, J Learn Disab., 1983;6.


Tsai, Y, et al, Concentrations of potassium, sodium, magnesium, calcium, copper, zinc,
manganese and iron in black and grey hairs in Taiwan, J Health Sci., 2000;46(1)46-48.
United States Federal Laboratory Requirements, 42 (CFR) 1999493.801,493.803 and 493.1709.
Walsh, W, Can the predisposition to violence hang on a hair?. Also, Hair tells violence bent?, Medical Tribune, 1984;25(21), 7/25/84.


Watts, D, Nutrient interrelationships: minerals-vitamins-endocrines, Dig Chiro Econ., 1989; Jan-Feb:67-76.


Whanger, PD, Cadmium effects in rats on tissue iron, selenium, and blood pressure: blood and hair cadmium in some Oregon residents, Environ Health Perspectives, 1979;28:115-121.

Wheatley, B, Paradis, S, Exposure of Canadian aboriginal peoples to methylmercury, J Water Air Soil Pollution, 1995;80(1-4).


Wilhelm, M et al., Uptake of aluminum, cadmium, copper, lead and zinc by human scalp hair and elution or the adsorbed metals, J Anal Toxicol, 1989;13:17-21.


Wilson, L, Hair mineral analysis, Positive Health, 1999;43; 28-34.

Wilson, L, Development and hair tissue mineral analysis, Explore For The Professional, 2003;12,(2).

REFERENCES FOR PARTICULAR SECTIONS OR CHAPTERS

Section I. Introduction and the new healing paradigm.
1. Carrel, A., Man The Unknown, 1924.

**Section II. the Scientific Basis for Development Science.**

4. Selye, H., *Stress, Stress Without Distress, Calciphylaxis* and many other books and papers.

**Section III. Introduction To The Minerals**

12. www.safeminds.org
15. Autism Research Institute (www.autismresearchinstitute.com)

**Section IV. Hair Mineral Analysis**

See above
Section V. Physical conditions On A Hair Analysis
2. Cancer Control Society, 2043 N. Berendo St. Los Angeles, CA 90027, (323) 663-7801. (resource group for alternative cancer therapies that holds annual conventions and more. Too much information at times.)
4. Gerson, M., *A Cancer Therapy, Results of 50 Cases*, Totality Books, CA, 1977. (Dr. Gerson was a pioneer of natural approaches to cancer. I don’t recommend his therapy, however, as it is older and results appear to be better with Kelley’s methods).
8. Moss, R.W, *The Cancer Industry*, Equinox Press, NY, 1999 (Dr. Moss was employed by Sloan-Kettering Memorial Hospital and writes about his experiences).

Section VI. Mental And Emotional Healing
3. Books by Hoffer and others.

Section VII. Therapeutics and Other Aspects of Development
Chapter 45. Healing Reactions:

Chapter 47. Legal Aspects of a healing practice:

Chapter 48. Reforming The Health Care System:
8. Wiley, H., *The History Of A Crime Against The Food Law: The Story Of The National Food And Drugs Law Intended To Protect The Health Of The People, Perverted To Protect Adulteration Of Foods And Drugs*, Harvey Wiley, Washington, DC, 1929, 1955. (Wiley was the first director of the Bureau of Chemistry from 1906 to 1912. The bureau was later renamed the Food And Drug Administration.)
ABOUT THE AUTHOR

Lawrence Wilson was in college studying electrical engineering at the Massachusetts Institute Of Technology when his brother was suddenly diagnosed with late-stage Hodgkin’s disease. He switched college majors and soon obtained a grant from the MIT Department of Nutrition to study the relationship between diet and cancer.

After graduating college, in hopes of helping his brother, he applied to medical schools, but shunned American schools that taught only drug cures. He obtained a medical degree from the Autonomous University of the State of Guerrero, in Chilpancingo, Mexico. While attending medical school, he studied with a number of natural healing practitioners.

Dr. Wilson developed chronic fatigue syndrome and other health problems following medical school. His journey to restore his own health led him to work with many healing methods, both medical and alternative. Like so many, he consulted doctor after doctor looking for answers. Among the most important teachers that he studied with and learned from were Bernard Jensen, ND, DC, Michio Kushi of macrobiotics fame, Roy Masters who teaches meditation, William Donald Kelley, the cancer pioneer, and several others.

In 1981, Dr. Wilson opened a nutrition consulting practice in Phoenix, Arizona. The following year he met Dr. Paul C. Eck, to whom this book is dedicated. This began a lifelong friendship and professional relationship that lasted 14 years until Dr. Eck’s death. Dr. Wilson learned development science from Paul Eck and his staff, and gave numerous seminars with them.

In 1996, Dr. Wilson moved to Prescott, Arizona. He mainly teaches development to practitioners by telephone and email, writes books, and writes and updates articles for the large development web portal, www.drlwilson.com.
INDEX

A
acetates, 587
acidification
  and coffee-drinking, 340
acidity, 37
  and oxidation type, 129
acne, 378
  case history, 1, 107, 319
acquired iron overload, 187
acupuncture patterns, 87
adaptation, 108, 587
  and vitality, 300
adaptive energy, 90, 298
ADD, 170, 414
Adderall, 429
addiction, 428
  and copper, 176
  mechanisms, 429
to foods, 38
Addison’s disease, 325
ADHD, 170, 414
  case history, 411
adderall, 429
adrenal burnout, 324, 587
  case history, 97, 319
  hair analysis patterns, 479
in babies, 387
  other therapies helpful, 326
adrenal glands
  and allergies, 353
  and the kidneys, 326
  hair test assessment of, 322
adrenal insufficiency, 324
adrenal stress pattern, 249
affect, disorders of, 424
aggressiveness pattern, 248
  and personality, 485
aging, 85, 391
  diseases of, 123
AIDS, 364
air purifiers/ozonators, 583
Albrecht, William, PhD, 99
alcohol, and magnesium, 157
alcoholism, 429
  case history, 419
aldosterone, 323, 587
algae products, 30
alginites, 46
  case history, 411
alkaline water, 15, 64
alkaline-forming diets, 37

