

Symptom Worksheet For Hormone Imbalance or Deficiency

If you are experiencing any of the following symptoms, you may have a hormonal imbalance or deficiency. If left untreated, a hormone imbalance can cause serious medical conditions. Please indicate on a scale of 1-10, with 10 being the most severe, any symptoms you are experiencing.

Rating	Woman	Rating	Men
	Irritability		Thinning Hair On Beard
	Fatigue		Thinning Hair Over Body
	Depression		Low Sexual Drive
	Headaches		Disturbed Sleep
	Hot Flashes		Depression
	Night Sweats		Prostate Enlargement
	Forgetfulness		Muscle Weakness
	Weight Gain		Fatigue
	Insomnia		Irritability
	Joint Pain / Backache		Thinning Skin
	Palpitations		Slow Wound Healing
	Crying Spells		Poor Concentration / Memory Lapses
	Loss of Bladder Control		Abdominal Weight Gain
	Burning or Pain Upon Urination		Loss of Interest in Surroundings
	Vaginal Dryness		Night Sweats
	Low Sexual Drive		Loss of Bladder Control
	Decreased Sexual Activity		Palpitations
	Loss or Thinning of Hair		Insomnia
	Other, Please Explain on Back		Other, Please Explain on Back

Additional Information:

For Women		For Men	
Date of Last Pap Smear:		Date of Last PSA Exam:	
Date of Last Mammogram:		Date of Last Prostate Exam:	
Date of Last Period:			
Number of Days in Monthly Cycle:			

Please PRINT Name: _____

Signature: _____ Date: _____

Please feel free to fax me at 480-575-0541 for a free evaluation.

Thanks, Rudy!

Clinical Reference Guide

- Who has hormone deficiencies?
 - Men: Due to the steady decrease of approximately 2% per year of testosterone after the age of 25-1% due to Sex Hormone Binding Globulin (SHBG) and 1% to testicular atrophy
 - Women:
 - Irregular menstrual cycles in the young
 - Perimenopausal patient
 - Surgical menopausal and other
- What is optimal hormone level? Top 1/3 of "normal limits" for good hormones and very little for bad.
- What's the order of priority in hormone testing?
 - Thyroid
 - Sex Hormones (balancing)(vitamins)
 - Adrenals (replacement)
 - Growth Hormone
 - Others (Pregnenolone)
- How are hormones replaced? Safely stay within the physiological levels whenever possible EXCEPT FOR: PCOS and anovulatory cycle.
- What problems occur with hormone therapies when giving melatonin and GH? When a patient has a cortisol deficiency, these will aggravate hormone deficiency.
- What problem occur with hormone therapies when giving thyroid therapy?
 - Cortisol deficiency increases by increasing cortisol catabolism
 - Decrease in cortisol will increase the change of the T4 to T3 and precipitate a hyperthyroid incident (this occurs more frequently under stressful conditions).
 - Estradiol (E2) deficiency—low E2 causes an increase in the conversion of T4 to T3.
 - Thyroid deficiency aggravates thyroid deficiency by decreasing the conversion of T4 to T3
- What problems occur with hormone therapies when giving cortisol therapy?
 - DHEA deficiency--cortisol treatment suppresses adrenal function thereby decreasing ACTH and DHEA.
 - Aldosterone deficiency--cortisol will decrease ACTH, which will decrease aldosterone.
 - DHEA will decrease cortisol production by decreasing ACTH.
 - Fludrocortisone will decrease ACTH, which will decrease cortisol.
- Why is Estradiol (E2) elevated in a progesterone deficiency? Because Progesterone (P4) helps change E2 to Estrone (E1), which then converts to Estriol (E3), therefore if P4 is low, E2 will raise b/c the conversion from E2 to E1 and E1 to E3 won't occur.

- Why elevate Estradiol (E2) in a thyroid deficiency? Because it increases Thyroxine Binding Globulin (TBG) and decreases the conversion for T4 to T3.
- Why elevate Estradiol (E2) in a testosterone deficiency? Because it increases Sex Hormone Binding Globulin (SHBG) and blocks androgen receptors.
- Why does elevated progesterone aggravate aldosterone deficiency? Because progesterone blocks the aldosterone receptors in the kidney.
- Testosterone therapy with Estradiol (E2) deficiency causes what? An increase in the conversion of Estradiol (E2).
- What's the preferred route of administration for the following hormones;
 - Melatonin—SL
 - GH—SQ
 - Thyroid—PO
 - Calcitonin—Nasal
 - Cortisol—PO
 - DHEA—PO/SL
 - Estradiol—Transdermal
 - Progesterone—Vaginal/PO
 - Testosterone—Transdermal
- What are the dietary effects of a Paleolithic Diet? Good proteins such as meat, fish, poultry and eggs increases: GH, Cortisol, DHEA, E2, P4 and testosterone, however, bad proteins, i.e., milk products, decrease the aforementioned hormones.
- Saturated fats do what? Increase GH, Cortisol, DHEA, E2, P4 and testosterone.
- What's the net effect of Hormone TX on other hormones?
 - Melatonin
 - Increases: GH, Thyroid, IGF-1 and insulin
 - Decreases: Cortisol, E2, P4 and Testosterone
 - DHEA Increases: GH, Thyroid, IGF-1, Insulin, E2 and Testosterone
 - GH Increases: Melatonin, Thyroid, IGF-1, E2, P4 and Testosterone and Decreases: Cortisol
 - IGF-1 Increases: GH, Thyroid, Insulin, E2, P4 and Testosterone
 - T3/T4 Increases: GH, IGF-1, Insulin, E2, P4 and DHEA and Decreases: Melatonin
 - Insulin Increases: Thyroid, IGF-1, E2, P4 and Testosterone
 - Estradiol (E2) Increases: Melatonin, OH, IGF-1, Insulin and P4
 - Testosterone Increases: GH, Thyroid, Cortisol, DHEA, igf-1 and Insulin
 - Progesterone (P4) Increases: GH and IGF-1
- Progesterone can decrease the levels of what in both males and females? Estradiol (E2)
- What are the sliding effects of hormones?
 - Pregnenolone & Progesterone—Low P4 causes decreased pregnenolone, which increases short term memory loss, therefore,

