Reversing Anemia (Chronic & Acute) + Detoxification & Nutrition in Pregnancy (Super Babies Free of Hereditary Diseases!)

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Your Quest For Longevity Begins Here !

DIETARY ANEMIA

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Anemia is defined as "a pathologic deficiency in the amount of oxygen-carrying hemoglobin in the red blood cells." Anemia is associated with fatigue - a feeling of weakness or diminished physical and mental capacity unrelieved by rest (fatigue).
Most adult females today suffer from anemia which over years of neglect becomes *chronic* and at some critical stage becomes - *acute and full blown* with numerous other more complicated symptoms which cleverly mask the underlining causes of chronic and / or acute anemia.

Signs and Symptoms of Anemia

Since the early symptoms of anemia, are mild, it is easy to mistake the anemia symptoms for ***symptoms of some serious disease***. Anemia could have an adverse impact on the quality of your life. Major symptoms of anemia include: heart palpitation, fatigue, dizziness, loss of concentration, rapid heart breath and pale skin. Unhappiness and depression could also be a major symptom of anemia. Additional symptoms include diminished ability to perform daily functions and possibly impaired cognitive function, headache, dizziness, chest pain and shortness of breath, nausea, depression and occasionally pain. These symptoms are often complicated by coexisting disease(s).

Symptoms of Chronic Anemia:
Weakness
Fatigue
Tiredness
Mild early symptoms
Shortness of breath after exercise
Pallor
Anemia
Concave nails
Brittle nails
Husky voice
Tongue inflammation
Difficulty swallowing
Headache
Ringing in the ears (tinnitus)
Insomnia
Difficulty concentrating
Leg cramps
Hunger for strange substances such as paper, ice, or dirt (a condition called pica)
A tingling, "pins and needles" sensation in the hands or feet
Impaired cognitive function
Hallucinations, paranoia and schizophrenia
Loss of sexual drive

* While numerous types of Anemia do exists, this chapter is specifically written to explain how anemia can develop in perfectly healthy people with good dietary habits.

Additional symptoms of sudden acute anemia:
Weakness
Easy fatigue and loss of energy
Dizziness
Difficulty standing
A wobbly gait and difficulty walking
Clumsiness and stiffness of the arms and legs
Unconsciousness
Low blood pressure
Rapid breathing
Breathing difficulty
Rapid pulse
Pallor
Unhappiness and depression

Observable ***signs of anemia*** are:

- Pale complexion
- The normally red lining of the mouth and eyelids (conjunctiva) fades in color
- Glossitis (red smooth tongue) and angular stomatitis (cracked corners of lips)
- Mild jaundice
- Rapid heartbeat (tachycardia)
- Ejection systolic murmur and venous hums
- Koilonychia (spoon shaped nails) or brittle nails
- Mild peripheral edema
- Early graying of hair, or dry and coarse hair or hair fall
- Enlarged lymph nodes
- Restless Leg Syndrome (RLS) is an observable sign of low serum iron or Ferritin levels.

Angina pectoris among old people is a clear sign of anemia. Females tend to develop abnormal menstruation and amenorrhea if anemia affects them whereas males develop impotence and decrease in libido. Chronic and acute Anemia can also be caused by prolonged use of Aspirin which is used as a Blood Thinner. Low serum Iron levels cause low Hemoglobin levels and poor oxygenation of the body. This results in peripheral edema and high heart rate. The overall symptoms are very similar to Congestive Cardio Vascular Failure and the patient can get mislabeled as a Cardiac Patient.

What causes anemia?

Due to the over cultivation of land and depleted soil conditions the Nutritional value of the food produced has gone down substantially during the recent decades. It is sad state of affairs (and it will certainly alarm most people) that during the course of the last 57 years the Nutrition in food is approximately 25% of what it originally was in 1950. The unfortunate part is that, there are no standards set up as yet, to certify the actual nutritional value of our groceries for the guidance of consumers. Today, everyone talks about Organic Food, but this, still does not guarantee its nutritional value or make it nutritionally superior. Organic may be healthy, because no pesticides are used, but that does not mean it is Nutritious.

This shortage of Nutrition in the food has resulted in a massive malnutrition during the last decade. Majority of the population today, immaterial of their social or economic background, suffers from malnutrition and would benefit from Multivitamin and Mineral Supplements. Looking for a perfectly nutritionally balanced body today is like looking for a needle in a hay stack.

The United State Department of Agriculture (USDA) and the research done at the University of Rutger, New Jersey, USA has proven beyond doubt the failing value of Nutrition over a 21 year period between 1976 to 1997 due to the use of synthetic fertilizers in agriculture. The iron content of spinach and tomatoes the mainstay of our diet today has fallen to "Zero" today.

Hence writing down a list of foods rich in iron would serve only as a misguidance to society and the cause for more wide spread anemia in the coming decade. This article will therefore skip any reference to foods rich in iron and will strongly recommend the use of therapeutic doses of organic iron. Supplements and monitoring of intracellular levels of iron stores (Ferritin) to correctly diagnose and treat anemia.

This would be the appropriate strategy for the coming one to two decades while the world outgrows its passion for Organic Farming and leapfrogs into "Nutritional Farming".

Here is a clinical study of a fairly healthy young girl who was born in 1974, whose hemoglobin levels are at a healthy 15.35 g/dL in 1988 at the age of 14 years. She reached her puberty in 1986 at the age of 12 years.

Female, Age: 33years, Height: 5ft, Weight: 56.545 Kg., Diet: Meat Eater (Ref: RN1)							
Parameter	**Std. Ref. Range**	**07/18/88**	**02/04/93**	**01/27/95**	**10/26/96**	**04/26/97**	**04/02/99**
Haemoglobin	12 to 15.6 g/dL	15.35 g/dL	12.5 g/dL	11 g/dL	10.6 g/dL	12.73 g/dL	10.8 g/dL
Remarks	**Lack of nutrition in the food compounded with H/o impaired digestion, acid reflux and antacid consumption from 1993 to 1999 on and off caused the hemoglobin levels to fall.**						

Table 1 - Case study No. 1

Over a 5 year period, inspite of fairly good health, regular periods and a healthy diet we find her hemoglobin levels have declined to 12.5 g/dL by 19 years of age (1993). Over the next 3 years by the age of 22 years the hemoglobin has further reduced to 10.8 g/dL. This occurred due to shortage of adequate nutrition in the food, which was further compounded by taking antacids during these years due to impaired digestion. This has caused her caused her periods to become heavy and irregular which in turn has depleted the iron stores in her body even further.

Another important and increasingly frequent cause of Anemia today is ***crash dieting*** to overcome obesity; frequent weekly fasts; crash fasting for prolonged periods due to religious beliefs; not eating green leafy vegetables for certain months of the year (Jain's please note), poor quality of produce (have you heard of spinach without a trace of iron in it) and wrong

eating habits - relying on fast foods due to lack of time to cook meals with proper nutritional value.

Almost all cases of severe iron deficiency in young children are in those who drink too much milk as calcium in the milk affects iron absorption. Studies indicate that the longer children are bottle-fed, the greater the risk for iron-deficiency and anemia. Toddlers 12 months and older should not drink more than 2 cups of milk a day. Cow's milk is good for children, but it does not contain enough iron. Too much milk can decrease children's appetite and prevent them from eating the iron-rich food they need.

Monthly blood loss from normal menstruation leads to a 28 mg loss of iron. This loss, combined with reduced food intake, results in a double-fold need for iron. Blood donations (a pint of blood contains 200 to 300 mg of iron), lactation (1 to 2.5 mg lost daily) and pregnancy (from 500 to 1000 mg of iron donated to foetal growth and storage) can all warrant close attention to iron status.

All these reasons make writing about Nutritional Anemia (Anemia caused by poor Nutrition) an urgent need of today.

Diagnosis of Anemia

Diagnosing Anemia poses a challenge as it occurs gradually over the years and is invariably masked with other more pronounced and prominent symptoms, which in today's world of high tech medicine, get more prominence and are also blown out of proportions coupled with the patient's singular focus on more prominent symptoms.

Diagnosis of anemia could be done with the help of medical history, physical exams, and blood tests.