Alkalinity, and oxidation type, 129
allergies, 353
  case history, 107, 165
alloys, 146
almond butter, 29
alopecia, 173
  case history, 69, 357
aluminum, 211, 620
  case history, 1, 89, 107, 119,
    135, 195, 203, 235, 297,
    327, 335, 441, 495, 549
  psychological aspects, 472
ama, 88
amalgams, dental, 17, 146, 371
amenorrhea, 359, 360
American Metabolic Laboratories, 395
amigos, the, 185
amigo dump retest pattern, 291
amino acids, 51
anemia, 355
  and copper, 175
  and medical drugs, 356
  and toxic metals, 356
aneurysms, 173, 352
  case history, 377
anger
  and iron, 186
  case history, 1, 41, 185, 441,
    475
angina
  case history, 227, 345
angiograms, 17
animals, and hair testing, 219
anorexia, 314
antagonistic minerals, 56, 146,
  587
antibiotic overdose, 363
antibiotic use
  case history, 519
anti-inflammatory hormones,
  587
anxiety, 368, 423
  and retracing, 531
  case history, 1, 65, 107, 195,
    235, 305, 399, 475
in slow oxidizers, 478
  appetite disorders, 314
  and copper, 173
  apple-shaped body type, 312
  applied kinesiology, 649
  armoring up retest pattern, 291
  arrhythmias, 350
arsenic, 213, 622
  case history, 107, 195, 203
arteriosclerosis, 349
  case history, 165
arthritis, 373
  case history, 145, 165, 227
  artificial sweeteners, 31
aspartame, 38
asthma, 353
  case history, 297, 441
atheism
  and oxidation types, 134
atherosclerosis, 349
athletic training, 355
Atkins, Robert, MD, 335
attempting to overcome
  overwhelming stress pattern,
    253
attention deficit disorder, 413
autism spectrum disorders, 413
  case history, 285
autoimmune diseases, 366
auto intoxication, 54
autonomic nervous system, 55,
  71, 115
averaging principle, 228
avocados, 30
awareness, 408
Ayurvedic medicine, 88
  case history, 203

B
back pain
  case history, 65
bacon, 29
balance, impaired, 378
balanced diets, 37
balanced lifestyle, 24
balanced oxidation, 136
balancing the body, 7, 8
barium, 202
Barrett’s esophagus, 315
  case history, 195
basic burnout pattern, 249
baths
clay, 63
Epsom salt, 645
genital, 646
hot, 646
hydrogen peroxide, 352, 645
ionic foot, 63
salt and soda, 646
beans and lentils, 29
Beard, John, MD, 394
Beauchamp, Antoine, MD, 101
Becker, Robert, MD, 99
bee propolis, 310, 527
beef, 28
behavior, 399
behavior, controlling with supplements
case history, 412
behavior, prediction of, 486
belligerence pattern, 248
benign prostatic hypertrophy, 361
bentonite clay, 310
beverages, 32
bioavailability, 147
bioavailability principle, 228
biochemical energy, 587
biochemical energy production, 301
biochemical individuality, 42, 93
bio-identical hormone therapy, 75, 320, 326
biological transmutation of the elements, 100, 587
bioterrorism, 363
biounavailability, 587
biounavailable calcium, 153, 252
case history, 327
biounavailable calcium and magnesium, 122
biounavailable copper, 170
bipolar disorder, 424
birth control pills, 169, 359
and copper, 172
birth defects, 386, 415
and zinc deficiency, 182
case history, 495
black salve, 396
bladder infections, 362
blended salads, 29
blessing of adrenal burnout, 326
blessing of copper toxicity, 178
blessing of slow oxidation, 132
bloating, 307
case history, 305, 441
blood disorders, 355
blood pressure
and oxidation type, 127
case history, 577
elevated, 348
low, 349
blood test abnormal
case history, 383
blood tests
and cancer, 398
endocrine comparisons with hair, 321
in adrenal burnout, 326
results versus hair, 222
blood transusions, 17
blue corn, 31
body shape, and oxidation type, 125
bodywork, 26
bone demineralization, 372
boron, 199, 604
bowel movements and oxidation type, 126
bowel problems in babies, 318
bowling retest pattern, 291
bowl pattern, 263
and personality, 484
brain architecture
and ‘tuning’ disorders, 436
and mental illness, 412
brain enhancement, 65, 102, 451, 462
brain fog, 447
case history, 1, 119, 275, 327, 399, 463, 475, 577
brainwashing, 440
breads, 31
breakthrough disorders, 442, 587
breastfeeding, 150, 342, 388
and detoxification, 62
breathing, 26
bromides, and iodine, 196
bronchitis, 355
case history, 53, 215
bruising, 173
case history, 165
bulimia, 314
bullies, 477
burned out sympathetic dominant pattern, 268
burnout hair test patterns, 479
burnout, adrenal, 324, 587
bursitis, 173
business aspects of practice, 533
byssus, 350