- increasing P4 & Pregnenolone causes pregnenolone to stay as pregnenolone, short term memory comes back.
- P4 & Testosterone—some patients taking P4 causes an elevation of testosterone causing acne in females.
- Testosterone & Estradiol (E2)—patients with low Zinc increase Estradiol (E2) when taking testosterone.
- DHEA & Testosterone-
 - If the patient has a low DHEA: give DHEA, which will increase both DHEA and Testosterone
 - If the patient has elevated testosterone and low DHEA: give DHEA, which will increase both DHEA and Testosterone; 3. If too much DHEA is given: DHEA will increase and Testosterone will decrease.
- P4 & E2—if small amounts of P4 are given, E2 stays OK; if too much P4 is given, E2 decreases
- What is a poor man's thyroid test? Basal Metabolic temperature for 10 days
- What is hormonal tension? Some hormones affect other hormones in the same category, .i.e., if we give Estriol (E3) only Estradiol (E2) increases.
- What are signs of hormonal deficiencies?
 - Melatonin—lack of sleep—TX: 0.5 mg to 5 mg SL AVOID: nicotine, caffeine, and alcohol.
 - GH—sagging face—DC: L-Arginine 2,000 mg and L-Glutamine 2,000 mg PO with dinner have them fast for 12 hours and sleep 8 hours during the 12hours of fasting—this will increase GH by 700%, depending on how low the levels are.
 - Additional Signs of Hormonal Deficiencies

Complaints	Physical Signs
ENT Infections Weight Gain/Obesity Fatigue	Puffy
Brittle Nail Growth	Overweight
Intolerance to Cold Dry Hair	Dry thick brittle hair
Dry Skin	Diffuse hair loss
Headaches	Loss of outer 1/3 of eyebrow
Bloated Abdomen Tinnitus	Swollen eyelids, lips, tongue
Constipation	Abnormal sized thyroid (goiter)
Morning Hoarseness	Dry, rough, scaly skin
Muscle Joint Pain/Stiffness	Cold, swollen hands
Slowness/Sluggishness	Yellow palms
Apathy Dyspnea	Thick swollen calves
	Non-pitting edema of LE's
Morning Depression	Cold flat feet
Slow Thinking	Yellow soles
Easily Distracted	Bradycardia
Poor Concentration	Sluggish deep tendon reflexes
Poor Attention	
Poor Memory	

Lab Tests	Optimal Values
TSH	1
Free T3	3
Free T4	1.5
ATG	0
ATPO	0
TSI	0
Thyroglobulin	<10

2 types of TX for hypothyroidism: i. T3 10-75 mcg QID (fast onset and short duration-3-4 h) and ii. T3 SR 50-300 mcg QD or BID (slower onset and longer duration 1-8 h)

****NOTE:** T4 has slower onset to activity, up to 10 days, it is less effective than medication containing T3. ******

BEST OPTION: Desiccated thyroid (Nature's Thyroid) 1/4 grain to 5 grain tabs. FDA Guidelines: 38 mcg T4 9 mcg T3 allow 9 mcg slide; Nature's Thyroid only 2 mcg slide.

HOW TO SWITCH: 100 mcg T4 =1 grain Nature's Thyroid

Strong thyroid stimulators are: GH, IGF-1, and TEST

Mild thyroid stimulators are: DHEA, Androstenedione, and Progesterone

Strong thyroid inhibitors are: oral Estrogens and Cortisol at high doses

Mild thyroid inhibitors are: Transdermal estrogens and cortisol at physiological doses

What conditions can increase the need for thyroids? Winter, high altitude, high physical activity, high protein diet, low caloric diet, low veggies, oral vitamin E, lack of sleep.

What conditions can decrease the need for thyroids? Summer, living near the sea, low stress, high veggie diet, low protein diet, high caloric intake, untreated cortisol deficiency, testosterone in females, GH and insulin.

d. What's seen in someone with cortisol deficiency as a child? Thin, narrow body, high ENT infections, GI troubles, difficulty eating, high attraction to sugar.

Complaints of Cortisol Deficiency	Physical Signs of Cortisol Deficiency
Anxiety	Thin
Depression	Obese if sugar is craved
Moodiness	Hair loss w/ elongated hair root
Stressful situations	Brownish face
Decreased memory during stress	Hollow cheeks
Excessive sensitivity	Painful sinus
Feeling of being a victim	Enflamed/Red ENT
Paranoid	Swollen abdomen
Emotional	Brown elbow, armpit, hand folds
Yelling	Wet hands and feet
	May have high temp during follicular phase
	Wheezing if asthmatic
	Tachycardia
	Hypotension
	Painful muscle and joints
	Painful spleen upon palpation
	Sluggish deep tendon reflexes

Hydrocortisone Replacement	
Sedentary	High Stress
Female: 15 mg-40 mg QD	1.5-3x the normal dose
Male: 20 mg-60 mg QD	
Divided over 2-4 per day	

****NOTE:** With Cortisol TX ALWAYS make sure the patient has appropriate anabolics on board. ******

****NOTE:** Naturally increase cortisol, increase light, small frequent meals, Paleolithic diet, avoid stress. ******

Strong stimulators of cortisol: Test, DHT, Anabolics, mild thyroid

Strong suppressors of cortisol: GH, high thyroid and melatonin

Mild suppressors of cortisol: oral estrogens, DHEA and fludrocortisone

****REMEMBER:** USE HIGH DOSAGES UNDER STRESSFUL CONDITIONS AND LOW DOSAGES UNDER UNSTRESSFUL CONDITIONS!!!

****IN THE EVENT OF AN OVERDOSE: DECREASE THE DOSE BUT DO NOT ELIMINATE****

****REMEMBER:** Cortisol partially blocks the conversion of T4 to T3

****TROUBLESHOOTING:**

- Swollen face (all day and night) - Too much cortisol
- Swollen hands and feet—High salt intake
- Puffy face only in the morning—Possible thyroid deficiency
- Too much cortisol—Ovary is agitated, insomnia, bruising, thin skin
- High sugar will decrease cortisol production
- GI problems may occur while on therapy due to decrease mucosal production
- Low B/P may occur while on therapy due to changes in aldosterone