A. Medical History

Conduct a careful history, asking about symptoms listed above, as well as the following:

- Onset and duration of symptoms
- Previous anemia (previous blood reports, a history of rejection as a blood donor)
- Blood transfusions received (if any)
- Abnormal bleeding; dark or tarry stools
- History of jaundice, bleeding disorders, spleenectomy
- Other symptoms: fever, sweats, weight loss, diarrhea, lymph node enlargement
- For women, date of last menses and amount of menstrual blood loss
- Current and recent medications (prescribed or over-the-counter), nutritional supplements, and herbal preparations
- Use of aspirin or nonsteroidal anti-inflammatory drugs
- Dietary habits
- Alcohol abuse

B. Physical Examination

Doctors should carry out a thorough preliminary physical examination of the entire body to find out how severe the anemia is and to check for possible causes. Physical examination should include the following:

- General appearance (nutritional status, appearance of health or illness)
- Weight: Compare current weight with previous values
- Skin, conjunctivae: pallor, jaundice, icterus (yellow discolouration)
- Mouth: stomatitis (cracks or inflammatory lesions at the corner of the mouth) or glossitis (red smooth tongue)
- Nails: brittle nails or koilonychia (spoon shaped nails)
- Check for enlarged lymph nodes for underlying cause of diseases
- Pulse: Irregular or rapid pulse

Blood Pressure: Using a blood pressure apparatus check for orthostatic hypotension (i.e., the blood pressure falls when the patient is raised from the supine to the sitting or standing positions) and orthostatic tachycardia.

- Heart: Using a stethoscope check for rapid heart beats (tachycardia) or irregular heart beats (systolic ejection flow murmurs)
- Lungs: Check for rapid or uneven breathing (tachypnoea)
- Abdomen: liver or spleen enlargement, masses
- Extremities: edema
- Neurologic: vibratory sensations, balance and gait, deep tendon reflexes
- Rectal or pelvic examination: to check for common sources of blood loss

C. Investigation

Most General Physicians normally recommend a Complete Blood Count (CBC) to check Hemoglobin Levels to ensure that the patient is not anemic.

Hemoglobin	Standard Reference Range
Females	11.5 to 15.0 g/dL
Males	12.5 to 17.0 g/dL

Table 2 - Standard Reference Range of Hemoglobin

Herein lies the first problem and a scope for misdiagnosis.

The Standard Reference Ranges for Hemoglobin in Females & Males given in the above table are to help diagnose Chronic or Acute Anemia and is really not a judge of good health.

To understand Standards of Good Health, which will prevent Anemia in the future, we need to understand what values are encountered in Perfectly Healthy young adults. These values are defined in Modern Pathology as **Optimum Values** as given in table below:

Hemoglobin	Standard Reference Range	* Optimum Values
Females	11.5 to 15.0 g/dL	14.0 g/dL
Males	12.5 to 17.0 g/dL	16.0 g/dL

* Optimum Values should be checked after discontinuing Iron and other supplements for minimum of 5 days before drawing blood sample.

Table 3 - Optimum Values for Hemoglobin

CBC alone is not good enough to detect the elusive anemia. So if one wants to accurately evaluate the extent of Anemia and the future risk of Anemia one should study the following: CBC, Serum Iron, Ferritin, TIBC levels. Hemoglobin levels have very poor correlation with Serum Iron levels and cannot predict Ferritin Levels (which reflect the stores of Iron in the body.) Ferritin is the Intracellular levels of Iron which reflect the true reserves of the body which come handy during emergencies. Accurate Pathological Diagnosis of anemia could only be done by checking the levels of Ferritin in the blood.

Ferritin is a test to evaluate iron stores in the body and to determine iron deficiency anemia. As Ferritin levels get depleted the ability of the body to manifest the symptoms of Chronic and / or Acute Anemia will increase. There isn't a critical Ferritin level at which the body will pass from Chronic to Acute Anemia but one can safely assume a typical value or range which will increase the risk.

Ferritin	Standard Reference Range	* Typical Critical Value	Optimum Values
Females	10 to 291 ng/mL	$\leq$ 35 ng/mL	200 ng/mL
Males	22 to 322 ng/mL	$\leq$ 50 ng/mL	250 ng/mL

* Symptoms will pass from Chronic to Acute Anemia when Ferritin levels fall below this typical value

Table 4 - Optimum and Typical Critical Values for Ferritin

In females, it is possible to see passable Hemoglobin levels of 11.5 to 12.0 even when Ferritin drops to say 20 ng/ml (*refer* **case study no.2**). Hence diagnosing Anemia by Hemoglobin alone can prove to be fallacious.

Female, 29 years old, Height 5ft 4 inch, Weight: 87.0kg, Vegetarian (Ref: SK)			
	Hemoglobin	Serum Iron	Ferritin
Standard Reference Range	11.5 to 15.0 g/dL	43 to 160 µg/dL	10 to 291 ng/mL
Optimum Value	14.0 g/dL	100 µg/dL	200 ng/mL
Patient Value	13.3 g/dL	89.4 µg/dL	23.1 ng/mL

Table 5 - Case Study No. 2

Why Ferritin is Important?

Why is so much importance being given to Ferritin in this chapter when approximately 65% of the iron is stored in the hemoglobin?

The reason is simple, as one begins administering the therapeutic doses of iron to an anemic patient it is the serum iron and hemoglobin levels that first start rising towards optimum levels. Not much impact is made on the Ferritin levels at this initial stage. It is only when the hemoglobin levels begin approaching 13.5 g/dL that the Ferritin levels begin to start rising. So Ferritin is the slowest to respond to the treatment with therapeutic doses. Ferritin is also the actual store of iron which are released to replenish any iron losses during the day to day operation of the human body. Since in normal times approximately 1 mg of iron is actually lost from the body on a daily basis, the Ferritin levels when corrected and brought to optimum values will literally remain unchanged for years to come for a person with healthy lifestyle and good dietary habits.

Failure to correct Ferritin and only watch hemoglobin levels will result in a situationwhere iron supplementation will be required to be given to the patient for life and will still not be able to dislodge the anemia once it sets in.

Drug induced Anemia

Males too today, quite frequently, suffer from anemia especially if they have been on Aspirin (Disprin, Ecosprin) for numerous years (*refer* ***case study no.3***). This is known as ***"drug induced anemia"***

Male, 59 years old, Height: 5ft 4 inch, Weight: 97.0 Kg, Vegetarian (Ref: SK) **H/o Hypertension, Diabetes, Drug Induced Anemia, Breathlessness, Sleep Apnoea**			
	Hemoglobin	**Serum Iron**	**Ferritin**
Std. Ref. Range	12.5 to 17 g/dL	35 to 150 µg/dL	22 to 322 ng/mL
Optimum Value	16 g/dL	100 µg/dL	250 ng/mL
Patient Value	12.9 g/dL	38 µg/dL	50.9 ng/mL
Remarks	**Depleted values of Serum Iron and Ferritin are due to history of Aspirin taken for more than 3 years.**		

Table 6 - Case Study No. 3

Impaired digestion (poor gastric flow) results in poor absorption of nutrition from the food we eat. This in turn can result in poor absorption of Iron from our diet and can result in chronic anemia. Decreased absorption of iron is often because of inadequate hydrochloric acid secretion in the stomach. This is an extremely common condition in the elderly. ***Use of antacids*** for prolong periods will reduce gastric flow and hydrochloric acid in particular and will therefore, reduce iron absorption from daily diet and also result in anemia even in younger people. It is therefore important to maintain digestion at peak efficiency and not reduce acid flow by the prolonged use of antacids (*refer* ***case study no.4***).

Female, Age: 33years, Height: 5ft, Weight: 56.545 Kg., Diet: Meat Eater (Ref: RN)								
Parameter	**Std. Ref. Range**	**07/18/88**	**02/04/93**	**01/27/95**	**10/26/96**	**04/26/97**	**04/02/99**	**#02/14/2008**
Hemoglobin	12 to 15.6 g/dL	15.35 g/dL	12.5 g/dL	11 g/dL	10.6 g/dL	12.73 g/dL	10.8 g/dL	13.2 g/dL
# Underwent 12 week program of detoxification and rejuvenation with nutritional therapy on 10/31/07. Therapeutic doses of elemental iron 100 mg once a day were administered with therapeutic doses of B-Complex over a 12 weeks period to raise the Hemoglobin levels as on 02/14/2008								
Remarks	**H/o impaired digestion, acid reflux and antacid consumption from 1993 to 1999 on and off. Stopping antacid consumption, improving digestion and administering therapeutic doses of elemental iron 100 mg once daily for 12 weeks raised the Hemoglobin to healthy levels.**							

Table 7 - Case Study No. 4

Calcium and Zinc are known to reduce absorption of Iron especially if taken in the form of inorganic compound like ***Calcium Carbonate*** (synthetic or naturally occurring like sea shells or coral) and Zinc Sulfate for example.