C
cadmium, 213, 623
and brain disorders, 449
and violence, 426
and wound healing, 369
case history, 89, 203, 328, 345, 441, 495, 549
psychological aspects, 471
sexual aspects, 455
calcium, 148, 594
and oxidation types, 121
and thyroid gland activity, 330
biounavailable, 153
metastatic, 288, 289
psychological aspects, 464
calcium and magnesium biounavailable, 122
calcium personality type, 149
calcium shell, 149, 246
case history, 89, 119, 165, 327, 345, 419, 453
calcium/magnesium ratio, 259
and personality, 481
and sugar tolerance, 343
calcium/potassium ratio, 259, 329
and personality, 482
case history, 89
calculi, renal, 362
calories
for fast oxidizers, 36
for slow oxidizers, 36
cancer, 363, 393
and copper, 174
case history, 119, 215, 328, 393
prostate, 361
candida albicans
case history, 1, 305
infection, 316
cannibalism, and diabetes, 339
Cantron, 396
capsules, mineral, 48
carbohydrate tolerance assessment protocol, 344
carbon-filtered water, 14
cardiomyopathy
case history, 297
cardiovascular disease, 346
and copper, 175
case history, 167
mineral imbalances, 346
Carrel, Alexis, MD, 4
carrot juice, 28
carrot juicers, 583
cold in winter, 107
castor oil packs, 648
catalysts, mineral, 146
cataracts, 377
catecholamines, 587
Cathcart, Robert, MD, 528
cavitations, 369
celiac disease, 314
cell permeability 
and adrenal activity, 324
and allergies, 353
and oxidation type, 128
and thyroid disease, 331
cell phones, 19
cellular energy production -see energy production, 302
centering, 66
and meditation, 514
ceruloplasmin, 588
chakra system, 102
and ‘tuning’ disorders, 435
chaplains, 555
charcoal tablets, 310
checklist, initial interpretation, 244
checklist, retest, 296
checklist, initial interpretation, 244
chest pain 
case history, 345
chi, 90, 303
chi machines, 26
childhood depression, 421
children
and change in oxidation rate, 131
and copper, 175
and development, 132
case, 441
case history, 13, 41, 135, 451, 495, 533
detoxification programs, 62
oxidation types, 120
China Study, a book review, 651
Chinese five-element theory, 87
chiropractic, 26
chlorine, and iodine, 196
chocolate eating, 38
cholesterol 
case history, 165
elevated, 33, 350
Christianity, and malaise, 448
chromium, 191, 605
and hypoglycemia, 343
case history, 89, 119, 297
hair test interpretation, 281
chromosome abnormality 
case history, 495
chronic fatigue syndrome, 324
case history, 275
chronic infections, 56
circle breathing, 26
circulation
and oxidation type, 127
case history, 327
impaired, 351
cirrhosis of the liver, 318
citic acid cycle, 590
clay baths, 63
cleansing diets, 40, 63
cleansing products, 49
client education, 547
client information for test interpretation, 281
cobalt, 202, 606
Coca pulse test, 649
cocaine
case history, 463, 526
coconut and palm oils, 30
Codex Alimentarius, 42
coenzyme Q-10, 47
co-factors, mineral, 146
coffee enemas, 506, 527
and adrenal burnout, 326
case history, 275
coffee-drinking, 32
and diabetes, 340
cognitive disorders, 415
cold in winter
case history, 235, 319
colds, case history, 297
colic in babies, 318
colitis, 317
case history, 235
collapse
and copper personality type, 488
into four lows, 124
colloidal minerals, 145
colloidal silver, 310, 527
case history, 519
colon disease, causes, 306
colon hydrotherapy, 588
colonic irrigation, 506, 527, 588
combination psychological disorders, 447
coming alive retest pattern, 291
communication styles and hair analysis, 543
complex mineral patterns, 245
complexion, 126
components of mineral readings, 235
compounds, 145
computer safety, 19
concentration difficulty
case history, 203
confusion
case history, 399, 475, 533
genital copper imbalance, 359
genital imbalances, 61
genital toxic metals, 206
case history, 495
-genital, definition of, 359
congestive heart failure, 351
conscious mind, definition of, 404
consciousness
three levels of, 402
consent, disclaimer and disclosure forms, 564
constipation, 126, 308
case history, 119, 235, 305, 319, 357, 383
contraceptives, oral, 359
controlling behavior with supplements
case history, 412
cooking, 28
utensils, 33
cooking methods, 28
copper, 167, 608
and anemia, 187, 355
and escapism, 439
and estrogen, 358
and hypoglycemia, 343
and reproduction, 358
and spirituality, 478
and violence, 425
and women’s symptoms, 171
biounavailable, 170
case history, 13, 41, 69, 89, 119, 165, 319, 327, 335, 357, 419, 433, 475, 549
hair test interpretation, 279
in slow oxidation, 478
personality types, 171, 487
psychological aspects, 467
sexual aspects, 456
symptoms of imbalance, 170
-three types of imbalances, 170
amalgams, 17, 371
cavitations, 369
crowns, 371
depression, 247, 420
case history, 1, 107, 235, 319, 327, 399, 419, 475
if severe during retracing, 532
post-partum, 359
dermatitis, 378
detox foot pads, 64
detoxification, 53, 589
and children, 62
and copper, 180
and pregnancy and lactation, 61
cautions, 63
drug storage, 58
methods, 55
methods to avoid, 53
development, 102, 451, 462
and oxidation type, 132
disorders of, 452
enhancing in children, 132
mental and spiritual, 65
developmental delay, 415
case history, 411
developmental stress, 114
dexascans, 373
diabetes, 335
and artery disease, 349
and personality, 339
case history, 89, 335
onset of, 338
symptoms of, 344
diagnosis and statistical