"Wilson's T3 Thyroid Syndrome"

- Wilson's Thyroid Syndrome' describes a population of patients who have normal thyroid blood tests (TSH/T4), and yet experience symptoms of low thyroid and low daytime oral temperatures. (< 97.8').
- Low average daytime oral temperatures (<97.8)
- Frequent history of childbirth, fasting, dieting, or high stress, causing impaired peripheral thyroid metabolism. Can be associated with high cortisol and malnutrition (low albumin, low selenium)
- Presumably (> Low T3/rT3 ratio)
- Dr. Denis Wilson popularized the use of T3-sustained release.

THE GOAL IS TO TX THESE PTS SO THEIR TEMP COMES BACK TO NORMAL AND THEY FEEL BETFER.

WILSONS ARGUMENT IS THAT THE LOWER A PATIENTS TEMPERATURE, THE LESS FUNCTIONAL ARE THE ENZYMES. HE SAYS THE ENZYMES SLOW DOWN DUE TO CHANGING SHAPE THRU CURLING UP FROM LOW ENERGY.

**** SEE THE SEPARATE WORD DOCUMENT BELOW ON "T3 PROTOCOL" REVISED ****

- Patients with low daytime temperatures and 'hypothyroid' symptoms may respond to T3 therapy.
- Order T3 Starter Pack:
 - 7.5, 15, 22.5, 30 mcg sustained-release T3 x 20 each.
 - plus 37.5, 45 mcg x 14 each (if necessary)
- Rx: start w lowest dose T3, give every 12 hours, each day progressing to next higher dose, etc.
- Baseline oral daytime temperatures
- Gradual increase in dosage, every 1-2 days
- Stop dose increases if:
 - Temperature goes up to normal or
 - Symptoms improve significantly or
 - No change in symptoms or temperature even after going up in dose to 60 mcg q12h
- Rx: ~ 30 days at that dose, q12h
- Reduce dose if:
 - Aggravations occur, such as racy heart, insomnia.
 - Give "test dose" of T4 12.5mcg to stabilize the T3, this commonly calms down the blood level fluctuations.
 - If it fails to stop the aggravation then you really are at too high a dose of T3 and go down

WHEN SX'S GET BETTER AND I FIE TEMPERATURE GETS BETTER, YOU STOP AT THAT LEVEL UNTIL NO FURTHER IMPROVEMENT FOR AWHILE

IF PT MAKES IT ALL THE WAY UP TO 60MCG Q12H W/0 ANY IMPROVEMENT, THEN NEED TO WEAN THEM DOWN AND APPROACH THE CASE FROM A DIFFERENT ANGLE AS ONE OR MORE OBSTACLES TO CURE ARE STILL PRESENT. MAYBE IT'S LIVER, MAYBE NUTRIENTS, MAYBE SOMETHING ELSE.

- Unstable or rapid T3 metabolism sometimes causes racy symptoms while taking T3
- A test dose of T4 (125 mcg) is given when an aggravation occurs.

- If the symptoms are caused by T3 instability, the symptoms will typically resolve within 20 minutes of test dose.
- Patient then resumes the T3 protocols as before.
- If symptoms not resolved, patient is instructed to reduce T3 dose.
 - Recycle T3 back down.
 - Reduce dose in opposite direction, every other day.
 - After reach dose discontinuation, stay off of T3 completely for -4 days, then
 - Repeat cycle back up again as before.
 - As a rule, the dose required to produce an effect gets lower each cycle.

Goal: To produce sustained improvement and increased temperatures without dependence Rx T3. PATIENTS WILL HATE YOU FOR REDUCING THEM OFF OF THE T3 BUT IF IT WORKED THEN THEIR T3 LEVELS WILL BE FINE AS THEIR THYROID AND METABOLISM HAS RESET SO THEY DON'T NEED THE T3 SUPPLEMENTATION ANYMORE. YOU MUST USE THE NUTRITION, DIET, AND HERBS TO ENABLE "THE BEST SUCCESS POSSIBLE FOR THIS TX. OFTEN AT THE END OF THE 2ND OR 3RD ROUND, USUALLY ON ABOUT THE 3RD DAY, THE THYROID KICKS BACK INTO FUNCTION AND SEE TEMP COME BACK TO NORMAL WHERE-UPON THEY ARE NOW DONE W/TX.

Naturopathic "Wilson's"

To improve T4 to T3 metabolism, correct treat the cause:

- Mind-Body, stress, Life-style
 - Modulate cortisol rhythms
 - Diet, exercise, sleep
- Nutritional support
 - Selenium, Zinc
 - B12, Antioxidants
 - EFAs
- Herbal support:
 - Withania, Guggul, Ginseng, Bacopa