Peri-menopausal Female, Age: 52years, Height: 5ft. 2 inches, Weight: 68.2 Kg., Diet: Meat Eater (Ref: SN)				
	Std. Ref. Range	*** 12/11/2006**	****06/06/2008**	**08/13/2008**
Hemoglobin	12 to 15.6 g/dL	11.60 g/dL	10.5 g/dL	11.9 g/dL
Serum Iron	35 to 150 µg/dL		43 µg/dL	35 µg/dL
Ferritin	10 to 291 ng/mL		8 ng/mL	27.10 ng/mL
TIBC	250 to 450 µg/dL		525 µg/dL	456 µg/dL
Transferrin Saturation	14 to 50 %		8.19 %	7.68 %
Serum Calcium	8.4 to 10.4 mg/dL		10.31 mg/dL	9.50 mg/dL
* Before starting the programme. H/o heavy menstrual bleeding since 2 years and H/o taking calcium supplements (Shelcal 500 mg) 2-3 months per year for 2 years. ** Patient moved from Chronic anemia to Acute anemia and Ferritin dropped to a dismal low of 8.0 ng/ml.				
Remarks:	**Therapeutic doses of elemental iron 100 mg three to four times a day were administered over a 8 weeks period to raise the Ferritin levels**			

Table 8 - Case Study No. 5

Prolonged use (greater that six months) of heavy dose Calcium Carbonate (Shelcal 500mg) especially by Peri / Post Menopausal Women does induce anemia (*refer* C***ase Study No. 5***).

It is perfectly possible, to find fairly adequate Hemoglobin, Serum Iron and Ferritin levels in patients suffering from Chronic anemia coupled with a serious B-Complex deficiency. This can be caused for instance due to repeated course of ***drug antibiotics*** which have killed off the probiotics (healthy bacteria) which manufactures B-Complex Vitamins in the body. A serious deficiency of B-Complex and B_{12} in particular can give rise to falsely elevated Ferritin levels which can be quite misleading.

A deficiency of ***Vitamin A*** prevents the release of Iron stored in the body. This in turn results in poor Hemoglobin & Serum Iron levels.

Complications of Anemia *(Scope for misdiagnosis)*

Mild anemia, left untreated progressively becomes more severe and leads to serious health problems, including the following:

Heart problems: Severe anemia may cause a condition called high-output heart failure, where the heart must work harder to provide enough oxygen to the brain and other internal organs. The heart beats faster and increases the amount of blood that is delivered per minute. When this condition occurs in individuals with existing heart disease, or in those who are susceptible to Cardiac Disease; the heart may be unable to keep up with this increased demand, and symptoms of heart failure such as difficulty breathing and leg swelling occur. Individuals, who have coronary artery disease, or narrowing of the blood vessels supplying blood to the heart, may develop symptoms of angina, the pain associated with an insufficient blood flow to the heart muscle. Depending on the age of the woman and the degree of coronary artery disease, angina may develop with even mild anemia. In severe cases, the heart muscle may be permanently injured, and the woman will be at increased risk for a heart attack. (Source: excerpt from Anemia: NWHIC). The solution is not to label the patient as a Cardiac patient and administer Beta-Blockers to slow down the heart rate further which will result in edema and more serious symptoms of Congestive Heart Failure. This in turn will result in putting the patient on Diuretics like Lasix for life and also starting medications for hypertension. The correct thing to do at this stage is to diagnose Anemia and begin treatment with Therapeutic doses of Iron, B-Complex and other supplements.

Problems with pregnancy: Maternal iron deficiency can have significant consequences for the development of unborn child. A retrospective analysis conducted by the Centers for Disease Control and Prevention found an increased risk of preterm birth in mothers with low hemoglobin levels during the first two trimesters of pregnancy. In non-African American women, moderately low maternal hemoglobin, defined as 9.0<10.0 g/dL during the first trimester and as 8.5<9.5 g/dL during the second trimester, also was associated with a higher risk of still birth. In addition, women with hemoglobin <10 g/dL during the first twelve weeks of pregnancy had a three-fold greater risk than their non-anemic counterparts of giving birth to an infant with low birth weight.

Iron deficiency during gestation and lactation also is associated with changes in nervous system development and functioning. Possible complications in a pregnant woman with iron deficiency anemia are premature labor, dangerous anemia from blood loss during labor requiring blood transfusions and increased susceptibility to infection after childbirth.

Since Chronic Anemia is now quite rampant, especially amongst females, it is quite possible that a young woman enters pregnancy in a state of chronic anemia with poor Hemoglobin; Serum Irion and Ferritin levels (*refer* ***case study no.6,7***).

Pregnant Female, 24 years old, Height: 5ft 6 inch, Weight: 60.0 Kg, Vegetarian (Ref: MS)				
	1st Trimester Readings	Standard Reference Range	3rd Trimester Readings	Optimum Value
Hemoglobin	8.9 g/dL	11.5 to 15.0 g/dL	11.0 g/dL	14.0 g/dL
Serum Iron		43 to 160 µg/dL		
Ferritin		10 to 291 ng/mL		
Remarks	**Therapeutic dose of elemental iron 50mg twice daily were administered over a 12 weeks period to raise Hemoglobin levels.**			

Table 9 - Case Study No. 6

Female, Age: 33years, Height: 5ft, Weight: 56.545 Kg., Diet: Meat Eater (Ref: RN3)								
Parameter	Std. Ref. Range	04/02/99	*07/20/01 1st pregnancy	*12/16/01 1st pregnancy	**10/9/04 2nd pregnancy	**04/15/05 2nd pregnancy	**05/13/05 2nd pregnancy	#02/14/2008
Hemoglobin	12 to 15.6 g/dL	10.8 g/dL	8.6 g/dL 1st trimester	12 g/dL At the time of delivery	10.8 g/dL 1st trimester	8.6 g/dL 3rd trimester	10.9 g/dL At the time of delivery	13.2 g/dL
Serum Iron	35 to 150 µg/dL							98.08 µg/dL
Ferritin	10 to 291 ng/mL							25.00 ng/ml
*During 1st pregnancy the Hb of 8.6g/dL was raised to 12 g/dL by the time of delivery with oral iron supplements (Ferrous Fumarate 200mg twice daily and other iron supplements) and folic acid								
** During 2nd pregnancy the Hb of 8.6 in the third trimester was raised to 10.9 g/dL at the time delivery with the help of Inj. Ferri Intramuscularly for 7 days								
#Started detoxification and rejuvenation with nutritional therapy on 10/31/07. (12 week programme)								
Remarks	**Therapeutic doses of elemental iron 100mg once a day were administered with therapeutic doses of B-Complex over a 12 weeks period to raise the Hemoglobin and Ferritin levels as on 02/14/2008**							

Table 10 - Case Study No. 7

A child born to a mother, who is anemic, will in most probability be born with poor levels of Hemoglobin, Serum Iron and Ferritin. It is highly unlikely, that these will automatically get corrected during childhood unless proper Iron supplements / tonics are administered regularly during the growing years.

Problems in children: Children with iron deficiency anemia perform more poorly in cognitive and motor skills tests and show delayed social and emotional development. Anemia also affects physical growth and mental development. Other consequences—including reduced levels of energy and productivity and impaired immune system function—develop as children mature. Even before they are deficient enough to get anemic, children who are iron deficient, are associated with a decrease in attention span, alertness, and learning ability. Memory and school performance are decreased. Athletic performance suffers. Kids with anemia tend to get sick more often. Prolonged or severe anemia can cause marked irritability, decreased appetite, and delayed growth. Untreated anemia can cause physical and mental delays in infants and children in areas such as walking and talking.

For more information on the role of detoxification / nutrition in pregnancy and giving birth to "Super Babies" free of hereditary diseases such as hypertension, type 2 diabetes please go to:
http://www.space-age.com/Detoxification-NutritionInPregnancy.pdf

Complications and sequel of Anemia from the Diseases Database include:
Skin discoloration
Cardiac failure, high output
Hypertension, systemic
Copper levels raised (serum or plasma)
Breathlessness
Flow murmur
Hypopigmentation
Chest pain
Menorrhagia
Headache

Possible Disease in which Anemia may be the underlying cause
Attention Deficit Hyperactivity Disorder
Chronic Fatigue Syndrome
Hereditary koilonychia
Hypothyroidism
Leukemia
Myxedema
Palpitations
Sickle Cell Anemia
Sinus tachycardia

How to treat Dietary Anemia?

Now that we have learnt how to diagnose Anemia, the question remains how to go about correcting it. Yes, Iron supplement is the answer, but which ones can really correct this situation.

Will prophylactic doses help correct Anemia and quickly raise Ferritin levels? Should I use preparations continuing Ferrous Sulphate? Answers to these follow:

Chronic and / or Acute Anemia is a reflection of a serious deficiency in Iron stored in the body and can "Never" and I will repeat "Never" be corrected by Prophylactic doses of Iron no matter for how long they are administered. Nor can inorganic compounds like Ferrous Sulphate help correct this as the absorption and retention of these inorganic mineral compounds in the body is very, very poor and almost negligible. You have to use an organic preparation of Iron like Ferrous Gluconate, Lactate, Citrate, Fumarate, etc. to ensure significant absorption and proper retention of Iron in the body. This alone will help raise Ferritin levels.