manual of mental disorders, 402
diagnostic test data, 282
diarrhea, 126, 309
and magnesium, 157
and retracing, 529
case history, 235, 305
diencephalon, 588
diet
alkaline-forming, 37
and diabetes, 340
case history, 27, 41, 135, 165
cleansing, 40, 63
fast oxidizer, 33
general, 27
mixed oxidizer, 35
slow oxidizer, 34
with sympathetic dominance, 35
diet profile #5, 584
dietary aids, 497
fungally-derived, 497
digestion
definition, 307
process of, 305
digestive aids, 497, 500
fungally-derived, 497
digestive disorders, 305
and zinc, 307
in babies, 318
directional change patterns on
hair tests, 274
diseases of aging, development
of, 123
placement, 588
distilled water, 14, 56
diverticulitis, 317
diving deep retest pattern, 292
dizziness, 378
case history, 275, 519, 577
Doctor’s Data, Inc., 245
domestic violence, 427
double high ratio pattern, 262
and adrenal activity, 322
and adrenal activity, 322
and personality, 481
double low ratio pattern, 262
and adrenal activity, 322
and personality, 481
Down’s syndrome
case history, 135
downward energy, 514
dressings, 29
drinking water, 14, 56
drug abuse
case history, 243, 463, 526
drugs
and anemias, 356
and four lows, 491
and hair readings, 239
and development, 427
and oxidation type, 134
and suicidal thoughts, 416
and test interpretation, 282
and violence, 427
antidepressant, 422
containing toxic metals, 205
detoxification of, 522
in infants and children, 318,
388
over-the-counter, 17
stopping, 559
storage of, 58
toxicity, 17
dry skin, 126
interpreting other tests, 282
iron interpretation, 279
JAMA studies of, 223
list of mineral patterns, 494
manganese interpretation, 280
mineral defenders, 237
mineral displacement, 237
mineral loss, deposition or excretion, 236
mineral retention elsewhere in the body, 237
phosphorus interpretation, 276
reference ranges vs. ideal values, 221
retests, 285
selenium interpretation, 280
stress assessment, 112
studies, 631
toxic metal interpretation, 277
versus blood tests, 222
washing hair at the lab, 221, 637
zinc interpretation, 275
hair analysis patterns
adrenal burnout, 479
adrenal stress, 249
aggressiveness, 248, 485
and ‘tuning’ disorders, 435
and awareness, 408
and communication styles, 543
and retracing, 523
attempting to overcome overwhelming stress, 253
basic burnout, 249
belligerence, 248
biounavailable calcium, 252
bowel, 263, 484
breakthrough patterns, 442
burned out sympathetic dominant, 268
calcium shell, 246
calcium/magnesium ratio, 259, 481
calcium/potassium ratio, 259, 482
deep bowl or skidding, 267
directional change, 274
double high ratio, 262, 481
double low ratio, or double inversion, 262, 481
ego-centric, 438
endocrine assessment, 319
escapism, 437
fast bowl, 266
fast oxidation, 475
faulty intent, 409
four highs or stilted, 254, 483
four lows, 255, 489
hidden, 270
high sodium/potassium ratio, 480
hill, 263, 484
in marriages, 487
inflammation, 382
initial interpretation checklist, 244
list of hair mineral patterns, 494
low sodium/potassium ratio, 480
magnesium shell, 247
metal buildup, 382
mixed oxidation, 479
overwhelming stress, 252
oxidation types, 261
panic disorders, 443
passive-aggressive, 256, 485
quantifying patterns, 274
psychological reference guide, 492
retest interpretation checklist, 296
running away, 438
severe burnout, 269
severe lifestyle or attitude stress, 268
severe withdrawal, 269
slow bowl, 266
slow oxidation, 477
slow oxidizer on crutches, 270
sodium/magnesium ratio, 260, 482
sodium/potassium ratio, 257
spiritual defensiveness, 481
step down, 265, 481, 485
step up, 265, 484
stress from within and without, 267
stuck, 273
sympathetic dominance, 250, 483
telltale signs of health, 273
telltale signs of illness, 272
temporary fast oxidizer types, 271
three highs or stilted, 252, 483
hearing loss, 378
heart arrhythmias, 350
heart attack, 347
case history, 227, 346
heart palpitations, 350
case history, 1
heartburn, 315
heat lamp therapy, 363, 527, 644
case history, 77, 519
heavy periods, 360
hemochromatosis, 187
hemorrhoids, 317
hemosiderosis, 187
hepatitis, 364
herbal cleanses, 63
herbs, 47, 76
and adrenal burnout, 326
detoxification, 62
cleansing, 63
for women, 360
in development, 501
laxatives, 309
to avoid, 48
Herxheimer reactions, 520
Herxheimer, Karl, MD, 519
hidden macromineral patterns, 270
high blood pressure, 348
case history, 345
hilling retest pattern, 292
hill pattern, 263
and personality, 484
histamine and oxidation type, 128
histapenia, 176
history of development, 69
HIV, 364
Hodgkin’s disease
case history, 377
holism principle, 231
holography, 82
homeopathy, 86
homeostasis, 81, 590
homosexuality, 460
hopelessness, 284, 448
hormone replacement therapy, 75, 320
case history, 328
hormones
anti-inflammatory, 587
hot baths, 646
hot dogs, 29
hot tubs, 23, 363, 648
humic acid, 206
hydration, 14, 340
hydrochloric acid therapy, 528
hydrogen peroxide, 366
baths, 352, 527
intravenous, 528
therapies, 645
hydrogenated oils, 30
hyperparathyroidism
case history, 195
hypertension, 348
case history, 227, 297, 345
renal, 348
hyperthyroidism, 332
case history, 393
hypnosis, 440, 515
hypoglycemia, 335, 444, 590
case history, 165, 195, 235,
327, 441, 577
symptoms of, 344
hypotension, 349
case history, 577
hypothyroidism, 331
in fast oxidizers, 331
hysteria, and four lows, 491