T3 THERAPY INSTRUCTION SHEET

1. Please take temperature every three hours, three times per day at the times indicated and record them on the temperature log (on back). Average these three temperatures each day by adding them together and dividing by three. Enter this average in the Average column on the log.
2. Take dosages as indicated according to the schedule/temperature log (over).
 - a. Notice that your prescription of T3 (starter pack) comes in various dose strengths
 - i. i.e. 7.5 mcg, 15.0 mcg, 22.5mcg, etc., in multiples of 7.5.
 - ii. You will also notice several "test doses" of 14, 12 mcg each, to be used only as directed, in case of symptom aggravation. (explained below, Item C)
 - b. Starting with a 7.5 mcg dose of T3, you will be taking one dose two times per day, every twelve hours, i.e. 8 AM, 8 PM.
 - i. Try to take the doses as close to this twelve-hour schedule as possible.
 - c. You may increase to the next higher level (+7.5 mcg) each day (see log), provided the average temperature remains below 98.0 orally.
 - d. Please note that you may combine capsules of different dose-strengths to add up to one dose of a higher strength,
 - i. i.e. 45.0 mcg dose = 37.5 mcg +7.5 mcg (you may use two or more capsules to add up to your desired dosage)
3. Continue increasing the dosage by 7.5 meg each day until one of the following happens:
 - a. **If your average temperatures have come up to normal (above 98.0)**, or if you find relief of symptoms with significant improvement in overall well-being, you may stay at that dosage without increasing further.
 - i. If temperatures then drop again you may resume increasing doses to the next higher level. If temperatures stabilize you will be prescribed T3 at that dosage.
 - ii. Contact your physician regarding a prescription at the appropriate dosage level, and for instructions relating to duration of this treatment dose and when to cycle down again.
 - iii. It is generally recommended that one maintain this dose level for about one month before cycling down, (read instructions for cycling down).
 - b. If the symptoms are not much improved and **the average temperature remains below 98.0** orally, continue to increase the dosage each day as directed.
 - i. If there continues to be no significant change in your temperature or your symptoms, you may continue to increase the dosage by these scheduled intervals until you have reached levels of 60 mcg twice per day.
 - ii. Unless otherwise directed by your physician, we generally recommend that your dose not exceed 60 mcg every twelve hours.
 1. At this point it would be recommended that you cycle down gradually. (read directions for cycling down).

- c. **If you begin to feel hyper, racy**, or if you can't sleep due to over-stimulation or speedy sensations in your body, you may be experiencing instability in T3 levels (rapid metabolism) or overdose in T3 medication.
 - i. We recommend that you take one dose of the T4 (12 mcg) "test dose". If symptoms are relieved within about 20 minutes, this is suggestive of T3 instability.
 - ii. In this case, we recommend that you continue to increase the T3 dose on the prescribed schedule. If symptoms are not relieved at that point, it is generally recommended that you decrease your dosage by 7.5 mcg each day until this symptom is alleviated.
 - iii. After this you may be asked to cycle down (see instructions below) or maintain the lower dosage for a longer period of time.
 - iv. You will need to consult your physician for specific guidelines on your protocol in this situation.
4. **CYCLING DOWN:** T3 therapy generally includes a protocol we call cycling. Your physician will instruct you when it is time to cycle down. At that point you will gradually lower your dose in the reverse order of the way you increased. Your dosage will go down (by - 7.5 mcg) to the next lower level every other day until you have gone completely off the medication. Wait at least three days before resuming T3 therapy. Unless your symptoms are much improved and/or your temperature has become normal, you will then be asked to cycle back up again_ Cycling up involves the same directions as when you first began T3 therapy. It's simply like starting over. We generally find that the dose required to produce effective results gets lower each time one cycles up and down again_ You may be asked to cycle up and down in this fashion several times to produce the desired effect This is part of the strategy for restoring normal function without medication. With effective therapy symptoms will resolve, temperatures increase, and/or even the lowest level doses will not be tolerated without a feeling of over stimulation.
5. Please call office if you have any questions or problems.
6. Kindly give four days' notice for any necessary prescription refills.
7. If for any reason the medication is to be discontinued, the medication should not be stopped abruptly, but should be decreased gradually.

T3 THERAPY WORKSHEET

**PATIENT
NAME:** _____

DATE	DAY #	A.M. DOSE	P.M. DOSE	TEMP10AM	TEMP1PM	TEMP4PM	NOTES
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
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	26						
	27						
	28						
	29						
	30						
	31						

COMMENTS:

Algorithm for Women

Menopausal

- Low Everything
- Low Something

Supplement to top 1/3 of luteal recommendations Middle of the road for menopausal is:

- Except for estrone, we want that as low as possible
- Progesterone 100 mg-200 mg
- Blest 2.5 mg or Estriol 5 mg-10 mg if patient has a history or family history of cancer
- Testosterone 2.5 mg
- DHEA 5 mg

*****These are "middle of the road", therefore, start here and adjust as needed*****

Non-Menopausal or Perimenopausal

- Estriol 5 mg-10 mg on days 5-28 of menstrual cycle **AND**
- Progesterone 100 mg-200 mg days 5-28 of menstrual cycle **OR**
- Progesterone 50 mg days 5-13 of menstrual cycle and 100 mg days 14-28 of menstrual cycle

Symptoms that should correlate with test results:

- Irritability—low progesterone usually a week to 10 days prior to the start of the period, they will say, "I don't feel like myself."
- Fatigue—low testosterone, also check thyroid levels, i.e., TSH, T3 and T4.

REMEMBER--thyroid levels may be deceiving; they were originated by taking a sample of people that had thyroid problems, therefore, inherently; lab results will be scheduled to the lower range.

****Ask patient to take basal metabolic temperature every morning for ten (10) days. Normal axillary and oral temperatures are 97.6 and 98.6 degrees Fahrenheit, respectively.**

****Regulate** by using **Nature Thyroid** 16.25 mg daily and increase by 16.25 mg every 11 days until basal morning temperature is between 98 and 98.6 degrees Fahrenheit, accordingly, i.e., axillary and oral, respectively or the TSH is between 1.0 and 1.5.

****Fatigue can also be adrenals, therefore, check cortisol and DHEA levels—Regulate** by targeting the top 1/3 of the normal range (laboratory dependent).

- Depression—most often due to low progesterone, also consider low thyroid levels. **REMEMBER:** Progesterone binds to the GABA receptors of the brain, exactly like Diazepam (Valium). Must have vitamin D above 50 for this to happen.
- Headaches—most often due to anabolic dominance. If the headache is behind the right eye, this indicates left brain testosterone dominance—check for acne and/or anger. If the headache is behind the left eye, this indicates right brain estrogen dominance—check for irrational and/or irritability.