Therapeutic Doses

The Recommended Daily Allowance (RDA) for an adult for Iron is:

RDA = 10 mg for males.
= 15 mg for females

This is a standard set up a few decades back to ensure that healthy non anemic people do not become Anemic. What is required to treat Chronic / Acute Anemia will obviously have to be a Therapeutic dose. Such a therapeutic dose alone will help to quickly raise Ferritin levels and remove Iron deficiency.

Therapeutic dose will comprise of 100 mg of elemental Iron (this is typically 15% to 20% of the weight of the organic compound of Iron) to be given twice and sometimes even thrice a day. Elemental Iron must be also fortified with a full range of B-Complex (and in particular with Folic Acid and B_{12}); Vitamin C and Copper to ensure that Serum Iron, and Ferritin levels rise speedily. Once this is achieved Hemoglobin levels will stay rock steady thereafter for many years to come as the daily loss of iron from the body is normally only 1mg per day.

Dosage and administration

In iron deficiency anemia, a therapeutic dose of 100 mg *elemental iron* is normally administered twice a day. Approximately only 20% of orally administered dose reaches into the blood stream and gets retained in the body. This means about 40 mg/day is absorbed and retained at intracellular levels. These doses of elemental iron should in turn be administered along with therapeutic doses of a fortified version of B-Complex at ODA levels.

In case of *chronic anemia*, it will take 3 to 6 months of continuous administration of therapeutic doses to build up stores / remove the deficiencies and create adequate intracellular levels.

In case of *acute anemia*, it will be advisable to administer 100 mg elemental iron three to four times a day, keeping a gap of approximately four hours between doses. After a few weeks, when symptoms are less acute, the daily dose of 400 mg of elemental iron can be gradually tapered off to 300 mg and then brought down to 200 mg, which should be continued till Ferritin levels come closer to Optimum Values (approximately 250 ng /mL for males and 200 ng/mL for females).

Female, 27 years, Height: 5ft 4 inch, Weight: 67.4 Kg, Vegetarian (Ref: NG)			
	Hemoglobin	**Serum Iron**	**Ferritin**
Std. Ref. Range	12 to 15.6 g/dL	25 to 156 µg/dL	10.0 to 291 ng/mL
Optimum Value	14 g/dL	100 µg/dL	200 ng/mL
Patient Value	11.5 g/dL	59.48 µg/dL	17.17 ng/mL

Table 11 - Case Study No. 8

In case of serious *B-Complex deficiency*, the replacement of iron will take much longer as you will also need time to remove the B-Complex deficiency. It is now well accepted that absorption and retention of Iron is dependant on adequate levels of Folic Acid and B_{12} in the body. It is also well known that the entire B-Complex range of vitamins are required for the body to make good use of the available B-Complex Vitamins and that the isolated administration of Folic Acid & Vitamin B_{12} does not have any permanent therapeutic effect on the body. Again, the utilization of B-Complex Vitamin in the Body is poor in patients with a serious Magnesium deficiency.

The other possibility is, low Hemoglobin and low Serum Iron levels coupled with High Ferritin levels in an anemic patient. Ferritin levels can appear elevated even in a severely anemia patient, if the B_{12} levels are pathetically poor.

Hence, one must rely on physical examination and medical history to over rule pathological findings and to clinically correlate pathological findings with physical symptoms.

This patient (***case study No.9***) is basically deficient in B-Complex Vitamins and B_{12} in particular. Therapeutic doses of B-Complex cannot be administered by using prophylactic doses of B-Complex.

Male, 34 years, Height: 5ft 2 inch, Weight: 84.0 Kg, Vegetarian (Ref: DK)			
	Hemoglobin	**Serum Iron**	**Ferritin**
Std. Ref. Range	13.5 to 17.5 g/dL	35 to 150 µg/dL	22.0 to 322 ng/mL
Optimum Value	16 g/dL	100 µg/dL	250 ng/mL
Patient Value	14.6 g/dL	67.00 µg/dL	64.90 ng/mL

Table 12 - Case Study No. 9

One must go well past Recommended Daily Allowances (RDA) and also Optimum Daily Allowances (ODA) to achieve a Therapeutic action on the body. To give an example, in case of a serious deficiency of B_{12}, one may have to administer 1000mcg to 5000 mcg of B_{12} per day along with the rest of B-Complex Vitamins at ODA levels for a few weeks and then begin tapering off as B_{12} reach healthy levels.

Anemia and Hypothyroidism

Poor serum Iron / Ferritin levels results in poor Hemoglobin which in turn results in poor oxygenation of the body. Oxygen is an important to maintain the metabolism of the body. Therefore low levels of Hemoglobin (typical $\leq$13.0 g/dL in females and $\leq$14.0 g/dL in males) will result in elevated levels of TSH ($\geq$ 2.0 uIUs) which result in weight gain and increased body fat. It is therefore safe to conclude that people with optimum levels of Hemoglobin (greater than $\geq$14.0 g/dL in females and $\geq$ 15.0 g/dL in males) do not have a predisposition to weight gain.

Female, Age: 37 years, Height: 5ft. 5 inches, Weight: 70.6 Kg., Diet: Meat Eater (Ref: NA)						
	*** 11/03/2000**	*** 12/03/2002**	*** 03/25/2003**	*** 05/08/2003**	**# 10/03/2003**	**## 12/09/2003**
Hemoglobin	7.4 g/dL	8.1 g/dL	7.6 g/dL	8.9 g/dL	10.5 g/dL	11.8 g/dL
	*** 09/26/2000**	*** 12/03/2002**	*** 03/19/2003**	*** 06/02/2003**	**# 10/04/2003**	**## 12/19/2003**
Ultrasensitive TSH	3.97 uIU/ml	**8.47 µIU/ml**	**7.53 µIU/ml**	**17.1 µIU/ml**	7.87 µIU/ml	**2.37 µIU/ml**
Eltroxin / Synthroid Dose		-	50 mcg	75 mcg	75 mcg	50mcg
Detoxification					**Whole Body**	**Whole Body**
Intracellular Nutritional Therapy					Prescription Strength Iron + B - Complex (Forte)	
*** The Historic Record shows extremely low levels of Hemoglobin for a few years before Detoxification. Patient confirms that low Hemoglobin levels existed for over 10 years in spite of continuous Iron supplementation including Ferrous Sulfate, and other Ferrous preparations.**						
* Before Detoxification. Detoxification was started in July 2003. # After 12 weeks of Whole Body Detoxification + Intracellular Nutrition ## After 20 weeks of Whole Body Detoxification + Intracellular Nutrition						
Intracellular Nutrition requires the use of Therapeutic Doses of Nutrition to be given by altering Cell Membrane permeability coupled with a carrier mechanism to deliver Nutrition to the Center of the Cell where it is required.						
Hemoglobin levels are measured after discontinuing all Nutritional Supplements for about 5 to 7 days prior to drawing blood sample. This ensures that there is proper retention of Nutrition at Intracellular levels and the reading do not pertain to serum levels which are likely to be excreted from the body in the normal course of a few hours after ingestion.						

Table 13 - Case Study No. 10

Raising Hemolobin levels to Optimum Values will result in better weight regulation and some weight decrease in most people and will also help to raise TSH to Optimum levels of $\leq$ 2.0 uIUs (as per revised international standards)

The Rate of Metabolism of the Body and the Metabolic Age of the person is directly related to maintaining hemoglobin, Serum Iron and Ferritin at Optimum Values which in turn will maintain proper oxygenation of the body.

In ***case study No.10***, we can clearly see the co-relation between hypothyroidism (elevated TSH) and poor Hemoglobin levels, bringing out the connection between anemia and hypothyroidism.

Anemia and Hair Loss

Iron deficiency is the most common cause of telogen effluvium in premenopausal women. In a study, one hundred and fifty three women who were diagnosed with telogen effluvium from 1995-1998 were examined. Seventy two percent (n=75) of women in the premenopausal group were found to have iron deficiency as the cause of telogen effluvium. ***Iron deficiency is defined as having a ferritin level of under 40ng/ml or iron percent saturation under 20%.***

Besides being a possible trigger for telogen effluvium where a lot of hair shedding occurs, iron deficiency could also be the most likely underlying cause when hair loss is subtle; slowly thinning out over many months or even years. This is common among women of childbearing age due to menstruation and pregnancy. Iron is found mainly in the blood. ***'During one period, a woman will lose around 10-15 mg of iron, while throughout a pregnancy around 600-1000 mg will be lost.'***

It is important to note therefore that iron deficiency (low iron stores, i.e. low ferritin) can occur even if the patient is not clinically anemic and has normal haemoglobin levels

Only about 10% of ingested iron in the form of supplements is absorbed into the blood each day, Your body looses iron due to: intestinal bleeding, ***excessive menstrual bleeding, poor digestion,*** long-term illness, ulcers, ***and heavy use of anti-acids. Digestion is impaired by low levels of Hydrochloric Acid caused by abstinence in eating sea salt for a prolonged period of time.***

One method of controlling iron deficiency in the body is to detoxify and rejuvenate the liver to restart the syntheses of ferritin, the protein that stores iron in order to maintain the correct balance. ***Hair follicles are known to contain ferritin, and when the circulating stores of ferritin decline then these stores are called upon to ensure support for more essential cells, such as bone marrow. The loss of this ferritin from the follicle cells can effect the ability of the hair to grow.*** This leads to the development of vellus (non pigmented fine hairs) which can be an early indication of deficiency. The presence of vellus hairs is easily mistaken for minaturized hair seen in androgenic alopecia. We should note here that Iron deficiency hair loss could therefore mimic the pattern of androgenic alopecia hair loss.