1

ICMN, 367
ideal stress response, 113
ideal values v. reference ranges, 221
ideas rejected by Dr. Eck, 75
identity
and oxidation type, 129
exchange/vampirism, 438
identity exchange, 436
illness
telltale signs on hair tests, 272
immune system conditions, 363
impotence, 361
case history, 577
infants
case history, 383, 411
oxidation types, 120
supplements for, 387
infections
and oxidation type, 128
and retracting, 527
case history, 13, 77, 107, 275,
451
causes, 363
hair analysis indicators, 364
kidney, 362
natural remedies, 527
removal, 56
respiratory, 354
infertility, 360
case history, 357
inflammation, 350
and adrenal activity, 323
diabetes, 340
and iron, 187
and pain syndromes, 380
and weight gain, 312
case history, 577
hair analysis indicators, 381
infrared lamp therapy, 644
infrared sauna therapy, 510
inhibitors, mineral, 146
initial test interpretation, 246
injuries
case history, 27
insomnia, 450
case history, 1, 107, 235, 411,
475, 577
insulin potentiation therapy,
364, 395
insulin resistance, 337
integrity, 409
intelligence, 409
intent, 408
and legal troubles, 555
in business, 534
internal stress, 590
International Oral Health
Society, 372
interpretation checklist
initial, 244
retest, 296
Interpretation Profile #2, 584
intestinal flora, reasons for
imbalanced, 306
intestinal gas, 307
case history, 165, 305, 577
intestinal infections, 316
intravenous pyelograms, 362
intravenous supplementation, 51
inversion, sodium/potassium
definition, 590
iodine, 46, 195
antagonists, 196
sexual aspects, 457
supplementation, 197
Iodoral, 46
ionic foot baths, 63
ionic minerals, 145
iron, 185, 610
and alcoholism, 430
and copper-related anemia,
187
and escapism, 439
and hypoglycemia, 343
and inflammation, 187
and violence, 426
acquired overload, 187
case history, 235, 335, 345, 414, 441, 549
combination disorder, 449
hair test interpretation, 279
psychological aspects, 468
sexual aspects, 454
irregular heart rate, 350
irritability, 368
case history, 1, 89, 305, 399, 475
irritable bowel syndrome, 317
case history, 107, 305
isotopes, mineral, 146
Issels, Joseph, MD, 369
Jarisch, Adolf, MD, 519
Jarisch-Herxheimer reactions, 520
Jerky, 29
Jicama, 29
Journal of the AMA hair analysis studies, 223
judgment, 409
Juice fasts, 63
Juicers, 583
Juices, 28, 148
Juvenile delinquency case history, 441
Kapha, 88
Kelley metabolic cancer therapy, 361, 395
Kelley, William, DDS, 395
Keloid scars, 173
Kelp, 46, 148
Ketosteroids, 590
Kidney infections, 362
case history, 107
Kidney stones, 362
case history, 195
Kidneys and the adrenal glands, 326
disorders, 361
Klenner, Frederick, MD, 528
Kloss, Jethro, 6
Koeh, William F., MD, 126
Kombucha tea, 28
Krebs cycle, 590
Kryptopyrroles, 176
La Leche League International, 389
Laboratory errors, 218
Lactation and detoxification, 61
lard, 30
Latent disease, 6
laws affecting the healing arts, 550
laws of systems, 79
Layers of adaptation principle, 232
lead, 208, 625
and anemia, 356
and violence, 426
case history, 89, 119, 195, 203, 235, 297, 328, 345, 441, 495, 549
psychological aspects, 470
Leafy greens, 29
Learning disorders, 413
Learning development, 581
Legal aspects of practice, 549
Legal disputes, 565
Legally-protected words, 556
Lethargy case history, 533
Level 1 mental disorders, 412
Level 2 or 'animal brain' disorders, 419
Level 3 or 'tuning' disorders, 433
Levy, Thomas, MD, 528
Libido, low, 459
case history, 453
Life force, 90, 298
Lifestyle, 13
case history, 97, 419, 475
effects on hair minerals, 240
Lifestyle cave-in, and four lows, 490
Lipton, Bruce, PhD, 60
Liquid supplements, 48
Lithium, 198, 612
psychological aspects, 470
Liver biopsies, 17
Liver, cirrhosis of, 318
Liver-gallbladder flush, 647
Locally grown food, 27
Loss of concentration, 170
case history, 475
Love, 461
Low blood pressure, 349
Low body temperature, 329
case history, 107
Low carbohydrate diet and weight, 313
Lugol’s solution, 46
Lupus, 366, 375
Lyme disease, 363
case history, 119
Macrobiosics, 87
Macromineral patterns, list of, 494
Macrominerals, 590
Macular degeneration, 377
case history, 165
Magnesium, 47, 156, 596
and constipation, 309
and hypoglycemia, 343
and oxidation types, 121
and seizures, 367
case history, 235
Psychological aspects, 464
Magnesium shell, 247
Malaise, 448
Male elements, 453
Manganese, 189, 613
and escapism, 439
and hypoglycemia, 343
and violence, 425
case history, 89, 119, 235, 285, 335, 419, 441
Hair test interpretation, 280
Psychological aspects, 468
Sexual aspects, 456
Manganese madness, 469
Manic-depressive disorder, 424
Marijuana, 431
case history, 463
Marriage and hair analysis, 487
Spiritual, 462
Masters, Roy, 515, 517
Maturity chart with oxidation types, 132
Mauve factor, 176
McDougule, Mrs. Pamela, 396
Meal suggestions, 35
Meat-eating and copper, 174
Meats fresh, 29
processed, 29
Medical care, 5, 569
Medical cartel, 570
medical drugs (see drugs) and retracing, 522 with toxic metals, 205 medical licensing, history of, 551 medical practice acts, 551 medical tests, advice concerning, 559 medicine functional or restorative, 96 orthomolecular, 94 preventive, 5 preventive and predictive, 95 safety of, 5 meditation, 66, 514 pitfalls, 517 procedure, 516 Roy Masters contact information, 517 memories, and mineral patterns, 401 memory loss, 412 case history, 119, 185, 235, 297, 475, 577 men’s health conditions, 361 menopausal symptoms, 361 menstrual cramps, 360 case history, 107 menstrual discomfort, 360 menstrual periods, irregular, 360 mental balance, 410 mental development, 8, 65, 102, 451, 462 and oxidation type, 132 and selenium, 193 and zinc, 182 case history, 451 disorders of, 452 enhancing in children, 132 mental disorders, 411, 419, 433, 441 and iron, 449 cadmium, 449 combination disorders, 447 young women’s syndrome, 449 mental exhaustion, 375, 420 and four lows, 492 mental maturity, 68 mental toxins, 54, 56 mental wellness, 410 mercury, 209, 627 amalgams, 371 case history, 1, 69, 89, 119, 195, 235, 297, 357, 441, 495 psychological aspects, 470 sexual aspects, 457 metabolic packs, 496 metabolic syndrome, 313, 337 and weight gain, 312 metabolic typing, 94 metabolism, definition of, 591 metallo-enzymes, definition, 591 metastatic calcium, 288, 289 methamphetamine, case history, 243 methylation, 45 microcrystalline hydroxyapatite complex, 373 microwave ovens, 33 migraines, 367 case history, 367 mind racing case history, 399, 475 mineral antagonists, 56 mineral deficiencies, 146 minerals antagonistic, 146, 587 atomic, 145 bioavailable, 587 chart of psychological aspects, 473 chelated, 146 clinically significant ranges, 202 colloidal, 145 congenital deficiencies, 147 Eck’s law of, 146 internal system of, 99 ionic, 145 preferred, 84 principles, 146 reference guide, 594 see hair analysis patterns, 273 solubility, 642 supplements, 498 toxic, 203 types of patterns, 273 used in hair test interpretation, 245 minimum daily requirements, 36 miracle mineral supplement, 528 miscarriages, 359 case history, 357 mitochrondria, 591 mitral valve prolapse case history, 135 mixed oxidation, 129, 141, 591 development of, 122 mixed oxidizer diet, 35 modalities of healing, 10 molecules, 145 molybdenum, 200, 615 monosodium glutamate, 38 mood swings case history, 1, 89, 235, 399 mood, and oxidation type, 128 moral relativism, 134 morning sickness, 359 movement, definition of, 243 multiple chemical sensitivity, 366 multiple personality disorder, 437 multiple sclerosis, 375 muscle cramps case history, 65, 165 muscle pain, case history, 327 muscle spasms and cramps, 375 muscle testing (kinesiology), 649 muscle weakness case history, 235, 549, 577 Myers cocktails, 156 myocardial infarction, 347 Myss, Carolyn, PhD, 421 myxedema, 331 N
Naessens, Gaston, 101 napping, 13 narcissism, 436 narcolepsy, 451 National Health Federation, 42 natural highs, 420 natural therapies, 57 naturopathy, 86 nausea, 314 case history, 357, 519 negative attitude case history, 441 nervous breakdowns, 444 nervous system assessment with hair analysis, 116 autonomic, 115 neuromuscular diseases, 375 nickel, 210, 628 and wound healing, 369 case history, 89, 235, 345, 441 dental crowns, 371 nightshade vegetables, 27 nourishment, 108 nut butters, 30
nutrition myths, 39
development
and addiction, 428
and alcoholism, 429
and athletic training, 355
and diabetes, 339
and drug use, 427
and mental and emotional healing, 399
and relationships, 461
and sexual energy, 460
and suicidal thinking, 418
and the elderly, 391
and weight normalization, 313
basic equipment list, 583
business and practical aspects, 533
combining with other therapies, 518
computer-generated programs, 502
consultations, 539
during pregnancy, 386
for cancer, 393
glandular products, 500
in children, 389
in the elderly, 391
learning, 581
legal aspects, 549
mineral supplements, 498
other products, 500
parallels with meditation, 516
psychological reference guide, 492
reasons for failure, 505
sexual aspects, 453
theory, 77
therapeutics, 496
vitamin supplements, 499
nutritional supplements
practical aspects, 545
nutritional yeast, 47
nuts, 30