****NOTE:** It is important to note that dominance can happen even with low levels, in other words, even if a patient has low estrogen, but progesterone is even lower, there can be estrogen dominance, therefore, check estrogen:progesterone ratio. ******

- Night sweats, hot flashes are surges of FSH and LH—happen for three reasons:
 - Not enough estrogen
 - Too much progesterone
 - Change of estrogen either up or down too quickly
- Forgetfulness—low progesterone. When the body has maintained a low level of progesterone for a long period of time, it compensates by converting pregnenolone to progesterone; when this happens short term memory suffers many patients can replace pregnenolone, however, it is better to replace progesterone and pregnenolone together.

****NOTE:** By replacing progesterone alone you will know you are at the correct dose when the short term memory comes back due to NO conversion of pregnenolone. ******

- Weight gain—estrogen dominance causes sugar cravings; responsible for 5-12 pounds of excess water. Check thyroid for hypothyroidism and adrenals!!!
- Insomnia—low progesterone use half hour before bed time (HS) to give calming effect. The target should be 7-8 hours of sleep with NO residual sleepiness (drowsiness). **REMEMBER:** As one increases the progesterone, increase the Blest, somewhat, but NOT at 1:1 ratio, because of the ratio staying the same.
- Joint pain—look for DHEA deficiency, i.e., SLE (Lupus), fibromyalgia, MS, and other connective tissue problems.
-

****NOTE:** 80% of the patients with these disease states have low DHEA, therefore, when the DHEA is replaced, the symptoms tend to disappear. ******

- Palpitations—caused by elevated thyroid activity (hyperthyroidism), increasing thyroid hormone too quickly, estrogen dominance or low progesterone.
- Crying spells—low progesterone. **REMEMBER:** As a woman goes further into perimenopause and/or menopause, the fat cells will compensate by making estrogen, however, there's no compensatory system for progesterone, hence the patient ends up with low estrogen as well as estrogen dominance.

****NOTE:** Fat cells do not make estrogen from "thin air" they convert testosterone to estrogen. *

- Loss of bladder control—loss of testosterone over time leads to lose of sphincter and muscle integrity.
- Vaginal dryness—low estrogen and low testosterone.
- Low sexual desire—low testosterone.
- Testosterone 2% cream: place rice size amount applied to clitoris and nipples one hour prior to coitus.
- L-Arginine 1,000 mg-1,500 mg orally: one hour prior to coitus to increase chance of orgasm.
- Decreased sexual activity—low testosterone and low estrogen leads to increased vaginal atrophy causing painful intercourse.
- Estriol 1 mg via vagina: at hour of sleep for 14 days then 2-3 times per week. This will rectify the problem until the topical hormone levels are normalized.
- Loss and/or thinning of hair—elevated DHT compensated by elevated estrogen.

****NOTE:** In Perimenopausal women, we must first align the thyroid and adrenals. When the thyroid is not up to par, the body will believe it is starving so that hormone binding globulin will increase in the blood and attach to steroid hormone keeping them from binding to the receptor. The blood test may show normal hormones are there; however, they may be bound and inactive.

TROUBLE SHOOTING

While a patient is on hormone treatment, as a rule of thumb, if the hormone isn't achieving the needed result, double the initial dose; if this "new" dose is too much, split the difference of the increase, eg., initial progesterone dose is 100 mg and we've established it's too low, increase the dose to 200 mg (double), if we then determine it is too high a dose, then split the difference ($100/2 = 50$) and the new dose is 150 mg. If this new dose is not enough, split the difference again ($50/2 = 25$) and the newer dose would be 175 mg.

****NOTE:** This is done ONLY if the patient considers the problem a "10" on a scale of 0-10, otherwise, leave the patient on the same dose for 60-90 days; this is so because it takes that long for the receptor sites and new hormonal signature to develop.

- We must listen to the patients, therefore, increasing and decreasing dosages accordingly. Most patients will have overly excitable receptor sites and over time will calm down, needing lower dosages initially and more over time.
- Thyroid function devastates hormone balance.
- In the event of high stress, i.e., death in the family, it may be necessary to double the dose for 1-2 months.
- 11% of thyroid patients have iodine deficiency and not "thyroid problems".
- If a patient has normal T4 and low T3, think of adding Bromine supplements to the regimen.

- BE ALERT: When treating a couple and the male is on testosterone supplementation and the female partner has elevated testosterone levels, think cross contamination.
- Change one hormone at a time to remove "10's" from the symptom chart (0-10 rating).

Saw Palmetto--stops testosterone from becoming DHT

Chrysin—helps test from becoming DHT

Progesterone—helps test from becoming DHT

Zn—prevents test from becoming estrogen

DIM—allows estrogen to go down "safe" pathway, i.e., estradiol to Estriol

Generalities

Body Type	Male	Body Type	Female
Ectomorph	Norm	Ectomorph	Low Estrogen, Progesterone and Testosterone
Mesomorph	Norm to Low Testosterone	Mesomorph/"Hour Glass" Shaped	Normal Pattern
Endomorph	Low Testosterone/High Cortisol	Endomorph	High Cortisol
		"Pear" Shaped	High Estrone and Low Progesterone
		"Large Breasted" w/ Small Hips	High Estradiol and Low Progesterone

Algorithm for Men

Symptoms that should correlate with test results:

- Thinning of hair on beard and/or body—low testosterone
- Depression—low testosterone, consider decreased thyroid activity
- Disturbed sleep—low testosterone
- Prostate enlargement—elevated estrogen to testosterone ratio; elevated estrogen
- Muscle weakness—low testosterone
- Fatigue—low testosterone, consider decreased thyroid activity
- Irritability—low testosterone, high estrogen
- Thinning skin—low DHEA.
- Slow wound healing—low testosterone; consider diabetes mellitus, check HgB A1c
- Poor concentration and/or memory lapses—low pregnenolone, check atherosclerosis
- Abdominal weight gain—elevated estrogen and low testosterone; consider metabolic syndrome, check HgB A1c
- Loss of interest in sexuality—low testosterone
- Night sweats—very low testosterone (testosterone fatigue failure)
- Loss of bladder control—low testosterone
- Palpitations—low testosterone, consider increased thyroid activity
- Insomnia—low testosterone

****NOTE:** Due to the steady decrease of approximately 2% per year of testosterone after the age of 25, all that is needed 90% of the time is to supplement according to the deficiency of testosterone.