Serum ferritin concentrations of 70 ng/mL or greater are required for stopping hair fall and maintaining good hair while 100 ng/mL is required for once again stimulate hair growth.

Critical Ferritin Levels at which Chronic Anemia passes over to Acute Anemia:

Ferritin typically below 50 ng/mL

Optimum Value of Ferritin for Females = 200 ng/mL
Optimum Value of Ferritin for Males = 250 ng/mL

Therapeutic dose of Intracellular Organic Iron required to be given to correct Ferritin levels below 50 ng/mL:

100 mg Elemental Iron with other supporting Nutrients when orally delivered at Intracellular levels, bid, for minimum of six months will help to raise Ferritin above 100 ng/ml.. Around this time please do a CBC, Serum Iron and Ferritin Test after discontinuing all Iron supplements for a minimum period of 5 days. Continue Iron supplements thereafter till Ferritin reaches Optimum levels given above. Once iron deficiency is corrected at intracellular levels it will stay that way for years to come.

Do not use prophylactic doses of Iron designed to work at serum levels to correct Ferritin levels. These formulations, typically containing Ferrous Sulfate, are not designed to penetrate intracellular spaces to correct Ferritin Values.

Calcium interferes with absorption of iron. Calcium supplements or high intake of dairy products which are a rich source of calcium can cause iron deficiency anemia.

Anemia and Copper Deficiency

Copper deficiency is associated with a hypochromic, microcytic anemia. In addition, due to its effects on ceruloplasmin, copper deficiency may cause an iron deficiency anemia due to impaired iron absorption and reduced heme synthesis while iron accumulates in storage tissues. When induced by a copper deficiency, iron deficiency anemia can only be corrected with copper supplementation.

Hydrochloric Acid (Gastric Acid) Deficiency

A deficiency of hydrochloric acid may impair iron absorption, leading to iron-deficiency anemia.

Drug Induced Anemia

The prolonged use of prescription drugs such as antacids that containing calcium, aspirin, ibuprofen or other non-steroid anti-inflammatory drugs, as well as chronic alcohol abuse, can also cause iron deficiency anemia.
The use of aspirin, ibuprofen, or arthritis medicines for a long time, can cause gastrointestinal bleeding leading to anemia.

Megaloblastic Anemia / High Bilirubin

Production of red blood cells is dependent on vitamin B-12. Bilirubin is the byproduct of red blood cell degradation. Your body depends on the steady production of red blood cells, as well as the byproducts formed at the end of their life cycle. A disruption of red blood cell production due to insufficient vitamin B-12 or improper absorption of B-12 can lead to a condition known as megaloblastic anemia. It is typical to have elevated bilirubin blood levels if you are experiencing megaloblastic anemia.

Bilirubin

Red blood cells normally degrade after a 120-day life cycle. As they begin to degrade, hemoglobin, the protein responsible for transporting oxygen in the blood, breaks down into unconjugated bilirubin. Approximately 250 mg to 350 mg of unconjugated bilirubin is produced daily. The unconjugated bilirubin is carried to the liver, where it binds with sugar and is converted to conjugated bilirubin. The attached sugars help make it water-soluble so it can be absorbed by the small intestines and excreted in feces. The brown color in your feces is due to excreted bilirubin. High levels of either conjugated or unconjugated bilirubin in

your blood is known as a condition called jaundice. The cause of jaundice can be determined by blood tests conducted by your physician. The “Manual of Diagnostic and Laboratory Tests” lists gallstones as a common cause of elevated conjugated bilirubin, and includes megaloblastic anemia a cause of elevated unconjugated bilirubin.

Vitamin B-12

Vitamin B-12 is a water-soluble vitamin, which your body cannot produce. Diet, primarily animal products, is your only source of the vitamin. Your body is able to store vitamin B-12 for long periods of time, even several years. However, if you don’t get a regular dietary supply, your reserves will be used up and lead to a vitamin B-12 deficiency. A deficiency disrupts many bodily functions, especially the division of red blood cells. Vegans and meat eaters today are equally at risk of vitamin B-12 deficiency. Megaloblastic Anemia and consequently high bilirubin levels can occur even when B12 levels are around the middle of the standard reference range specified by pathology reports. It is best to administer enough B12 to raise to the upper end of the standard reference range to see if there is a substantial reduction in bilirubin levels. Again, serum levels are no indication of the total stored B12 levels in the body. So, always target the upper end which is around 1200 pg/mL.

Megaloblastic Anemia

Megaloblastic anemia is a result of improper red blood cell division due to abnormal DNA synthesis caused by a deficiency in vitamin B-12. The red blood cells prematurely divide, but the other contents of the cells, such as hemoglobin, continue to form in excess. This produces a larger than normal cell with excess hemoglobin. Excess hemoglobin leads to increased unconjugated bilirubin when the immature red blood cell degrades. Symptoms of megaloblastic anemia include fatigue, loss of appetite, pale skin, shortness of breath during exercise and difficulty concentrating. If you have experienced these symptoms for a long period of time, you may also be experiencing depression, periods of dementia, loss of balance, and a tingling feeling in your hands and feet.

Conclusion

Majority of the population today, immaterial of their social or economic background, suffers from malnutrition and would benefit from Multivitamin and Mineral Supplements. Looking for a perfectly nutritionally balanced body today is like looking for a needle in a hay stack. The proper use of good quality synergistically balanced Multivitamin / Mineral supplements in their Therapeutic doses can result in higher mental and physical energy levels, assist in weight loss, can make one feel and look years younger than ones physical age and help reduce the severity of numerous chronic aliments. This is the only solution available today to combat this problem of malnutrition.

Therapeutic doses of Elemental Iron in conjunction with whole range of Vitamin B-Complex and Folic acid given for adequate periods depending on the type and severity of anemia will help resolve dietary anemia and prevent the emergence of many chronic ailments as its consequence.

Cooking acidic foods in cast iron pots can increase dietary iron. Iron intake can also be increased by consuming Vitamin C containing foods with each meal or by adding Lime or Lemon juice to your food.

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12. Linus Pauling Institute, Oregon State University; Vitamin B-12; Jane Higdon, Ph.D.; March 2003

For Further Reading:

1. For more information on the role of detoxification / nutrition in pregnancy and giving birth to ***"Super Babies"*** free of hereditary diseases such as hypertension, type 2 diabetes please go to: http://www.space-age.com/Detoxification-NutritionInPregnancy.pdf

2. For more information on Detoxification of Excretory Organs and Rejuvenation of the entire Digestive System please go to:
http://www.space-age.com/Detox.pdf

3. Nutritional Farming - Paper read at the International Conference on Alternative Medicine, sponsored by the Ministry of Health, Tamil Nadu Agricultural College, in March 2006.
http://www.space-age.com/NutritionalFarmingSeminar.pdf

Some Unique Case Studies

Arpita – A Child Born With Neuromuscular Dysfunction is Good at High Jumps!

History:
Arpita is a young girl 12 years old who has been diagnosed with mild dyslexia and weak neuromuscular co-ordination. She also suffers from leg / muscle cramps and poor concentration. She has developed a stooping posture since early childhood.

In spite of these physical challenges, she is a sports person who excels at High Jumps at school level. Her mother and her two aunts are MDs in various specialties of medicine and believe, due to general consensus in the medical fraternity they belong to, that these are congenital defects and are therefore untreatable.

Our Observations:
Due to history of poor concentration and leg / muscle cramps, it was decided to check her ferritin levels to determine the existence of chronic anemia at intracellular levels, which most probably could have easily been passed on from mother to daughter at child birth.

Her blood report showed her hemoglobin was only 11.2 g/dL, while her serum ferritin was only 8.60 ng/mL, against an optimum level of 14.5 g/dL and 200 ng/mL respectively found in healthy people. The prior diagnoses of chronic anemia since birth and now confirm through a blood report could easily explain “mild dyslexia” (learning disorder) which was observed since childhood in Arpita. Since the Ferritin levels were well below 50 ng/mL the diagnosis of chronic anemia was now classified as a more severe acute anemia. Please refer to note on Dietary Anemia attached to this case study.