omega-3 fatty acids, 44, 500, 503
on fire retest pattern, 292
oppression
and four lows, 491
oral contraceptives, 169
organ meats, 28
organic foods, 27
orthomolecular medicine, 94
orthomolecular nutrition, 42, 591
osteoporosis, 123, 372
case history, 119
out of the tunnel of death retest pattern, 292
ovarian cysts, 359
overachievers, and copper, 488
overwhelming stress pattern, 252
and personality, 485
oxidation, 591
balanced, 136
fast, 137
flexible, 137
mixed, 141
slow, 139
oxidation rate, 591
and adrenal activity, 322
and energy efficiency, 301
oxidation types, 70, 119, 136, 261
and body shape, 125
and calcium and magnesium, 121
and identity, 129
and maturity-chart, 132
and mental development, 132
and osteoporosis, 123
and potassium, 120
and sodium, 120
development of, 120
flying analogy, 233
oxygen therapies, 303
oxygenation, 352
ozone, 352, 528
case history, 107, 327, 399, 475
paradigm shift chart, 9
paranoia, 437
case history, 327
parasites, 57, 147, 310, 365, 529
parasympathetic nervous system, 591
parathyroid glands, 328
Parkinson’s disease, 375
passive-aggressive pattern, 256
and personality, 485
Pasteur, Louis, MD, 101
Pauling, Linus, PhD, 94, 528
peanut butter, 29
pear-shaped body type, 312
peppers, 27
periodontal disease, 372
case history, 549
peroxide baths, 527
therapies, 645
persistent developmental delay case history, 411
personal habits, 18
personality integration, 97
type A, 351
personality patterns chart of, 482
combinations of, 486
past and future, 486
personality types
copper, 171, 487
four lows, 489
pesticides, 18
Pfeiffer, Carl, MD, PhD, 128
phobias, 444
phosphorus, 161, 599
case history, 89, 165, 297, 549
hair test interpretation, 276
psychological aspects, 465
pitta, 88
pituitary adenoma
case history, 393
pleomorphism, 100, 591
pneumonia, 355
police powers of the state, 551
politics, and slow oxidation, 479
polycystic ovaries, 359
polymorphisms, 60
polypharmacy, 4
poor circulation, 351
poor eliminator, 207, 274

O
obesity, 311
case history, 195, 227, 419
obsessive-compulsive disorder, 437
case history, 1, 399
obstinance
case history, 135
occupational laws, 551
oils and fats, 30