****NOTE: The "cocktail" is complemented with:**

- Progesterone 4 mg to keep the testosterone from becoming DHT or E2.
- DHEA according to the deficiency to keep the testosterone as testosterone and not lose it due to high DHEA
- Chrysin and DIM to maintain the conversion down the "safe pathways"
- Zinc 100 mg and at least Copper 3 mg per day to decrease estrogen formation in men

****NOTE:** Progesterone in men above 10 mg per day may cause loss of erection.

TROUBLE SHOOTING

- While a patient is on hormone treatment, as a rule of thumb, if the hormone isn't achieving the needed result, double the initial dose; if this "new" dose is too much, split the difference of the increase, eg., initial testosterone dose is 100 mg and we've established it's too low, increase the dose to 200 mg (double), if we then determine it is too high a dose, then split the difference ($100/2 = 50$) and the new dose is 150 mg. If this new dose is not enough, split the difference again ($50/2 = 25$) and the new dose would be 175 mg.
- We must listen to the patients, therefore, increasing and decreasing dosages accordingly. Most patients will have overly excitable receptor sites and over time will calm down, needing lower dosages initially and more over time.
- Thyroid function devastates hormone balance.
- In the event of high stress, i.e., death in the family, it may be necessary to double the dose for 1-2 months.
- + 11% of thyroid patients have iodine deficiency and not "thyroid problems".
- If a patient has normal T4 and low T3, think of adding Bromine supplements to the regimen.
- BE ALERT: When treating a couple and the male is on testosterone supplementation and the female partner has elevated testosterone levels, think cross contamination.
- Change one hormone at a time to remove "10's" from the symptom chart (0-10 rating).
- L-Arginine 1,000 mg to 1,500 mg orally: one hour prior to coitus to increase chance of orgasm—may combine with Viagra or other ED medication.

Signs of Low Testosterone in Men	
Pale	Male pattern baldness
Slumped	Undeveloped beard
Fragile	Dry eyes
Kyphosis	Dec. axillary and pubic hair
Lordosis	Gynecomastia
Obesity	Hemorrhoids
Cellulite	Poor concentration
Nervous	Poor memory
Depressed	Weak heart beat
BPH	Decreased musculature
Decreased testicular size	Decreased size and girth of penis
	Peyronie's Disease

**NOTE: DHT is used for Peyronie's disease 25 mg/ml, apply 1 ml on "curve side" of penis daily; or to counteract gynecomastia. **

**NOTE: Usual Testosterone dose: 50 mg/ml to 300 mg/ml 1-2 ml QD **

When is Testosterone Lowered or Raised?	
Increase Testosterone with:	Decrease Testosterone with:
Low protein diet	High protein diet
High fiber diet	High fat diet
Low calorie diet	High calorie diet
Increased physical activity	Decreased physical activity
Chronic stress	Unstressed vacation
Diarrhea	
Progesterone TX	

****NOTE: Testosterone doesn't cause cancer!** It's decline and **preponderance** of estrogen causes cancer, therefore, use testosterone to our benefit by knowing if the cancer is presents quicker. **

- Increased estrogen in men is caused by what? A. caffeinated drinks, B. alcohol, C. wearing tight underwear, D. obesity.
- How do we intervene? A. Zinc 100 mg QD, B. Progesterone 5 mg QD, C. Anastrozole 0.5 TIW or BIW or QW x 30 days.
- To lower estrogen and Sex Hormone Binding Globulin (SHBG):
 - Decrease alcohol intake
 - Decrease caffeine intake
 - Increase nitrogen balance (high protein)
 - Decrease obesity
 - Use loose underwear and pants
- High fat and aromatase changes testosterone to what? Estrogen
- What is varicocele? Testicular blood stagnation
- How is it cured? DHT onto vein or surgery
- Too much testosterone can cause what? Elevated estrogen
- Therefore, do what? Lower testosterone
- Too much thyroid causes what? Increased change of testosterone to estrogen
- Therefore, do what? Lower thyroid
- Decreasing GH will do what to aromatase activity? It will increase it.
- Therefore causing what? Elevated estrogen
- The lower the testosterone and DHT in a person, the aromatase activity? Higher
- Cortisol deficiency leads to what? Testicular insufficiency
- Which does what to Sex Hormone Binding Globulin (SHBG)? Increases it.
- Which does what to androgen activity? Decreases it.
- Which increases what? Aromatase
- Which in turn leads to what? Increased estrogen.
- Progesterone deficiency decreases the conversion of what? Estradiol (E2) to Estrone (E1) to Estriol (E3)
- Foods that decrease estrogen effects and estrogen are what? A. meat, B. soy products, C. carotene vegetables, D. shellfish, E. reserstatrol, F. vitamin C and K, G. zinc, H. niacin
- RX's that decrease estrogen include what? A. spirinolactone, B. tamoxifen, C. thiazides.
- Testosterone increases the conversion of what to what? T4 to T3