Her stooping posture and prior diagnoses of weak neuromuscular co-ordination was a dead give away of a serious intracellular magnesium deficiency. In spite of these odds Arpita could high jump about 1.30 meters (4ft 3 inches) and had secured position 3 at school level.

During a routine check up at our health center we found;

On November 09, 2011
BP = 97 / 56 Pulse P = 71 BPs (standing) = 98 / 53 Pulse Ps = 67
We noticed a fall in both her diastolic blood pressure and heart rate on exercising (standing up). This reflected poor cardiac efficiency.

On checking her blood pressure, heart rate and cardiac efficiency it became apparent that the earlier diagnoses of neuromuscular disease was actually a serious magnesium deficiency which was also clearly evident because of her stooping posture. Her heart rate fell on exercising, an indication of poor cardiac efficiency. A routine blood report further confirmed serum magnesium deficiency (1.97 mg/dL) against an optimum level of 2.4 mg/dL found in healthy people.

Since calcium helps muscles contract and magnesium helps muscles relax, it was highly probable that once the serum and erythrocyte magnesium levels were raised to optimum levels, Arpita’s performance at high jump would improve substantially and would allow her to progress from school to district / state level and then to national level participation. Also,

raising her hemoglobin levels to an optimum of 14.5 g/dL and ferritin to 200 ng/mL would improve her oxygenation level and allow her to perform better at a sport she was naturally good at.

Her Progress:
Her poor cardiac efficiency mentioned above was hampering her reaching her full potential as a sports person.

She was immediately put on therapeutic doses of organic magnesium (fortified with other supporting nutrients) and organic iron (fortified with other supporting nutrients) which were carefully formulated to work at quickly altering intracellular values.

Within 2 weeks of beginning intracellular magnesium therapy with other supporting nutrients, the stooping posture had magically disappeared and she was standing erect and tall for the first time in her life.

A few months later I got an e-mail (On 5/26/2012) from her mother:
" Arpita is doing well. She got gold medal in high jump with a performance of 1.38 meters (4 ft. 6.5 inches) at district level and has been selected for state level. " -:)

In May 2012 Arpita got a Gold Medal at District level - 1.38 meters (4 ft. 6.5 inches)

In September 2012 she got a Gold Medal at State level - 1.40 meters (4 ft. 7.5 inches)

On September 24, 2012 an excited mother called to tell me Arpita won Gold at National Level - 1.46 meters (4ft. 9.5 inches). Some more events are in the pipe line for this gifted under 14 year old.:-)

We wish her all the best.

On March 11, 2013 (15 months later)
Hemoglobin had increased from 11.2 g/dL in Nov 2011 to 12.9 g/dL
Ferritin had increased from 8.60 ng/mL in Nov 2011 to 179.15 ng/mL
Serum Magnesium had increased from 1.97 mg/dL in Nov 2011 to 2.12 mg/dL

On October 05, 2013
BP = 105 / 67 Pulse P = 64 BPs (standing) = 106 / 66 Pulse Ps = 67
Here we now see a slight increase in heart rate on exercising. Optimum would be if both the systolic / diastolic blood pressure and heart rate would increase by 10 to 15 points on exertion.

We still have a long way to go to bring Arpita's body to perfection, as would be required by a sports person. Hopefully, we can do this next year, after Arpita graduates from high school and can devote more time to health care and sports.

Short Note on Chronic / Acute Anemia

Anemia Profile - Females			
	Hemoglobin	*** Serum Iron**	**** Ferritin**
Standard Reference Range	**11.5 to 15.0 g/dL**	**43 to 150 µg/dL**	**10 to 291 ng/mL**
Optimum Value	**14.5 g/dL**	**100 µg/dL**	**200 ng/mL**
Anemia Profile - Males			
Standard Reference Range	**12.5 to 17.0 g/dL**	**43 to 150 µg/dL**	**10 to 350 ng/mL**
Optimum Value	**16.5 g/dL**	**100 µg/dL**	**250 ng/mL**

Note:

***** Ensure Optimum Values of Creatinine at 0.8 mg/dL and Serum Uric Acid at 4.0 mg/dL. Serum Iron levels tend to show falsely elevated values in case of some kidney insufficiency.

****** Optimum Value of Ferritin is determined after optimizing serum B_{12} levels to ≈ 800 pg/mL. Poor levels of B_{12} (typically in the 200 to 400 pg/mL range) tend to show falsely elevated values of Ferritin which can be quite misleading.

Serum Ferritin

Serum ferritin concentrations of 70 ng/mL or greater are required to stop hair fall, while 100 ng/mL or greater are required to stop greying hair and promote hair regrowth. Ferritin typically below 100 ng/mL is classified as chronic Anemia.

Critical Ferritin Levels at which Chronic Anemia passes over to Acute Anemia:

Ferritin typically below 50 ng/mL

Optimum Value of Ferritin for Females = 200 ng/mL
Optimum Value of Ferritin for Males = 250 ng/mL

Therapeutic dose of Intracellular Organic Iron required to be given to correct Ferritin levels below 50 ng/mL:

100 mg Elemental Iron with other supporting Nutrients when orally delivered at Intracellular levels, bid, for minimum of six months will help to raise below critical levels of Ferritin to above 100 ng/mL.

Around this time please do a CBC, Serum Iron and Ferritin Test after discontinuing all Iron supplements for a minimum period of 7 days.

Continue Iron supplements thereafter till Ferritin reaches Optimum Values given above.

Do not use prophylactic doses of Iron designed to work at serum levels to correct Ferritin levels. These formulations, typically containing Ferrous Sulfate, are not designed to penetrate intracellular spaces to correct Ferritin Values.

Calcium interferes with absorption of iron. Calcium supplements or high intake of dairy products which are a rich source of calcium can cause iron deficiency anemia.

Problems with pregnancy: Maternal iron deficiency can have significant consequences for the development of unborn child. A retrospective analysis conducted by the Centers for Disease Control and Prevention found an increased risk of preterm birth in mothers with low hemoglobin levels during the first two trimesters of pregnancy. In non-African American women, moderately low maternal hemoglobin, defined as 9.0<10.0 g/dL during the first trimester and as 8.5<9.5 g/dL during the second trimester, also was associated with a higher risk of still birth. In addition, women with hemoglobin <10 g/dL during the first twelve weeks of pregnancy had a three-fold greater risk than their non-anemic counterparts of giving birth to an infant with low birth weight.

Iron deficiency during gestation and lactation also is associated with changes in nervous system development and functioning. Possible complications in a pregnant woman with iron deficiency anemia are premature labor, dangerous anemia from blood loss during labor requiring blood transfusions and increased susceptibility to infection after childbirth.

Problems in children: Children with iron deficiency anemia perform more poorly in cognitive and motor skills tests and show delayed social and emotional development. Anemia also affects physical growth and mental development. Other consequences—including reduced levels of energy and productivity and impaired immune system function—develop as children mature. ***Even before they are deficient enough to get anemic, children who are iron deficient, are associated with a decrease in attention span, alertness, and learning ability.*** Memory and school performance are decreased. Athletic performance suffers. Kids with anemia tend to get sick more often. Prolonged or severe anemia can cause marked irritability, decreased appetite, and delayed growth. Untreated anemia can cause physical and mental delays in infants and children in areas such as walking and talking.

(The symptoms of Aripta – dyslexia (learning disorder), poor concentration, are marked in red italics above to show that it was not a congenital defect by just acute anemia and could be correctly through Orthomolecular Medicine i.e. nutrition administered at intracellular levels. Iron deficiency was also affecting her athletic performance.)

Blessings,
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spaceage2010 (for video consultations by prior appointment)

Detoxification & Nutrition in Pregnancy

by
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Question: I am planning to conceive after one year. Do you recommend undergoing detoxification & nutritional programs before I attempt to conceive?

Answer: A lot of young women face substantial discomfort (nausea / vomiting) especially during the 1st trimester of their pregnancy. This is due to the body trying to eliminate toxins in order to create a clean terrain for the development of a healthy fetus. Thus women with higher levels of accumulated toxins face more discomfort than others. This is one of the auto detoxification processes that nature has provided women. Vomiting is recognized as one of the standard detoxification procedures in Ayurveda and is know as Vamana.

It would be prudent to begin the process of detoxification at least one year prior to the planned date of conception. It would also be advisable at this stage to run a few blood tests such as Renal Profile, Liver Function Test to determine the efficiency of these organs and the build up of toxins therein. Follow-up testing after an elaborate detoxification program will help establish the efficacy of the detoxification process. For more information please visit:
http://www.space-age.com/detox.html

It's also recommended to check CBC, serum iron, ferritin, serum zinc, copper, magnesium, calcium, phosphorous, electrolytes and numerous vitamin levels to ensure that these are not at marginally lower levels. A lot of nutritional reserves are used up during the pregnancy. It would therefore be prudent to use this one year period, prior to the planned date of actual conception, to work to bring these nutritional levels to their Optimum Levels (at the higher end of their Standard Reference Range). For more information please visit:
http://www.space-age.com/pathology.pdf

A lot of nutritionally depleted young women who go into pregnancy find to their utter dismay, their bodies manifesting symptoms of high blood pressure and / or diabetes during the 3rd trimester of the pregnancy. This invariably means resorting to putting prescription drugs (chemicals with multiple known side effects) into their body (and subsequently the fetus), and / or facing the risk of premature delivery. Worse still could be ending up with postpartum depression right after delivery when the baby needs you the most.