P
Page, Melvin, DDS, 71
pain, 379
case history, 549
testicular, 361
paleolithic diet, 40
palpitations, 350
case history, 327
panic attacks, 443
pork and ham, 29
portable phones, 19
positive stress, 114
post-nasal drip
case history, 119, 327
post-partum depression, 359
post-partum psychosis, 359
post-traumatic stress disorder,
443
posture, 20
potassium, 160, 598
and oxidation types, 120
biounavailable, 294
case history, 89, 319
psychological aspects, 465
potassium iodide, 46
potatoes, 27
prana, 90
predictive medicine, 5, 95
preferred minerals, 84, 591
pregnancy, 60, 386
and detoxification
toxemia of, 359
premature ventricular complexes
case history, 297
premenstrual syndrome, 359
case history, 107, 327, 357, 399
prenatal care, 61, 385
prenatal stress, 383
prenatal vitamins
and detoxification
rebounding, 26
record-keeping, 563
reference ranges v. ideal values,
221
references, 653
refined sugars, 28, 30
reflexology, 16, 368
relationships, 284, 461
and oxidation types, 134
case history, 97, 98
renal calculi, 362
renal hypertension, 348
replacement therapy, 75, 592
resistance stage of stress, 139
resistance-to-change patterns,
273
case history, 243, 328
resources, 584
respiratory infections, 354
case history, 107
rest, 13
restorative medicine, 96
retest interpretation checklist,
296
retests, 285
retinopathy, 377
retracing, 95, 286, 519, 592
and counseling, 530
and development, 522
and personality patterns, 486
case history, 215, 285, 383, 519, 526
dangers of, 524
handling emotional reactions,
530
handling reactions, 526
mental and emotional, 522
process of, 520
spiritual, 522
reverse osmosis water, 14
Reyanaud’s syndrome, 351
rheumatoid arthritis, 366
rice, 31
rice polishings, 47
Rife, Royal, 101
right to health care, 574
rigidity, 479
ringing in the ears, 378
case history, 185, 549
Ritalin, 429
rocking retest pattern, 292
root vegetables, 29
roseola, and sauna therapy, 379
rotation of foods, 28
rotting, of partially digested
food, 307
rubidium, 202
salad, 29
salt, 349
salt added to drinking water, 63
salt and soda bath, 646
salt water gargle, 648
sarcoid disease, 375
sauna therapy, definition of, 592
saunas, 510
and adrenal exhaustion, 326
and infections, 527
case history, 53, 215, 275, 297, 367
during lactation and
pregnancy, 389
sausage, 29
Schauss, Alexander, PhD, 424
schizophrenia, 435, 437
case history, 433
school performance
case history, 451
schooling and wisdom, 68
Schroedler, Henry, MD, 3, 85
scleroderma, 366, 376
psychological override, 592
psychological reference guide,
492
psychopathology, 436
psychotronics, 440
pubic hair for hair analysis, 220
putrefaction, 307
pyridoxine, 157
pyroluriasis, 176
quantifying the patterns, 274
radiation therapy, 17
radiation toxicity, 3
radioactive elements, 214
rape, 440
Rapp, Doris, MD, 426
ratios
definition of, 136
used in test interpretation,
245
raw foods, 28
scauss, Alexander, PhD, 424
saunas, 510
and adrenal exhaustion, 326
and infections, 527
case history, 53, 215, 275, 297, 367
during lactation and
pregnancy, 389
sausage, 29
schizophrenia, 435, 437
case history, 433
school performance
case history, 451
schooling and wisdom, 68
Schoedler, Henry, MD, 3, 85
scleroderma, 366, 376
psychological aspects of
minerals, 473
psychological buffer elements,
149
sea salt, 33, 148
secondary sex characteristics, and minerals, 453
seizures, 366
case history, 357, 399, 495
selenium, 192, 616
and hypoglycemia, 343
case history, 89, 235
hair test interpretation, 280
psychological aspects, 469
self-fulfilling prophecies, 81
Selye, Hans, MD, 71
settling down retest patterns, 291
severe burnout patterns, 269
severe lifestyle or attitude stress patterns, 268
sexual activity, 24
slow oxidation, 458
sexual depletion, 26, 284
and four lows, 491
sexual desire, decreased, 459
sexual dysfunctions, 459
sexual energy, 460
sexual fluid craving, 440
sexuality
and minerals, 453
dysfunctions, 459
future elements, 457
sexually transmitted diseases, 25
shame, case history, 65
shellfish, 30
silicon
psychological aspects, 469
simple meals, 28
simple mineral patterns, 245
sinus congestion
case history, 235, 275, 399
sinus flush, 648
sinus infections, 354
case history, 77
skin
and oxidation type, 126
diseases, 378
skipped heartbeats
case history, 327
sleep, 13
and symptomatic remedies, 451
disorders, 450
slow bowel pattern, 266
slow mixed oxidation, 141
slow on crutches pattern
case history, 327
slow oxidation, 139, 453, 592
and addiction, 479
and escapism, 438
and heart attacks, 348
and hypoglycemia, 342
and personality, 477
and politics, 479
and weight gain, 312
attitudes associated with, 125
blessing of, 132
case history, 119, 215, 327, 419, 433
control tendencies, 478
development of, 122
lack of grounding, 478
symptoms, 125
slow oxidizer diet, 34
slow oxidizer patterns
slow on crutches, 270
slow under stress, 264
step down, 265
snacks, 28, 32
social policy, and oxidation types, 134
socialism, and oxidation types, 134
sociopathy, 437
soda pop, and magnesium, 157
sodium, 158, 601
and adrenal activity, 322
and oxidation types, 120
case history, 297, 319
psychological aspects, 464
sodium/magnesium ratio, 260
and adrenal activity, 322
and personality, 482
sodium/potassium ratio, 257
and adrenal activity, 322
and diabetes, 342
and personality, 480
and wound healing, 369
inversion of, 590
supplementation, 497
sodium/potassium ratio, high
case history, 577
sodium/potassium ratio, low
and buried traumas, 480
and personality, 480
case history, 69, 107, 135, 195, 215, 227, 243, 319, 345, 495, 533
solamin, 27
soul retrieval, 532
soy products, 30
spasms, muscle, 375
Spaulding, Baird, 132
spices and condiments, 33
spicy food, 28
spinal taps, 17
spiritual death, 417
spiritual development, 8, 65, 102, 462
and oxidation type, 132
spiritual disorders, 448
spiritual marriage, 462
spiritual stressors, 110
spirituality, 68
spirulina, 30
spring water, 14
SSKI, 46
stages of stress, 592
step down pattern, 265
and personality, 481, 485
step up pattern, 265
and personality, 484
stiff neck
case history, 195
stilted pattern, 252
stimuli, types of, 109
Stitt, Barbara Reed, JD, 427
stomach pain, 317
case history, 235
stopping regular medication, 559
stress, 107, 108, 592
and adaptive energy, 110
and copper, 359
and death, 110
and detoxification, 55
and traumas, 401
and young women, 358
case history, 195
external, 589
hair analysis assessment, 112
handling, 113
positive aspects, 114
prenatal, 383
the ideal response, 113
wave phenomenon, 110
stress from within and without pattern, 267
stress intolerance
case history, 399
stress response principle, 230
stress theory of disease, 71
stressor, 108
stretch marks, 173
strokes, 346
case history, 235
strontium, 202
subclinical conditions, 6
subconscious mind, definition of, 404
sub-oxidation, 142, 255
subtle bodies, 68
sugar addiction
  case history, 419
sugars, 30
  and magnesium levels, 157
suicidal thoughts, 416
  case history, 433
sulfur, 164, 603
  psychological aspects, 466
summation principle, 229
sunbathing, 18
superconscious mind, 404
superfoods, 47
supplements
  and hair test interpretation,
    282
  case history, 41
  cleansing, 49
  delivery systems, 48
  food-based, 49
  for sodium/potassium ratio,
    497
  forms of, 48
  in infants, 387
  intravenous, 51
  minerals, 498
  symptomatic, 43
  weight loss, 49
surgery, 572
  case history, 27
  dangers of, 17
  nutrients for, 17
sushi, 29
sweating, and oxidation type,
  127
sweet craving
  case history, 89, 107, 165,
    327, 549
sweeteners, 31
swelling (edema), 351
swimming, 23
swimming pools, 363
swordfish, 30
sympathetic dominance, 250
  and adrenal activity, 323
  and overachievement, 488
  and personality, 483
  case history, 1, 65, 89
  diet for, 35
sympathetic nervous system, 592
symptom data, 281
symptomatic nutrition therapy,
  43, 75
syndrome X, 337
synergistic minerals, 146, 593
synthesis of concepts by Dr. Eck, 72
system, definition of, 593
systems principle, 230
systems theory, 78
T
table salt, 33
tables, mineral, 48
tachycardia, 350
tai chi, 24
tap water, 15
taurine, and seizures, 367
tears, 32
teen promiscuity, 460
TeenScreen, 400
teleology, 78
temporary fast oxidizer, 264
types, 271
temparary mandibular joint
disease, 372
Ten Commandments, 20
tendon and ligament disorders,
  375
tendonitis, 173
test interpretation checklist
  initial, 244
  retest, 296
testicular pain, 361
tests, blood and hormone, in
  adrenal burnout, 326
teachory of development, 77
thinking habits, 20
thirst, and diabetes, 338
thoracic outlet syndrome
  case history, 107
thought disorders, 415
  three amigos, 185
  case history, 185, 235, 297,
    345, 441, 549
  three highs pattern, 252
  and personality, 483
  three lows pattern, 252
  and personality, 485
thyroid
  cellular effect, 328
  physiology, 328
  psychological aspects, 329
  time factor in diabetes, 339
  tin, 202
tinnitus, 378
  case history, 185, 549
  tired fast oxidizer, 264
tissue biopsy principle, 227
  tissue mineral biopsy, 216
TMG, 45, 503
toe breathing, 26
toenail fungus, 379
tomatoes, 27
tooth decay, 370
torque curve of the body, 301
toxic chemicals
  case history, 549
toxic exposures, 16
toxic metals, 203, 593
  and anemias, 356
  and escapism, 439
  and fulvic acid, 206
  and hypoglycemia, 343
  congenital, 206
  detection, 207
  from birth, 206
  hair values, 207
  in babies, 387
  test interpretation, 277
toxicity in utero, 383
toxins, 53, 123
  direct contact sources, 206
Trace Elements, Inc., 245
trace minerals, 593
  clinically significant ranges,
    202
trans-fats, 30
transition disorders
  spiritual, 448
transition patterns, 273
case history, 243
transmutation, biological, 587
transporters, mineral, 146
traumas, 401, 440
  hidden, 480
trends, tendencies or research
  associations, 95
triglycerides
  case history, 165
trimethylglycine, 45, 503
trying hard to stay afloat pattern,
  270
trying too hard pattern, 251
  tumors, uterine, 359
tuna fish, 30
tuning disorders, 433, 593
Twinkie defense, 426
twins zinc and copper, 166
type A personality, 351
types
  metabolic, 94
  oxidation, 119, 136
  types or levels of brain
  consciousness, 402
U
ulcers, 317
ultrasound, 384
ultraviolet blood irradiation, 528
unconscious mind
conflicts, 406
problems when untamed, 404
unhappiness, case history, 97
universal health care, 571
updates for this book, 584
upper respiratory infections, 355
uranium, 214
urethritis, 36
urination, and diabetes, 338
urination, frequent, 362
case history, 327
urticaria, 378
uterine fibroids, 359