Problem	Cause	Solution
Red Face	High estradiol	Decrease alcohol and/or caffeine, increase progesterone and/or zinc; avoid tight underwear and pants.
Acne	Increased sebum	Change diet: decrease milk, sweets, sugar and chocolate; decrease androgens
Hirsutism	Increased body follicle	Decrease DHT production
Feet edema	Increased salt retention	Increase potassium (1-3 gm QD) if there's no change, decrease androgens
Road Rage	Androgen overdose can cause brain edema which is an increase in GH deficiency	Decrease androgens and/or increase GH
Excessive libido	Too much testosterone changed to estradiol in brain; increase in androgen receptors in glans penis, scrotum and nipples.	Decrease androgens and decrease conversion of testosterone to Estradiol (E2)
Excessive erection	Too much DHT; increase in androgen receptors	Decrease dose of androgens and decrease conversion to DHT
Hair loss / Excessive body hair	Too much DHT	Finasteride 1 mg PO QD and eat less meat
Low Libido	Low estradiol	Increase testosterone and androgens
Impotence	Low DHT Elevated estradiol (E2)	Decrease estradiol (E2), increase testosterone and androgens
Peyronie's	Fibroid in penis; lack of DHT; possibly low cortisol	Apply DHT to penis, side of curve; if cortisol is low, small doses are ok; DHEA 20 mg – 60 mg QD
Breast tenderness	Testosterone changed to E2	Give DHT and Anastrozole
Real gynecomastia	Testosterone changed to E2	Tamoxifen and decrease androgens
BPH	Testosterone changed to E2	Decrease caffeine and alcohol
Testicular atrophy	Elevated E2 (more often); elevated testosterone less often	Decrease E2 levels if no improvement, inject HCG 150 IU QD
Prostate Cancer/Breast Cancer	Low testosterone and/or DHT	STOP testosterone. Take Q10 200 mg to 400 mg. If melatonin is low add melatonin. DHEA ok after PC, if DHEA does not react. Testosterone TX ok after 5 years.

Hormonal Intricacies

DHEA and Androstendiol

1. These are considered what type of hormones?
 - a. Cross road hormones
2. Why?
 - a. Because they will become other sex hormones
3. These have an effect on what body system?
 - a. The immune system and connective tissue formation, i.e., ligaments and tendons.
4. Therefore, what is checked on the patient?
 - a. If they have Lupus, MS, fibromyalgia, connective tissue disease, etc. (80% of pt.'s checked have low DHEA that have these diseases).
5. DHEA and Androstendiol are contraindicated in what condition?
 - a. Sex organ cancers (they don't cause cancer, but will help the cancer grow).
6. Why?
 - a. Because of their [DHEA and Androstendiol ability to convert into sex hormones and feed the cancer/tumor.
7. How can DHEA be increased naturally?
 - a. Paleolithic diet
8. What nutrients decrease DHEA?
 - a. Alcohol, caffeine, sweets, pasta and milk.
9. What hormones increase DHEA?
 - a. Test, DHT and thyroid.
10. What hormones decrease DHEA?
 - a. Cortisol and oral estrogens.
11. When should the dose of DHEA be increased?
 - a. When the patient is under stressful conditions
12. When should the dose of DHEA be decreased?
 - a. When the patient is in an un-stressful condition.
13. What are the symptoms of DHEA overdose?
 - a. Oily skin, acne, increased body hair, therefore, decrease sugar intake.

****NOTE:** High sugar intake leads to high conversion of sugar to fat which leads to increased oil (sebum) production which leads to acne. **

14. High DHEA can lower what hormone?
 - a. Cortisol
15. Which can precipitate what?
 - a. Hypotension
16. DHEA + Alcohol + Caffeine =?
 - a. Estrogen—due to aromatase of testosterone.
17. Foods high in fiber steal what from the GI tract?
 - a. Steroids—fiber traps steroids that would normally be reabsorbed in the bowel.

Pregnenolone

18. Low pregnenolone levels cause what?

- a. Poor memory, decreased color vision, decrease in awareness, low energy, increased joint pain, increase in dry skin, decreased libido, low mood, increased anxiety and decreased thinking.
- 19. A decrease in sex hormones can lead to what?
 - a. Low pregnenolone
- 20. An overdose of pregnenolone may cause what?
 - a. Nightmares and increase of sex hormone production

Aldosterone

- 21. Low aldosterone levels cause patients to feel how?
 - a. Like a "zombie"
- 22. Patients feel better when?
 - a. When lying down
- 23. What do they experience when they are standing?
 - a. Vision focus problems
- 24. What other symptoms are evident?
 - a. Salt cravings, polyuria, low blood pressure, hollow dehydrated look, teeth marks are left on tongue and skin "tenting".
- 25. How is a low aldosterone level treated?
 - a. Fludrocortisone 0.05 mg to 0.2 mg QD
- 26. It is contraindicated in whom?
 - a. Patients with easy leg edema
- 27. One can increase the aldosterone levels by doing what?
 - a. Eating salt, drinking water and moving around—DON'T STAND OR SIT TOO LONG!!!

Prolactin, LH, FSH

- 28. Elevated prolactin levels indicate what?
 - a. Deficiency in sex hormones and elevation of LH and FSH
- 29. LH is elevated when?
 - a. During the 13/14th day(s) of the menstrual cycle
- 30. Low Sex Hormone Binding Globulin (SHBG) =?
 - a. Low Estradiol (E2) or T3 deficiency or high androgens
- 31. High Hormone Binding Globulin (SHBG) =?
 - a. High T3 or low androgens and/or GH
- 32. How can we "boost" sex hormones?
 - a. An organic Paleolithic Diet
- 33. What should be avoided?
 - a. Caffeine, soft drinks, pasta, whole grains, bread, bran and milk products.
- 34. What must be done?
 - a. Lose weight (NO OBESITY)
- 35. Men must avoid what?
 - a. Tight fitting underwear
- 36. All patients should avoid what?
 - a. Chronic stress and smoking of any kind

Strong Stimulators of E2/P4	Strong Inhibitors of E2/P4
GH	
Cortisol at low doses	Too much Cortisol
Thyroid at low doses	Too much thyroid