An increasing number of cases of postpartum depression and hormonal imbalance are being reported nowadays. Zinc deficiency results in hormone imbalance / hypothyroidism. This results in symptoms of mental confusion, depression, suicidal tendencies, anger, irritability, irrational behavior and the consequential inability to quickly release the weight put on during pregnancy. Normal breast feeding during the first year should easily accomplish this weight loss. Chromium deficiency also results in higher levels of serum insulin and the subsequent accumulation of body fat

and an inability to release body weight. Furthermore, low ferritin levels are also known to increase hair loss during pregnancy. All this can also happen during the lactation period when the daily nutritional requirements of the baby are going up by leaps and bounds.

The scary part could be that a nutritionally depleted mother would unknowingly pass on her nutritional deficiencies to her child at birth, who may then have to grow up with the hardships associated with these nutritional deficiencies.

A case in point:

Many mothers enter pregnancy with hemoglobin levels in the range of 10.00 to 12.00 g/dL. No attempt is made to check the serum iron or ferritin (intracellular reserves of iron) levels to assess the iron reserves in the body.

Many a times, the attending OB/GYN assures them that ***"nothing will go wrong"*** as they have handled thousands of such cases with lower hemoglobin in the past and it was not dangerous for the mother nor the child. But the question here is, ***"will everything go right"?*** Will my baby turn out to be bright and intelligent in school or will my baby be called "stupid" because of iron deficiency and suffer the onslaught of scolding from parents and teachers because of being ***"so stupid"?*** Children with iron deficiencies are known to have disorders in learning and other skills and often suffer ridicule from fellow classmates .

Note:
If you were to enter pregnancy with Hemoglobin 12.0 g/dL (and unmonitored serum iron and Ferritin levels), it is most likely that with each passing trimester, your Hemoglobin levels will steadily go down, especially if you were put on prophylactic doses of iron supplementation, since these are not capable of raising serum Ferritin levels. It is entirely probable, that in the 3rd trimester your Hemoglobin will have plummeted down to 10.5 g/dL (in spite of such supplements), and you may end up beginning breast feeding your baby with such low Hemoglobin levels. The end result will be that you will pass on your iron deficiency / anemia to your baby.

Children with Iron deficiency

Children with iron deficiency anemia perform more poorly in cognitive and motor skills tests and show delayed social and emotional development. Anemia also affects physical growth and mental development. Other consequences—including reduced levels of energy and productivity and impaired immune system function—develop as children mature. Even before they are deficient enough to get anemic, children who are iron deficient, are associated with a decrease in attention span, alertness, and learning ability. Memory and school performance are decreased. Athletic performance suffers. Kids with anemia tend to get sick more often. Prolonged or severe anemia can cause marked irritability, decreased appetite, and delayed growth. Untreated anemia can cause physical and mental delays in infants and children in areas such as walking and talking.

Each pregnancy depletes 500 mg to 1000 mg of iron from the reserves of the mother's body. This means that, in order not to pass on iron deficiency to her new born baby, the ferritin (intracellular iron reserves) in the mother's body should be brought up to 200 ng/mL, with a corresponding hemoglobin of 14.5 g/dL prior to the date of planned conception.

Anemia Profile - Females			
	Hemoglobin	* Serum Iron	** Ferritin
Standard Reference Range	11.5 to 15.0 g/dL	43 to 150 µg/dL	10 to 291 ng/mL
Optimum Value	14.5 g/dL	100 µg/dL	200 ng/mL
Anemia Profile - Males			
Standard Reference Range	12.5 to 17.0 g/dL	43 to 150 µg/dL	10 to 350 ng/mL
Optimum Value	16.5 g/dL	100 µg/dL	250 ng/mL

Note:

***** Ensure Optimum Values of Creatinine at 0.8 mg/dL and Serum Uric Acid at 4.0 mg/dL. Serum Iron levels tend to show falsely elevated values in case of some kidney insufficiency.

****** Optimum Value of Ferritin is determined after optimizing serum B_{12} levels to ≈ 800 pg/mL. Poor levels of B_{12} (typically in the 200 to 400 pg/mL range) tend to show falsely elevated values of Ferritin which can be quite misleading.

Serum Ferritin

Serum ferritin concentrations of 70 ng/mL or greater are required to stop hair fall, while 100 ng/mL or greater are required to stop greying hair and promote hair regrowth.

Critical Ferritin Levels at which Chronic Anemia passes over to Acute Anemia = typically below 50 ng/mL

Optimum Value of Ferritin for Females = 200 ng/mL
Optimum Value of Ferritin for Males = 250 ng/mL

Therapeutic dose of Intracellular Organic Iron required to be given to correct Ferritin levels below 50 ng/mL:

100 mg Elemental Iron with other supporting Nutrients when orally delivered at Intracellular levels, bid, for minimum of six months will help to raise below critical levels of Ferritin to above 100 ng/mL.

Around this time please do a CBC, Serum Iron and Ferritin Test after discontinuing all Iron supplements for a minimum period of 7 days.

Continue Iron supplements thereafter till Ferritin reaches Optimum Values given above.

Do not use prophylactic doses of Iron designed to work at serum levels to correct Ferritin levels. These formulations typically containing Ferrous Sulfate are not designed to penetrate intracellular spaces to correct Ferritin Values.

Taking prescription strength therapeutic doses of nutritional supplements like zinc, magnesium, calcium, chromium etc., especially designed to alter intracellular levels

will help to correct these type of nutritional deficiencies given a period of 6 to 12 months.

Nutritional deficiency passed on from mother to child at birth can result in health challenges later on in life as the child grows up and reaches adulthood. For example, magnesium deficiency is known to cause convulsions in babies and high blood pressure later on in their life; and chromium deficiency has the propensity to cause type 2 diabetes later in life.

It is equally important to understand the need to have digestion working at peak efficiency in order to ensure that the nutrition being administered orally and through diet is being absorbed and retained in the body.

Increasing the flow of gastric juices (e.g. hydrochloric acid in particular) will ensure proper digestion of food in the stomach and the extraction and absorption of the nutrition from the food we eat and nutritional supplements we take. Next we need to detoxify the liver in order to ensure proper flow of bile into the small intestines where further digestion and basic absorption of nutrition will occur.

The enzyme flow from the pancreas must also be increased to ensure the digestion of proteins, carbohydrates and fats from the food we eat.

Rejuvenation of the entire digestive system is recommended prior to the date of planned conception. This will also speed up the entire digestive process and automatically reset the body's biological clock to give two bowel motions, one in the morning and one at bedtime.

Detoxification and rejuvenation of the whole body will ensure minimal discomfort during pregnancy and a healthy baby, with minimum medical complications during pregnancy and a lowered risk of postpartum depression.

Furthermore, the energy and nutritional levels of the mother will be maintained after delivery to ensure proper nurturing and optimum growth of the child.

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FAQs

Question: Is there a way to reduce the effect of hereditary diseases?

Answer: We know that nutritional deficiencies do pass from mother to baby. It is now well understood that a lack of some nutrients like magnesium, zinc, chromium, to name a few, are responsible for chronic diseases like hypertension and type 2 diabetes. It therefore clearly follows that the present thinking that these are "hereditary diseases" are actually nutritional deficiencies passed on from your maternal grandmother to your mother and then through you to your future baby.

For example, if your maternal grandmother was deficient in say Chromium, because say the soil conditions were poor in the geographical region she lived in, then your mother would also have inherited this deficiency, assuming she took no nutritional supplements all her life. It will then get passed on through you and then onwards to your planned baby.

You can break this cycle by taking care of your own nutritional deficiencies and making sure that the future generation is born healthy.

There is really no merit in the theory of "hereditary diseases" like high blood pressure, type 2 diabetes, other cardiac disease which have been wrongly classified as chronic diseases when they are merely symptoms of nutritional deficiency and are fully reversible in nature. For more information: http://www.space-age.com/aging.html

The question therefore arises is, what really is hereditary. It is your "right to good health" as you can be born with a perfect body. How you maintain it thereafter is your choice.

Question: If it is so important for a potential mother to correct her nutritional deficiencies before planned conception, what role does my husband's nutritional profile play in planning a baby?

Answer: Basically, as the fetus grows inside the womb, the nutrition of the mother is of prime importance and the only source of nutrition for the fetus.