V
vaccines, 4, 17, 387
vaginal yeast infection, 316
case history, 357
valerian root, 367
vampire fast oxidation, 272
vampirism, 436, 438, 477
vanadium, 202
varicose and spider veins, 173
vatta, 88
Veg-Easy capsules, 47
vegetable oils, 30
vegetables, 27, 29
vegetarianism, 651
and copper, 173, 359
case history, 165
supplements for, 52
veins, varicose and spider, 173
ventricular tachydardia
case history, 297
vertigo, 378
veterinary care, 219
vicious cycles, 81, 593
and toxin accumulation, 123
victim thinking
and four lows, 491
violence, 424
and copper imbalance, 171
domestic, 427
vision problems, 377
case history, 53
vital force, 298
vitality, 7, 90, 298
and medical psychology, 406
assessment, 302
hair analysis indicators, 92
principles of, 298
restoring, 303
vitamin A/beta carotene, 527
and cystitis, 362
vitamin B12, 47
anemia in the elderly, 356
vitamin B6, 157
and seizures, 367
vitamin C, 362, 364, 527
intravenous, 528
vitamin D, 18, 46
vitamin supplements, 499
and copper, 169
prenatal, 169
vitiligo, 173
Von Bertalanffy, Ludwig, 78

W
waivers for services, 561
walking procedure, 23
Walsh, William, PhD, 425
washing hair at the lab, 221
studies, 637
wasting one’s time pattern, 269
water content
and oxidation type, 126
water, for drinking, 14
Watson, George, PhD, 70
wave, stress, 110
weakness, case history, 53, 145
weight gain, 311
and fast oxidation, 312
and slow oxidation, 312
weight loss products, 49
weight normalization with development, 313
weight-loss diets, 36
Weiner, Norbert, PhD, 81
well-adjusted, 410
wellness, 4, 95
Western medical sciences, use in development, 93
wheat, 28, 31
wheat grass juice, 28
whole system thinking, 3
wild game, 29
Wilson’s disease, 179
wisdom, 68, 410
withdrawal, psychological, 489
women
and copper, 171
under stress, 358
words, legally-protected, 556
work and recreation habits, 19
workaholic pattern
and personality, 485
World Trade Towers, and saunas
case history, 53
wound healing, impaired, 375
writing, and mental development, 66

Y
yeast infections, 316
case history, 305
yin and yang, 4, 86, 593
and detoxification, 59
and fast oxidation, 476
and parasites, 366
and weight gain, 312
attitudes, 478
yoga, 24
breathing, 26
young women’s syndrome, 449

Z
zinc, 180, 618
and digestive disorders, 307
and hypoglycemia, 343
case history, 89, 135, 442, 463, 495
hair test interpretation, 275
psychological aspects, 466
sexual aspects, 454
zirconium, 202