Estrogen/Progesterone

37. Typical estrogen complaints and signs are what?
 - a. Vaginal dryness, hot flashes and flabby breasts
38. What's the solution?
 - a. Double the dose of Estradiol (E2) using the "1/2 method" (see previous notes).
39. A short menstrual cycle with droopy breasts is caused by?
 - a. Low estrogen
40. A short menstrual cycle with swollen breasts is caused by?
 - a. Low progesterone (P4)
41. A long menstrual cycle with droopy breasts is caused by?
 - a. Low estrogen
42. Being depressive with low energy is caused by?
 - a. Low estrogen and catecholamines
43. Being premenstrual depressed is caused by?
 - a. Low estrogen and catecholamines and catechol estrogens.
44. Menstrual hot flashes are caused by?
 - a. Low estrogen
45. Droopy breasts are caused by?
 - a. Low estrogen
46. Small breasts are caused by?
 - a. Low estrogen from childhood
47. An estrogen overdose may cause?
 - a. Nervousness, tension, anxiety, outbursts of anger, painful menstruation migraines pre-menstrually and swollen painful breasts.
48. What's the solution?
 - a. First: double the dose of progesterone (P4)
 - b. Then: decrease the estrogen.
49. Heavy menstrual bleeding is caused by?
 - a. An excess of Estradiol (E2) or a progesterone (P4) deficiency.
50. What's the solution?
 - a. Give a dose of progesterone (P4) the first 14 days of the menstrual cycle then double the dose the last 14 days of the menstrual cycle,
 - i. i.e., Days 5-14 give 100 mg and Days 15-28 give 200 mg.
51. Why?
 - a. B/C progesterone is produced in the ovaries and naturally rises during the latter half of the menstrual cycle and we are wanting to mimic the menstrual cycle.
52. Uterine fibroids are caused by?
 - a. Long term progesterone (P4) deficiency
53. Cysts in the breasts are caused by?

- a. Long term progesterone (P4) deficiency with elevated estrogen levels
- 54. Large breasts are caused by?
 - a. Low progesterone (P4) deficiency with elevated estrogen levels
- 55. If a patient is taking progesterone and they are not receiving the progesterone effect, what's too high?
 - a. Estrone (E1)
- 56. What's the solution to this?
 - a. Give D:M
 - b. Change from oral estrogen to topical estrogen
- 57. Progesterone does what?
 - a. It will convert Estrone (E1) to Estradiol (E2), which cause a more estrogen effect.
- 58. If the patient is experiencing a "roller coaster" effect progesterone therapy, what should be done?
 - a. Check the diet, i.e., decrease sweets intake, carbs and increase boiled/steamed meats and veggies, respectively, and avoid fruits for 2-4 days
 - b. Check vitamin D

****REMEMBER:** If the patient uses skin lotion, it can block hormone absorption. **** **REMEMBER:** Three types of breast pain—a, sides of breast = too much P4; b. inside/center of breast = too much estrogen; c. sensitive nipple(s) = too much testosterone.

- 59. If a patient is suffering with menorrhagia, what should be done?
 - a. Increase the progesterone during the latter of the menstrual cycle (days 14-28) double as needed
- 60. If a patient has cyclical migraines and droopy breasts, what is to be given?
 - a. Estrogen and progesterone
- 61. If a patient has cyclical migraines and breast tenderness, what is to be given?
 - a. Progesterone ONLY
- 62. Swollen breasts are caused by what?
 - a. Low progesterone
- 63. Swollen, puffy face, swollen calves, hands and feet is caused by?
 - a. Low thyroid
- 64. Swollen feet and ankles are caused by?
 - a. A low protein diet
- 65. Muscle cramping is caused by?
 - a. Low magnesium
- 66. Muscle weakness is caused by?
 - a. Low potassium
- 67. Hypertension in the evening is caused by?
 - a. Low cortisol

Testosterone in Women

Low Testosterone Signs and Symptoms	
Nervousness	Lack of Interest
Depression all day	Dry skin
Anxiety	Urinary incontinence
Fears	Low libido
Low stress tolerance	Low orgasm
Hysterical reactions	Low nipple sensitivity
Lack of mental firmness	Painful intercourse
Submissive	Lack of body hair
Hypochondrial	Pale
Abdominal obesity	Lack of sexual body scent
Hot flashes	Poor muscle tone
Fatigue	Thighs w/ cellulite
	Varicose veins

****NOTE:** For females—if all other hormones are in high normal range, give 6 mg of testosterone daily 3 mg in am and 3 mg in pm. Start with 2 mg per day (1 mg in am and pm) and increase by 1 mg daily every 60-90 days.

68. How is testosterone in women "boosted"?

- a. Paleolithic diet
- b. AVOID: alcohol, vinegar, caffeine, and sugar, soft drinks, cookies, and bread, pasta, cereal and milk products.

When to Lower Test Dose	When to Raise Test Dose
High protein diet	Low protein diet
High fat diet	High cereal diet
High calorie diet	Low calorie diet
Low physical activity	Diarrhea
	High physical activity
	High stress
	High thyroid function/levels
	Oral estrogens
Excessive Testosterone Signs	
Oily skin	Authoritative
Acne	Excessive muscle development
Oily hair	Male pattern baldness
Excessive sex drive	Excessive body hair
Excessive clitoral swelling	

69. Solution to acne?

- a. Decrease sweets intake
- b. Decrease androgens

70. Solution to feet edema?

- a. Increase potassium
- b. Decrease androgens

71. Solution to painful engorged clitoris and excessive libido?

- a. Decrease androgens

72. Solution to male pattern baldness and excessive body hair?

- a. Decrease testosterone dosages
- b. Eat less red meat.

****NOTE:** If the patient has side effects of swelling, oily hair, body hair overgrowth THINK: wrong food intake, i.e., high salt or obesity

****NOTE:** It is important to know that too much of any androgen can first raise the other androgens, but, in the long run, will depress the other androgens.