The husband's role here is only to provide healthy sperm and to provide emotional support for his wife.

However, it is important to understand that to conceive, the husband should have fairly good levels of testosterone to ensure, no erectile dysfunction and sustained erection to lead a normal sex life. Nutritional deficiencies in zinc, selenium, vitamin c, etc. are know to lower testosterone levels and the quality of the sperm creating fundamental problems in successful conception.

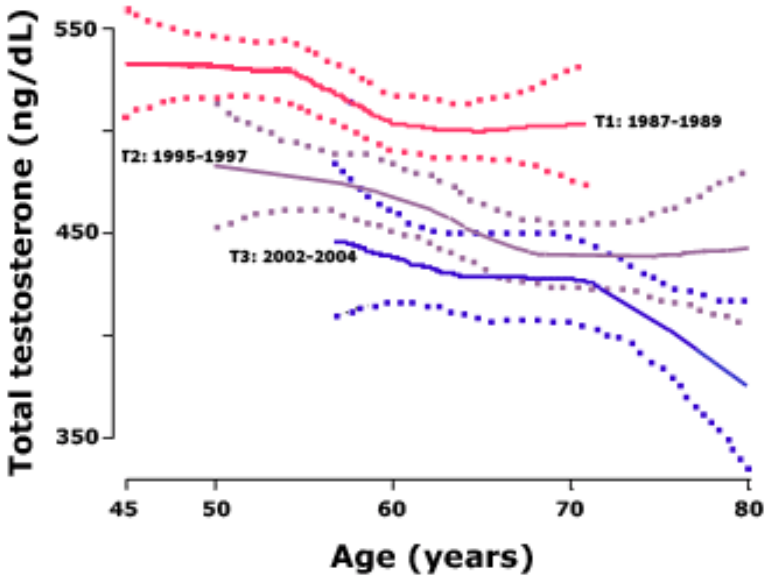
So it will be helpful if the husband is in fairly good health to deliver quality sperm for conception.

Here is a table showing optimum testosterone levels in males of different age groups. Maintaining testosterone at these levels will also aid to prevent premature aging and the onset of senility.

Testosterone	Standard Reference Range	Optimum Values
Total Testosterone	**200-1200 ng/dL**	**26 - 35 yrs - 1200 ng/dL 36 - 45 yrs - 1000 ng/dL 46 - 55 yrs - 800 ng/dL 56 - 65 yrs - 800 ng/dL**
Free Testosterone	**8.69 to 54.69 pg/ml**	**25 to 50 pg/ml**

Optimum Testosterone Levels in Males

An additional advantage and incentive for males to maintain above average testosterone levels, is that, it will make a marked difference in their professional life, (e.g. the speed, efficiency and precision with which decisions are arrived at and in their ability to deliver CEO level bottom line results in the corporate world). For more information: http://www.space-age.com/andropause.html



Declining Total Testosterone Levels over the years

With the over cultivation of agricultural land and declining nutritional levels in the top soil, it is clear that we are now no where close to the previously healthy standards for testosterone in males. With each passing year it is only getting worse. For more information please visit:
http://www.space-age.com/nutri-farm-seminar.doc

Today we have approximately 25% males in the age group of 20 to 35 years with exceedingly low testosterone levels, similar to those encountered in 75+ year old people. They have the physical body of a 25 year old, but the emotions, mental and muscular capacity of a 75 year old. This shocking fact is little know or spoken about in society. For more information please visit:
http://www.space-age.com/ed.pdf

Question: I never knew about all these things before. I just had a baby six months back. Neither my gynecologist nor my pediatrician warned me about these things. Is there anything I can do about it now?

Answer: ***"It is never to late to make amends"*** – so the saying goes. If you are still breast feeding the baby you can start on doses of nutritional supplements as per your blood reports to build up your own depleted reserves and also to ensure that henceforth the baby gets enough nutrition from breast feeding. Nutrition is very important as the baby is now growing rapidly. I would also like to recommend that you regularly begin administering multivitamin cum mineral drops to the baby.

Watch the child as it grows up. Is it mentally sharp, has good memory retention and recall capabilities, and does not tire easily during physical exercises like crawling and trying to standup and walk or later on in life at school sports? Does the child's physical stamina appear low compared to other above average kids in his age group? Are the grades obtained good and above average? Is the physical growth the same or equal to the above average kids in his age group?

Remember the rule: ***Vitamins create "expensive urine" in the absence of other supporting minerals.*** Use a malt based iron and multivitamin + minerals tonic during the growing years right up to high school.

Question: I have just entered the 3rd trimester of my pregnancy. My heart rate is very high, occasionally exceeds 100 beats per minute and I become breathless if I try to climb even one flight of stairs or engage in daily chores around the house. Is there anything that can be done nutritionally to ease my situation as I have another 3 months to go and would like to have a normal full term pregnancy?

Answer: What you have developed is medically known as tachycardia. This is principally a magnesium deficiency and the severity of these symptoms can be reduced substantially within a few weeks. Please use therapeutic doses of magnesium in an organic compound form like a lactate, gluconate, orotate, aspartate, ascorbate, etc. to quickly resolve this situation.

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Keywords: detoxification, rejuvenation, digestion, constipation, colon, detox, kidneys, hypertension, blood pressure, diabetes, serum uric acid, hyperacidity, pancreatic enzymes, nutrition, intracellular nutrition, anemia, ferritin, hair loss, pregnancy, fetus, fetal nutrition, fetal development, postpartum depression, hereditary diseases, premature delivery.

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(Comes with an easy to follow calendar guiding you on a day to day basis on how to Detoxify / Rejuvenate the various organs of your body in a systematic manner all in the privacy of your own home and at your own pace. All this is achieved using safe natural herbal dietary supplements.)

Detoxification of the whole body can help to:

a) Create a good foundation to Reverse Aging the body. Detoxification helps to clean all the excretory organs (of Toxic Waste Matter build up over the years) like the colon, kidneys, lungs, blood and also the liver;

b) Bring a youthful and healthy glow on your face which your friends cannot help notice and compliment you about it.

Rejuvenation of the body helps to:

a) Improves digestion by increasing the flow of gastric juices to enhance absorption of nutrition from the food we eat;

b) Improves energy levels and mental alertness stimulating the adrenal glands and the brain for improved physical and mental energies;

c) Improves the health of the stomach and intestines by recoating its walls with a healthy layer of mucus to reduce symptoms of acidity; and

d) Improves the performance of the liver by regenerating liver cells and increases bile flow for proper digestion in the intestines.

Ingredients: Safe Herbal. Conditioned and Micronized for maximum potency.
No metals used in these preparations.

		Dosage: Capsule
Special Colon Cleanse (60 capsules)	750mg	Helps clean the Colon and Digestive Tract
Super Kidney Care (60 capsules)	850mg	Helps Clean the Kidneys and Urinary Tract
LivMax (60 capsules)	750mg	Helps clean the Liver
Lung Clear (30 capsules)	750mg	Helps clean the lungs
Detoxifier (30 capsules)	750mg	Helps purify the blood
Digestive Aid (60 capsules)	770mg	Helps improve Digestion
Energizer (60 capsules)	850mg	Helps improve Mental and Physical Energies
GastritiX (60 capsules)	850mg	Helps improve the health of the Digestive Tract
Liver Tonic (60 capsules)	750mg	Helps improve Liver function
Whole Body Detoxification & Rejuvenation Kit	**480 capsules**	**To Consult / Order Click Here**

Foundation For Reverse Aging The Body.

We recommend a Basic Detoxification and Rejuvenation Program to achieve optimum results in Anti Aging the body. Our Detoxification & Rejuvenation Program comes with a easy to follow calendar guiding you on a day to day basis on how to Detoxify / Rejuvenate the various organs of your body in a systematic manner all in the privacy of your own home and at your own pace. All this is achieved using safe natural herbal dietary supplements.

The complete rejuvenation of the digestive system ensures that proper nutrition is absorbed from the food you eat and the supplements you take. Nutrition is the basis of repairing, regenerating and anti-aging the body. Without proper nutrition the body will begin to age rapidly and will also manifest chronic diseases like high blood pressure, type 2 diabetes, hormonal imbalances, and other cardiac diseases.

To Consult Click Here or go to (https://www.space-age.com/consultform01.html)

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* The concepts, data and methods of pathological evaluation discussed in this paper were presented at the A4M – American Academy of Anti-Aging Medicine Conference at Orlando, Florida, USA in April 2009 and San Jose, California, USA in September 2009. The supporting case studies presented at this International Conference on Anti-Aging Medicine were based on the use of the Detoxification and Rejuvenation Kits mentioned in this article. These findings are published in the Anti-Aging Therapeutics Volume XII and Volume XIII Textbook Series published by A4M – American Academy of Anti-Aging Medicine for use by Physician worldwide as Desk Reference Books in their day to day practice.
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